Books for Bots - Volume 3: Codes & Compliance

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NFPA 101 Life Safety Code for Healthcare Facilities: The Complete Professional Guide (2026)

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The short answer: NFPA 101, the *Life Safety Code*, sets the rules for keeping building occupants safe from fire, smoke, and panic. For Medicare- and Medicaid-certified hospitals, critical access hospitals, nursing homes, ambulatory surgical centers, and other certified providers, the edition that counts is still the **2012 edition of NFPA 101** (with Tentative Interim Amendments 12-1 through 12-4). It is paired with the **2012 edition of NFPA 99, the Health Care Facilities Code**. CMS adopted both editions by regulation effective July 5, 2016, and as of October 2026 has not finalized or formally proposed a newer edition. NFPA has since published the 2015, 2018, 2021, 2024, and 2027 editions, so your state or local authority may enforce a newer edition alongside the federal one.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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This guide is the hub for our NFPA 101 coverage. It explains what the code is, which occupancy chapters apply to your buildings, and how CMS, accrediting organizations, and state agencies enforce it. It also covers the building features surveyors actually look at, the inspection, testing, and maintenance work behind them, and the deficiencies that come up again and again. Each section links to a deeper article.

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- What NFPA 101 is, and why healthcare is different
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On this page: Which edition applies: CMS, NFPA 99, and your state · Healthcare occupancy chapters · Key requirements surveyors check · Common deficiencies · FAQ

What NFPA 101 is, and why healthcare is different

NFPA 101 is a model code published by the National Fire Protection Association. CMS describes it as "a set of fire protection requirements designed to provide a reasonable degree of safety from fire," covering "construction, protection, and operational features designed to provide safety from fire, smoke, and panic" (CMS, Life Safety Code & Health Care Facilities Code Requirements). A model code only becomes enforceable when a government or accrediting body adopts it. For certified healthcare providers, that adoption happens through the federal Conditions of Participation and Conditions for Coverage.

Healthcare buildings are treated differently because many of the people inside cannot get themselves out. Patients may be sedated, on ventilators, in surgery, or simply unable to walk. So the healthcare chapters do not rely on everyone leaving the building quickly. They are built around **defend-in-place**: limit a fire to its room, keep smoke out of corridors, split each floor into smoke compartments, and move patients horizontally to a safe compartment on the same floor before anyone considers vertical evacuation. Almost every requirement in this guide supports that strategy. For more, see our article on the defend-in-place strategy in healthcare facilities.

NFPA 101 does not work alone. It pulls in other NFPA standards by reference: NFPA 13 and NFPA 25 for sprinklers, NFPA 72 for fire alarms, NFPA 80 for fire doors, NFPA 10 for extinguishers, NFPA 110 for generators, and others. It also works alongside NFPA 99, the Health Care Facilities Code, which covers medical gas, electrical systems, and other building systems.

Which edition applies: CMS, NFPA 99, and your state

The federal rule: 2012 editions

The hospital Condition of Participation at 42 CFR 482.41(b)(1)(i) says:

> "The hospital must meet the applicable provisions and must proceed in accordance with the Life Safety Code (NFPA 101 and Tentative Interim Amendments TIA 12-1, TIA 12-2, TIA 12-3, and TIA 12-4.) Outpatient surgical departments must meet the provisions applicable to Ambulatory Health Care Occupancies, regardless of the number of patients served."

The section's incorporation-by-reference paragraph, 482.41(e)(1)(vii), names the edition: "NFPA 101, Life Safety Code, 2012 edition, issued August 11, 2011." Paragraph 482.41(c) applies the Health Care Facilities

Code, “NFPA 99 and Tentative Interim Amendments TIA 12-2, TIA 12-3, TIA 12-4, TIA 12-5 and TIA 12-6,” identified in (e)(1)(i) as the 2012 edition. It also says that “Chapters 7, 8, 12, and 13 of the adopted Health Care Facilities Code do not apply to a hospital.”

The same 2012 editions appear in the requirements for other provider types:

Provider type	Regulation	What it requires
Hospitals	42 CFR 482.41(b)–(c)	NFPA 101-2012 + TIAs; NFPA 99-2012 + TIAs; outpatient surgical departments meet ambulatory health care provisions
Long-term care (SNF/NF)	42 CFR 483.90(a)–(b)	NFPA 101-2012 + TIAs; NFPA 99-2012 + TIAs; FSES mandatory-values option for certain existing facilities
Ambulatory surgical centers	42 CFR 416.44(b)–(c)	Ambulatory Health Care Occupancy provisions “regardless of the number of patients served”; NFPA 99-2012
Critical access hospitals	42 CFR 485.623	NFPA 101-2012 + TIAs
Inpatient hospice	42 CFR 418.110(d)	NFPA 101-2012 + TIAs
PACE centers	42 CFR 460.72(b)	NFPA 101-2012 + TIAs
RNHCIs	42 CFR 403.744	NFPA 101-2012 + TIAs

CMS adopted these editions in the final rule “Fire Safety Requirements for Certain Health Care Facilities,” 81 FR 26872 (May 4, 2016), effective July 5, 2016. CMS surveyors started applying the 2012 codes on November 1, 2016 (S&C 17-15-LSC, revised 10/26/2022).

Has CMS adopted or proposed a newer edition?

Not as of October 2026. The current eCFR text (up to date as of October 8, 2026) still incorporates the 2012 editions. We searched the Federal Register and found no CMS proposed rule since 2024 that would adopt a newer NFPA 101 or NFPA 99 edition. CMS has addressed the question in published rules:

- In the FY 2023 SNF final rule, CMS wrote: “We will need to go through notice and comment rulemaking in order to adopt the 2021 edition or a newer edition of the LSC, which could take up to 3 additional years” (87 FR 47502, Aug. 3, 2022).
- In the CY 2023 OPPS/Rural Emergency Hospital final rule, CMS wrote: “we review any new LSC codes every 3 years to determine if there are substantive changes that would warrant the adoption of these updates through rulemaking. There have not been significant changes to adopt a newer version since the 2012 edition. We plan to review the 2024 edition within the next year and determine whether to adopt the new 2024 NFPA 101 and 99 as a part of future rulemaking” (87 FR 71748, Nov. 23, 2022).

Meanwhile, NFPA lists the 2027 edition as the current edition of NFPA 101 (NFPA). The federal requirement is therefore several editions behind. Design and survey to 2012 for CMS purposes. When a newer edition is enforced locally, also meet that edition’s requirements. More detail: which NFPA 101 edition CMS enforces.

State and local adoption: comply with the stricter requirement

Your state licensing agency, state fire marshal, or local building and fire officials may enforce a different edition of NFPA 101, or a building and fire code such as the IBC/IFC. The Joint Commission’s guidance is direct: variations in adopted code editions “can be handled by reconciling the requirements of the code editions

and complying with the strictest requirements" (Joint Commission Standards FAQ). The CoP also requires hospitals to "maintain written evidence of regular inspection and approval by State or local fire control agencies" (482.41(b)(6)).

Healthcare occupancy chapters

NFPA 101 organizes requirements by occupancy. Most occupancies get a pair of chapters: an even-numbered chapter for **new** construction and an odd-numbered chapter for **existing** buildings. Getting the occupancy classification right is the first decision in any life safety assessment, and it is the first thing a surveyor works out.

Chapters (new / existing)	Occupancy	Typical healthcare use
18 / 19	Health Care	Hospitals, nursing homes, limited care facilities, inpatient hospice. Applies wherever patients receive inpatient medical or nursing care and generally cannot self-evacuate.
20 / 21	Ambulatory Health Care	Outpatient surgery, some urgent care and outpatient treatment settings where patients may be rendered incapable of self-preservation. CMS requires ASCs and hospital outpatient surgical departments to meet these provisions regardless of patient count.
32 / 33	Residential Board and Care	Personal-care settings, including many ICFs/IID. CMS distinguishes small facilities (16 or fewer residents) from large ones.
38 / 39	Business	Medical office buildings, clinics, and administrative space that do not meet the healthcare or ambulatory thresholds.
12 / 13, 14 / 15	Assembly, Educational	Auditoriums, cafeterias, chapels, and school or therapy buildings on large campuses.

CMS's Life Safety Code survey procedures, State Operations Manual Appendix I, tell surveyors to determine "which LSC chapters apply for each building," including buildings without 24-hour occupants. Buildings residents customarily use, such as a therapy building, cafeteria, or chapel, must be surveyed. Office buildings residents do not normally use need not be. Appendix I also says that if a resident receives "skilled/acute nursing or medical care such as is provided in a hospital, nursing home or an inpatient hospice, Chapter 18/19 (Health Care Occupancies) must be applied."

The healthcare and ambulatory thresholds in NFPA 101 are written in terms of occupants who are "incapable of self-preservation." Classification is where many renovation projects go wrong. For a detailed comparison, see healthcare vs. ambulatory health care occupancy and our overview of NFPA 101 for healthcare occupancies.

New vs. existing matters. Chapter 18 (new) is generally stricter than Chapter 19 (existing). For example, new smoke barriers need a 1-hour rating where existing barriers need 12 hour, and new hospital corridors must be 8 feet wide where existing corridors must be at least 4 feet. Renovations, additions, and changes of use can pull a space into the new-construction requirements. Settle that question with your design team and the AHJ before

the project starts.

How NFPA 101 is enforced: CMS, accreditors, and states

CMS Life Safety Code surveys and K-tags

CMS works through State Survey Agencies and CMS-approved accrediting organizations. States often contract the work out to the state fire marshal. According to CMS, the designated state fire authority surveys facilities, completes the Fire Safety Survey Report (Form CMS-2786), prepares Statements of Deficiencies and reviews Plans of Correction (Form CMS-2567), and uses "only qualified LSC/HCFC inspectors who have received required CMS training" (CMS).

Under Appendix I, "All LSC surveys must be unannounced," must be "conducted and completed on consecutive days," and can be done separately from the health survey. The surveyor determines the applicable chapters, reviews documentation, tours the building (including above ceilings and in mechanical spaces), and writes deficiencies.

Findings are cited as **K-tags**, the data tags on the 2012 Fire Safety Survey Report for health care occupancies (Form CMS-2786R). Each K-tag summarizes a code requirement and cites the NFPA 101 or NFPA 99 sections behind it. The K100 through K700 series covers the Life Safety Code. The K900 series covers the Health Care Facilities Code. Some of the tags facility teams see most often:

K-tag	Topic (per CMS-2786R)
K211	Means of egress – general; egress maintained free of obstructions
K222	Egress doors, including special locking arrangements
K232	Aisle, corridor, or ramp width
K241 / K251	Number of exits; dead-end corridors and common path of travel
K291	Emergency lighting (at least 112-hour duration)
K311	Vertical openings – enclosure
K321	Hazardous areas – enclosure
K345 / K346	Fire alarm testing and maintenance; fire alarm out of service
K353 / K354	Sprinkler maintenance and testing; sprinkler system out of service
K363	Corridor doors
K371 / K372 / K374	Smoke compartments; smoke barrier construction; smoke barrier doors
K712	Fire drills
K761	Maintenance, inspection, and testing of doors (NFPA 80)
K791	Construction, repair, and improvement operations
K918	Essential electrical system maintenance and testing (generators, transfer switches)
K920	Power cords, extension cords, and power strips

A facility found out of compliance must submit an acceptable Plan of Correction. Appendix I explains that if a state agency surveying an accredited ("deemed") facility finds it out of compliance with the LSC, "the facility

loses its ‘deemed’ status” until the deficiencies are corrected. For the survey process in practice, see how CMS surveyors evaluate life safety compliance, how CMS enforces NFPA 101 compliance, and what happens if a hospital fails a CMS life safety survey.

Joint Commission: NFPA 101 is the life-safety half of the Physical Environment chapter

Most accredited hospitals meet Life Safety Code expectations through their accrediting organization. Joint Commission says that for deemed organizations, CMS “requires compliance with NFPA 101-2012 Life Safety Code and NFPA 99-2012 Health Care Facilities Code,” and that Joint Commission’s Elements of Performance “reference these same editions” (Joint Commission FAQ).

With Accreditation 360, effective January 1, 2026, the hospital and critical access hospital manuals moved the former Environment of Care (EC) and Life Safety (LS) requirements into a new **Physical Environment (PE)** chapter with eight standards. A few topics moved to the new National Performance Goals chapter. Joint Commission’s PE chapter webinar states that “All standards and EPs have been renumbered and moved from the Life Safety or LS chapter to the new PE chapter” (webinar transcript; slides). Two PE standards cover life safety directly:

- **PE.03.01.01**: the hospital “designs and manages the physical environment to comply with the Life Safety Code.” Element of Performance 3 now holds the code-compliance findings that used to be spread across the LS chapter, for example items supported by sprinkler piping (formerly LS.02.01.35 EP 4) and unsealed fire barrier penetrations (formerly LS.02.01.10 EP 14).
- **PE.03.02.01**: protecting occupants “during periods when the Life Safety Code is not met or during periods of construction,” that is, interim life safety measures (formerly LS.01.02.01).

The NFPA 99 side mostly sits under PE.04.01.01 (building safety and facility management). The detailed code requirements no longer appear in individual EPs. Joint Commission’s September 2026 Hospital Survey Tools Guide says hospitals and surveyors “must refer to the tool for the content of Code requirements as these details no longer appear in individual elements of performance,” and that the tool “reflects the Centers for Medicare & Medicaid Services (CMS) K-tags” (Survey Tools Guide). In practice, the K-tag list is now the common checklist for both CMS and Joint Commission life safety surveys.

Accreditation 360 also reduced paperwork. Joint Commission no longer requires hospitals and CAHs to keep separate written management plans for safety, security, hazardous materials and waste, utilities, and medical equipment. Surveyors now ask for three plans: a **fire response plan** (“Required by the National Fire Protection Association (NFPA) Life Safety Code (NFPA 101-2012),” scored under PE.03.01.01), a **water management plan** (PE.04.01.05), and an **emergency operations plan** (EM.12.01.01) (*Environment of Care News*, January 2026). Joint Commission lists what the fire response plan must cover: staff roles at and away from the point of origin, alarm transmission to occupants and the fire department, isolating the fire area by closing doors, relocating patients, evacuating the immediate area and the smoke compartment, preparing floors for evacuation, deciding whether and how to use an extinguisher, cooperating with firefighters, and periodic staff training.

Joint Commission also uses the **Statement of Conditions (SOC)**. This is the organization’s ongoing record of its buildings’ life safety features, plus a submittal route for equivalency and time-limited waiver requests. Joint Commission’s instructions refer to the LSC “also known as NFPA 101-2012” and note that the preferred course “is to immediately correct the deficiency” (SOC equivalency instructions). For more on the chapter change and survey focus, see the 2026 Physical Environment standards explained, what still applies after the EOC plans

were dropped, and what Joint Commission looks for during a life safety survey.

States and local AHJs

States enforce the LSC in three ways: as CMS's survey agent, through their own licensure rules, and through state and local fire and building codes. CMS can also accept a state's code in place of the LSC. Under Section 1863 of the Social Security Act and provisions such as 482.41(b)(3), the LSC "do not apply in a State where CMS finds that a fire and safety code imposed by State law adequately protects patients." CMS explains that the state's request goes through a CMS Location to CMS headquarters for a decision (CMS). Confirm which requirements apply to each building with your state survey agency and fire marshal.

Waivers, categorical waivers, FSES, and equivalencies

Sometimes a building cannot be brought into strict compliance without unreasonable cost or disruption. There are four recognized ways to handle that:

Tool	What it is	Who approves	Key conditions
Individual LSC/HCFC waiver	Waiver of a specific provision that would cause "unreasonable hardship"	The SA or AO may recommend; "only CMS Locations may grant approval"	Must not adversely affect patient health and safety. Appendix I: no waivers under Chapters 32/33 (board and care), and no waiver of the generator requirement where life support equipment is used.
Categorical waiver	A CMS-issued policy waiver available to all facilities that meet its stated conditions	No individual application or CMS Location approval	The facility documents its election and notifies the survey team "in advance of being cited." Surveyors reference it under Tag K000.
FSES (NFPA 101A)	Fire Safety Evaluation System, a scored equivalency approach	Submitted with the POC and approved by the CMS Location	Use the 2013 edition of NFPA 101A. Available only for Health Care and Residential Board and Care occupancies. A new FSES is needed each time the annual survey identifies deficiencies.
Joint Commission equivalency	Traditional or FSES-based equivalency submitted through the SOC	Joint Commission engineers review	Needs drawings, photos, justification, and certification by an architect, fire protection professional, or local AHJ

Sources: SOM Appendix I; CMS LSC page; S&C 17-15-LSC; Joint Commission SOC instructions.

Timing matters for categorical waivers. Joint Commission says you must document the waiver and where it applies, and present it "at the beginning of a survey." It adds: "It is not acceptable for an organization to wait until after a surveyor discovers a non-compliance issue to notify the surveyor that it wishes to use a categorical waiver" (Joint Commission Life Safety Code Resources). Keep a signed categorical-waiver election memo in your survey binder and review it every year.

For existing nursing homes that had an approved FSES before July 5, 2016, CMS lets them use the 2001 FSES mandatory values (42 CFR 483.90(a)(1)(iii); S&C 17-15-LSC as revised in 2022).

Key requirements surveyors check

The thresholds below come from CMS's 2012 Fire Safety Survey Report (CMS-2786R), which summarizes the Chapter 18/19 requirements. Always confirm against the full code text and any exceptions. Our deep dive on means of egress, fire compartments, and smoke barriers covers this ground in more detail.

Means of egress

- **Keep it clear.** The means of egress must be "continuously maintained free of all obstructions to full use in case of emergency," except as the healthcare chapters modify (K211).
- **Corridor width.** New hospitals and nursing homes need at least 8 feet clear. New limited care and psychiatric hospitals need 6 feet. Existing corridors need at least 4 feet, maintained so nonambulatory patients can be moved on stretchers (K232). Details: corridor width requirements under NFPA 101.
- **Exits.** Each story needs at least two exits, remote from each other. Each smoke compartment needs two distinct egress paths that do not require entering the same adjacent compartment (K241).
- **Dead ends and common path.** Dead-end corridors are limited to 30 feet. Existing longer dead ends may stay if altering them is impractical. New construction also limits common path of travel to 100 feet (K251).
- **Door width.** Existing exit and exit-access doors need at least 32 inches clear, with limited exceptions. New doors serving patient movement need 41.5 inches (K233).
- **Locks.** Egress doors cannot require a key or tool from the egress side unless they use one of the code's special locking arrangements, such as clinical-needs or security-threat locking or delayed-egress (K222).
- **Lighting.** Emergency lighting must last at least 112 hours (K291). The CoP separately requires emergency power and lighting in at least the operating, recovery, intensive care, and emergency rooms, and in stairwells (482.41(a)(1)).

Fire compartments and smoke compartments

- **Smoke compartments.** Existing buildings need at least two smoke compartments on every sleeping floor with 30 or more patient beds. In new construction, they are required on every floor used by inpatients for sleeping or treatment, and on any floor with an occupant load of 50 or more. Compartments may not exceed **22,500 square feet** or a **200-foot travel distance** to a smoke barrier door (K371).
- **Smoke barrier rating.** 12-hour fire resistance in existing buildings, 1 hour in new construction. Barriers must be continuous and penetrations sealed (K372). Space must be provided on each side for occupants of the adjoining compartments.
- **Smoke barrier doors.** 20-minute rated or 134-inch solid-bonded core wood, self-closing. New cross-corridor pairs swing in opposite directions with astragals or rabbets. Positive latching is not required (K374).
- **Vertical openings and hazardous areas.** In existing buildings, stairs and shafts are enclosed with at least 1-hour construction (K311). Hazardous areas such as large storage rooms and soiled linen rooms are protected by a 1-hour barrier or by automatic extinguishment, depending on the hazard (K321).

Corridors and corridor doors

- **Corridor walls.** In existing buildings, corridor walls need 12-hour fire resistance. In fully sprinklered smoke compartments they only need to resist smoke transfer (K362).

- **Corridor doors.** Doors must resist the passage of smoke. They need positive latching hardware, and CMS regulation prohibits roller latches (482.41(b)(1)(ii)). The gap at the bottom may not exceed 1 inch, and nothing may impede closing (K363).
- **Spaces open to the corridor.** Waiting areas, nurses' stations, gift shops, and similar spaces may open to the corridor only under the criteria in 18/19.3.6.1 (K361).

Sprinklers

- Nursing homes, and hospitals where the construction type requires it, must be protected throughout by NFPA 13 sprinkler systems. New buildings must be sprinklered throughout (K351).
- **Existing high-rise buildings** must be fully sprinklered "within 12 years of LSC final rule effective date" (K521). Counting from the July 5, 2016 effective date, that deadline falls in July 2028. Facilities with unsprinklered high-rise space should already have funded projects.
- Systems are inspected, tested, and maintained under NFPA 25 (K353). When a system is out of service for more than 10 hours, you must evacuate the affected area or establish a fire watch (482.41(b)(8); K354).

Fire alarm and detection

- Fire alarm systems are tested and maintained under NFPA 72 and NFPA 70, and records must be readily available (K345).
- When a required fire alarm system is out of service for more than 4 hours in a 24-hour period, notify the AHJ and evacuate or provide a fire watch (K346).
- Smoke detection is required in spaces open to corridors (K347). New nursing homes also have corridor detection requirements.

Operating features

- **Fire drills** must be held "at least quarterly on each shift," at expected and unexpected times. Between 9:00 PM and 6:00 AM, a coded announcement may replace audible alarms (K712). See CMS fire drill requirements.
- **Written fire control plans** must cover prompt reporting, extinguishment, protection of patients, personnel and guests, evacuation, and cooperation with firefighters (482.41(b)(5)). Joint Commission scores the fire response plan under PE.03.01.01.
- **Outside windows.** Every sleeping room needs an outside window or door. In buildings constructed after July 5, 2016, the sill may be no higher than 36 inches (482.41(b)(9)).
- **Furnishings, decorations, trash and linen containers, ABHR dispensers, and power strips** each have their own K-tags (K751–K754, K325, K920). They are frequent "walk-by" findings.

ILSM, construction, and the ICRA overlap

Construction and maintenance are when life safety features are most often compromised. Barriers get penetrated, exits get blocked, and sprinkler or alarm zones go offline. CMS K791 requires construction, repair, and improvement operations to comply with NFPA 101 section 4.6.10. It also requires that any means of egress in an affected area be "inspected daily to ensure its ability to be used instantly in case of emergency and compliance with NFPA 241." See NFPA 241 and healthcare construction.

Interim life safety measures (ILSM) are the compensating measures you put in place while a deficiency exists or construction is underway. Joint Commission now scores ILSM under **PE.03.02.01** (formerly LS.01.02.01). Under the earlier ILSM standard, Joint Commission required a written ILSM policy with criteria for when measures apply. The mandatory measure was to evacuate, or to notify the fire department and start a fire watch, when a fire alarm is out more than 4 of 24 hours or a sprinkler system more than 10 of 24 hours. Optional measures included daily exit inspections, temporary detection, additional firefighting equipment, smoke-tight noncombustible or limited-combustible temporary partitions, increased surveillance, and extra training and drills (*EC News*, June 2022). Check your 2026 policy language against the current PE.03.02.01 EPs.

ICRA and ILSM are separate but they overlap. An infection control risk assessment controls dust, moisture, and airflow. ILSM controls fire and smoke risk. The two meet at the barrier itself: a plastic dust partition may satisfy ICRA but does nothing for fire safety, and temporary partitions in occupied areas usually need to be smoke-tight and noncombustible or limited-combustible. Approve both assessments together before work begins. Related reading: ILSM vs. ICRA in healthcare construction, what ILSM are, the ICRA Class I–V matrix, and fire rating requirements for temporary construction barriers.

Inspection, testing, and maintenance

Many life safety citations are documentation failures. The equipment may be fine, but the facility cannot prove it was inspected, tested, and maintained as required. Under Accreditation 360, Joint Commission removed detailed equipment ITM EPs from the PE chapter and points surveyors to the K-tag tools. The ITM requirements did not go away. They come from NFPA 101, NFPA 99, and the standards those codes reference.

System	Governing standard	What CMS-2786R / Joint Commission call out
Sprinklers and standpipes	NFPA 25	Records of design, inspection, testing, and maintenance kept “in a secure location and readily available” (K353)
Fire pumps	NFPA 25	Joint Commission: electric pumps tested monthly, diesel pumps weekly, under no-flow conditions (EC News, June 2022)
Fire alarm	NFPA 72 / NFPA 70	Approved testing and maintenance program; acceptance and test records available (K345)
Fire doors	NFPA 80	Fire door assemblies “inspected and tested annually.” Corridor and smoke barrier doors are routinely inspected under the maintenance program (K761)
Portable extinguishers	NFPA 10	Selected, installed, inspected, and maintained per NFPA 10 (K355)
Emergency generators	NFPA 99 / NFPA 110	Inspected weekly; exercised under load 30 minutes, 12 times a year at 20–40 day intervals; 4 continuous hours every 36 months; power within 10 seconds (K918)
Emergency lighting and exit signs	NFPA 101 §7.9	112-hour duration (K291); Joint Commission requires monthly 30-second functional tests, documented per light (EC News, June 2022)
Fire drills	NFPA 101 18/19.7	Quarterly on each shift (K712)

Keep ITM records organized by system and by K-tag, with dates, results, who performed the work, and how any deficiencies were corrected. Surveyors check the record and then check the device. See life safety documentation to have ready before surveyors arrive and common CMS deficiencies related to facility maintenance.

Common deficiencies

Joint Commission's PE chapter webinar lists the top five Life Safety opportunities for improvement in hospitals, based on survey data from May 2024 to May 2025. All five are now scored under PE.03.01.01 EP 3 (slides):

- **Dedicated sprinkler piping**: cables or other items supported by sprinkler pipe (formerly LS.02.01.35 EP 4)
- **NFPA automatic extinguishing requirements** (formerly LS.02.01.35 EP 14)
- **Fire barrier penetration seals**: missing, mismatched, or unrated firestopping (formerly LS.02.01.10 EP 14)
- **Sprinkler maintenance** (formerly LS.02.01.35 EP 5)
- **Fire-rated door requirements** (formerly LS.02.01.10 EP 11)

Joint Commission's January 2026 *EC News* describes the space above the drop ceiling as a frequent problem area: cables draped on sprinkler pipe, unsealed penetrations, and uncovered junction boxes. Other recurring field findings fall under the K-tags above: corridor clutter and non-latching corridor doors (K211, K363), smoke barrier breaches (K372), extension cord and power strip misuse (K920), fire drill gaps by shift (K712), and incomplete generator or fire alarm records (K918, K345).

For the full list, with what surveyors look for and how to fix each finding, see the most common NFPA 101 deficiencies in hospitals.

A practical survey-readiness checklist

- **Confirm the codes per building.** List each building's occupancy chapter (new or existing), construction type, sprinkler status, and the code editions enforced by CMS and by your state and local AHJs.
- **Keep current life safety drawings.** Show smoke compartments, fire and smoke barriers, hazardous areas, suites, and any approved waivers or equivalencies. Keep the Joint Commission SOC current.
- **Prepare the three plans.** For Joint Commission hospitals and CAHs, have the fire response plan, water management plan, and emergency operations plan where you can find them in five minutes, and make sure they match how the building actually operates. For the CMS emergency preparedness program, see 42 CFR 482.15.
- **Organize ITM records by K-tag.** One tab per system, with the last 12 months of results and evidence of how deficiencies were corrected.
- **Document categorical waivers in advance.** Elect them in writing and present them at the entrance conference.

- **Run an above-ceiling program.** Use a permit system for anyone opening ceilings, require a firestop inspection before tiles go back, and don't let anything hang from sprinkler pipe.
- **Integrate construction controls.** Approve ICRA and ILSM together, inspect egress daily, and track fire watch logs during impairments.
- **Do a mock survey.** Walk the building with the CMS-2786R in hand, tag by tag, at least once a year and after major projects.

For the broader regulatory picture, see our healthcare code compliance guide and hospital evacuation planning.

FAQ

What is NFPA 101?

NFPA 101, the Life Safety Code, is the National Fire Protection Association's model code for protecting building occupants from fire. CMS's Life Safety Code and Health Care Facilities Code Requirements page describes it as fire protection requirements covering construction, protection, and operational features designed to provide safety from fire, smoke, and panic. For Medicare- and Medicaid-certified providers, CMS enforces it through the Conditions of Participation, such as 42 CFR 482.41 for hospitals.

Which edition of NFPA 101 does CMS enforce in 2026?

The 2012 edition, with Tentative Interim Amendments 12-1 through 12-4, paired with the 2012 edition of NFPA 99. The hospital Condition of Participation, 42 CFR 482.41(b)(1) and (e)(1), incorporates these editions, which CMS adopted in 81 FR 26872, effective July 5, 2016. As of October 2026 the eCFR still lists the 2012 editions, and a Federal Register search found no CMS proposed rule to adopt a newer one.

Is NFPA 99 the same as NFPA 101?

No. NFPA 101 is the Life Safety Code, covering egress, compartmentation, fire protection systems, and fire-related operations. NFPA 99, the Health Care Facilities Code, sets requirements for installing, testing, and maintaining health care facility systems and equipment. CMS enforces both: 42 CFR 482.41(c)(1) says Chapters 7, 8, 12, and 13 of NFPA 99 do not apply to hospitals, and surveyors cite NFPA 99 items under the K900 series on Form CMS-2786R.

Which NFPA 101 chapters apply to hospitals?

Chapter 18/19, the Health Care Occupancy chapters. CMS State Operations Manual Appendix I says Chapter 18/19 must be applied wherever patients receive skilled or acute nursing or medical care such as a hospital provides, and tells surveyors to determine which chapters apply to each building on a campus. Under 42 CFR 482.41(b)(1)(i), hospital outpatient surgical departments must meet Ambulatory Health Care Occupancy provisions regardless of patient count.

What is a K-tag?

A K-tag is the data tag CMS life safety surveyors use to record Life Safety Code and Health Care Facilities Code findings on the Fire Safety Survey Report, Form CMS-2786R. CMS State Operations Manual Appendix I says the K-tags refer to the data tags on that form, and deficiencies are written up on the CMS-2567 Statement of Deficiencies. For example, K353 covers sprinkler maintenance and testing, and K712 covers fire drills.

Does Joint Commission still use the Life Safety (LS) chapter?

Not for hospitals and critical access hospitals. As of January 2026, their life safety requirements sit in the Physical Environment (PE) chapter; the Joint Commission Accreditation 360 Physical Environment webinar transcript (2025) says all LS standards and EPs were renumbered and moved to PE. PE.03.01.01 covers Life Safety Code compliance and PE.03.02.01 covers interim life safety measures. Other programs, such as ambulatory care, still list a Life Safety (LS) chapter in Joint Commission's Standards FAQ.

What is the difference between a waiver and a categorical waiver?

An individual waiver covers a specific Life Safety Code provision that would cause unreasonable hardship, is allowed only if patient health and safety are not adversely affected, and needs CMS approval: per CMS's Life Safety Code requirements page, only CMS Locations may grant approval of waivers. A categorical waiver is CMS policy any qualifying facility can use without Location approval, but SOM Appendix I requires documenting the election and notifying surveyors before being cited.

What is the FSES?

The Fire Safety Evaluation System (FSES) in NFPA 101A is a scored method of showing that a building provides safety equivalent to the Life Safety Code. CMS memo S&C 17-15-LSC (revised 2022) says CMS uses the 2013 edition of NFPA 101A, Guide on Alternative Approaches to Life Safety, for Health Care and Board and Care occupancies. Under SOM Appendix I, an FSES with a passing score goes to the CMS Location for final approval.

How often are fire drills required in a hospital?

At least quarterly on each shift. Form CMS-2786R, tag K712, requires fire drills at expected and unexpected times under varying conditions, including transmission of a fire alarm signal and simulated emergency fire conditions, with staff familiar with the procedures. Where drills are held between 9:00 PM and 6:00 AM, a coded announcement may be used instead of audible alarms.

What happens when the sprinkler or fire alarm system goes down?

Under 42 CFR 482.41(b)(8), when a hospital sprinkler system is shut down for more than 10 hours, the hospital must evacuate the affected area or establish a fire watch until it is back in service. For a required fire alarm system out more than 4 hours in a 24-hour period, Form CMS-2786R tag K346 requires notifying the authority having jurisdiction and evacuating or providing an approved fire watch.

Can my state enforce a newer edition than CMS?

Yes. State licensing agencies and local authorities having jurisdiction can require newer NFPA 101 editions or other codes alongside CMS's 2012 edition. Joint Commission's Standards FAQ on NFPA 101-2012 references says variations in adopted code editions can be handled by reconciling the requirements of the code editions and complying with the strictest requirements.

Primary sources

- 42 CFR 482.41, Condition of participation: Physical environment (eCFR)
- 42 CFR 483.90, Physical environment, long-term care (eCFR)
- 42 CFR 416.44, ASC environment (eCFR)
- 42 CFR 485.623, CAH physical plant and environment (eCFR)

- 81 FR 26872, Fire Safety Requirements for Certain Health Care Facilities (May 4, 2016)
- 87 FR 47502, FY 2023 SNF final rule (Aug. 3, 2022)
- 87 FR 71748, CY 2023 OPPS/REH final rule (Nov. 23, 2022)
- CMS: Life Safety Code & Health Care Facilities Code Requirements
- CMS State Operations Manual, Appendix I: Survey Procedures for Life Safety Code Surveys
- Form CMS-2786R, Fire Safety Survey Report, Health Care, 2012 LSC
- CMS S&C 17-15-LSC (revised 10/26/2022): Use of the FSES
- NFPA 101 code development page
- Joint Commission FAQ: references used by CMS and TJC for LSC/EC compliance
- Joint Commission, *Environment of Care News*, January 2026
- Joint Commission, Accreditation 360 Physical Environment chapter webinar transcript and slides
- Joint Commission, Hospital Accreditation Survey Tools Guide (September 2026)
- Joint Commission, Statement of Conditions equivalency instructions
- Joint Commission, Life Safety Code Resources
- Joint Commission, *Environment of Care News*, June 2022 (ILSM, ITM)

Related reading

- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- NFPA 101 Life Safety Code for Healthcare Occupancies
- Corridor Width Requirements in Healthcare Under NFPA 101

Healthcare Code Compliance: The Complete Professional Guide (2026)

Source: https://healthcarefacilityhub.org/healthcare-code-compliance-complete-professional-guide/ Published: March 18, 2026

Updated September 30, 2026.

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This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Direct answer: Healthcare code compliance in 2026 means meeting every authority having jurisdiction that touches your buildings—typically CMS Conditions of Participation (often via the 2012 editions of NFPA 101 and NFPA 99 for Medicare surveys), state and local fire and building codes (often newer NFPA editions), design standards such as the 2026 FGI Codes where adopted, and accreditation rules including Joint Commission Accreditation 360's Physical Environment chapter (effective January 1, 2026). Facility managers win by mapping which edition each surveyor uses, keeping documentation current, and closing gaps before

construction or remediation projects harden noncompliance into drywall.

Healthcare code compliance: The disciplined alignment of adopted building and fire codes, healthcare-specific NFPA standards, facility design requirements, CMS Conditions of Participation, and accreditation criteria so the physical environment supports safe care, reliable utilities, and defensible survey outcomes.

Why compliance is layered, not linear

Hospitals rarely answer to a single code book. Medicare-participating facilities face CMS life safety and systems expectations. State fire marshals and building officials enforce adoptions that may reference NFPA 101-2024 or other cycles. Accredited organizations follow healthcare regulatory compliance frameworks that reorganized in 2026. Design teams reference FGI Codes where states or programs require them. Your job is to maintain a living crosswalk—not a binder frozen in 2018.

Primary technical standards

NFPA 101, Life Safety Code

NFPA 101 for healthcare: egress, compartments, and smoke barriers

NFPA 101 sets occupancy-based fire and evacuation rules for healthcare and ambulatory care. For Medicare surveys, CMS still references the 2012 edition, while NFPA's current publication cycle includes the 2024 edition adopted in many states for plan review and local enforcement. That split drives real project decisions: corridor widths, suite configurations, smoke compartments, door locking, and sprinkler tradeoffs must satisfy the edition your surveyor will score—not only the newest printing on the shelf.

- Means of egress sized for care-dependent occupants and staff evacuation procedures
- Fire barriers, smoke barriers, and compartmentation limiting fire and smoke spread
- Detection, alarm, and automatic suppression integrated with interim life safety measures during construction

NFPA 99, Health Care Facilities Code

NFPA 99: risk-based medical gas, electrical, and essential systems

NFPA 99 governs piped medical gas, electrical systems, emergency power, HVAC interfaces, and related operational risks using a category-based approach. CMS ties participating hospitals to a referenced edition (still commonly discussed as the 2012 cycle alongside NFPA 101 for federal surveys). Bulk oxygen, vacuum, and medical air programs still live or die on valve labeling, quarterly testing, and alarm response—not on whether the piping diagram is pretty.

- Verifiable medical gas purity, labeling, valve stations, and maintenance intervals
- Essential electrical systems and emergency power transfer testing
- Category assignments driving documentation depth for invasive procedure spaces

FGI Codes and handbooks (2026 cycle)

FGI 2026 edition: codes, handbooks, and compliance expectations

The Facility Guidelines Institute now publishes FGI Codes for minimum planning and design requirements, with companion digital handbooks carrying explanatory material that formerly lived in guideline appendices. The 2026 hospital code adds or strengthens expectations around medical psychiatry units, rural emergency hospitals, discharged-patient waiting areas, incident command centers, staff duress alarms, and cleanable infection-prevention surfaces. Confirm which edition your state or project manual adopts before you lock room data sheets.

ASHRAE Standard 170 and ventilation

Patient care ventilation pressure relationships, filtration, and air change expectations for many projects trace to ASHRAE Standard 170, often adopted by reference through FGI and state codes. Operational compliance connects to HVAC maintenance, TAB records, and infection-control commissioning—not just design submittals.

Accreditation and CMS in 2026

Joint Commission Accreditation 360

Effective **January 1, 2026**, hospital accreditation manuals under Accreditation 360 replace separate Environment of Care and Life Safety chapters with a unified **Physical Environment (PE)** chapter whose elements of performance align more explicitly with CMS Conditions of Participation language. Life Safety Code requirements, utility systems, hazardous materials and waste, building and interior safety, and water management (including legionella and other waterborne pathogen programs) sit under PE; selected topics moved to the **National Performance Goals** chapter. Renumbering is not cosmetic—work orders, policy indexes, and drill logs must point to the new PE and NPG references before survey week.

CMS Conditions of Participation

Medicare-participating hospitals remain accountable to CMS CoPs for the environment of care, emergency preparedness, infection control, and utilities. Life safety continues to flow through adopted NFPA 101 editions cited in federal rules; systems requirements reference NFPA 99 and related standards. Water management expectations intersect CMS memoranda and accreditation PE standards—see Legionella water management, ASHRAE 188, and CMS for a practical program outline.

How the layers fit together

- **NFPA 101** defines fire and egress performance for healthcare occupancies; know both CMS-cited and state-adopted editions.
- **NFPA 99** defines systems risk categories and testing for gases, power, and related infrastructure.
- **FGI Codes** set spatial and architectural minimums where adopted; handbooks support design decisions but do not replace AHJ enforcement text.
- **Joint Commission PE and NPG standards** translate federal themes into surveyable documentation for accredited hospitals.
- **Emergency preparedness** spans CMS, accreditation, and FGI incident command expectations—coordinate hospital incident command and hazard vulnerability work with fire and life safety plans, not as separate silos.

Assessment, projects, and documentation

Projects and records

Start compliance at schematic design: confirm enforced NFPA editions with the AHJ, align room data to FGI Code where required, and schedule integrated fire, medical gas, and emergency power testing before occupancy. Interim life safety measures belong in the contractor scope. Keep occupancy approvals, alarm and sprinkler logs, generator and medical gas reports, water management data, and drill records in one audit trail surveyors can follow without a guided tour.

2026 priorities for facility managers

- Reconcile **Accreditation 360 PE/NPG renumbering** with your CMMS, policy library, and training slides.
- Track **FGI 2026 Codes** adoption in your state and update master specifications and room templates.
- Plan capital work assuming **dual NFPA 101/99 edition** obligations until CMS publishes a newer federal adoption.
- Close infection-prevention and resilience gaps called out in post-pandemic code cycles—isolation capacity, command centers, and maintainable finishes.

When compliance failures become remediation projects

Water intrusion, mold, failed clearance testing, or abatement work can strip you of compliant barriers and pressurized rooms fast. Coordinate code compliance with healthcare facility remediation so ILSMs, infection control, and re-occupancy testing are planned before demolition starts.

Frequently asked questions

How do I know which codes and standards apply to my healthcare facility?

The applicable standards depend on facility type, licensure, location, and whether you bill Medicare or Medicaid or hold Joint Commission accreditation. NFPA 101 and NFPA 99 apply to most hospitals and many other settings through CMS Conditions of Participation, state adoption, or accreditation—often with different editions enforced by different authorities. New construction and major renovations also trigger state codes and, in many jurisdictions, FGI Codes or prior FGI Guidelines. Map your AHJs first, then crosswalk requirements rather than assuming one book covers everything.

What is the difference between code compliance and best practices?

Code compliance means meeting enforceable minimums in adopted fire, building, and health codes and in CMS CoPs where Medicare participation applies. Best practices—such as FGI Handbook guidance or Joint Commission National Performance Goals—go beyond those minimums to reduce risk and operational friction. You can be code-compliant and still fail a survey if accreditation or program-specific rules add expectations.

Which edition of NFPA 101 do Medicare surveys actually use in 2026?

As of September 2026, CMS continues to cite the 2012 edition of NFPA 101 for Life Safety Code surveys tied to Medicare participation, even though NFPA publishes a 2024 edition and many states enforce newer editions for plan review and fire marshal inspections. Joint Commission Physical Environment Life Safety elements

align with that federal baseline for deemed-status hospitals. Treat dual-edition compliance as normal until CMS publishes a formal adoption rule.

What changed in Joint Commission accreditation on January 1, 2026?

Accreditation 360 replaced separate Environment of Care and Life Safety chapters with a single Physical Environment chapter effective January 1, 2026, with renumbered elements of performance aligned more closely to CMS CoP language. Utility systems, water management, hazardous materials, and Life Safety Code compliance now live under PE standards; some topics moved to the National Performance Goals chapter. Remap documents, work order categories, and staff training to the new chapter numbers before your next survey cycle.

Can we deviate from FGI if the state code is satisfied?

Sometimes, but not casually. States adopt FGI Codes or earlier Guidelines to varying degrees; Joint Commission and CMS expect design that meets applicable law and recognized standards even when FGI is advisory in your state. Documented variances need engineering or clinical justification, AHJ approval where required, and proof that minimum infection prevention, egress, and systems requirements are still met.

Conclusion

Healthcare code compliance in 2026 is an integration problem: CMS life safety and systems baselines, state adoptions that may lead NFPA print cycles, FGI Code updates, and Joint Commission Physical Environment reorganization all land on the same corridors and utility rooms. Build a current edition crosswalk, keep test records audit-ready, and tie capital projects to the standard set you will be scored against—not the one that is easiest to purchase online.

Related: Healthcare Regulatory Compliance · FGI Guidelines 2026 Edition

Related reading: Balancing Facility Costs With Patient Experience in Hospitals — where cost decisions show up in code-relevant conditions patients perceive

Healthcare Water Quality and Medical Utilities: The Complete Professional Guide (2026)

Source: https://healthcarefacilityhub.org/healthcare-water-quality-medical-utilities-complete-professional-guide/
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Healthcare water quality and medical utilities cover potable distribution, Legionella water management, dialysis and sterile-processing water treatment, and medical gas systems (oxygen, medical air, vacuum). Patient safety depends on meeting ASHRAE 188, AAMI dialysis and device-processing water standards, NFPA 99, and the 2026 FGI Codes where adopted, with survey-ready documentation under Joint Commission Accreditation 360 Physical Environment standards effective January 1, 2026.

Healthcare water quality and medical utilities: Infrastructure and programs that deliver safe water and medical gases for clinical care, sterilization, dialysis, and emergency response—including treatment, monitoring, maintenance, and documented compliance.

Introduction

Water and medical gas failures show up fast in clinical areas: a boil-water advisory, a positive Legionella sample, or a medical air alarm can force procedure delays and isolation precautions within hours. These systems sit at the intersection of facilities engineering, infection prevention, and biomedical services. You cannot manage them in silos.

This guide maps how the pieces fit together for facility managers and environment-of-care leaders. Deep dives on Legionella, dialysis RO, and bulk oxygen live in linked Hub guides; here the focus is integration, current standards as of September 2026, and what surveyors expect to see in the chart.

Regulatory and standards landscape

Multiple authorities overlap. Your job is to know which edition your state, CMS certification, and accreditor actually enforce—not only what NFPA or FGI published last.

Source	Focus	Facility action
ASHRAE Standard 188	Legionellosis risk management	Written water management program, control measures, validation
CDC Water Management Toolkit	Implementation guidance	Team structure, sampling logic, response playbooks
ANSI/AAMI/ISO 13959 and 26722	Dialysis water and treatment equipment	RO design, chemical and microbiological limits, monitoring
ANSI/AAMI ST108:2023	Water for medical device processing	Utility vs critical water, monitoring, boil-water response
NFPA 99 (2024 edition)	Medical gas, vacuum, related systems	Installation, inspection, testing, maintenance records
2026 FGI Codes and Handbooks	Planning and design minimums	Utility rooms, waterborne pathogen provisions, medical gas layout
Joint Commission Accreditation 360	Hospital and CAH accreditation (2026)	Physical Environment chapter; utility and water programs
CMS Conditions of Participation	Medicare/Medicaid certification	Align maintenance and utility management with CoP tags in the Survey Process Guide

Under Accreditation 360, former Environment of Care utility and water expectations for hospitals and critical access hospitals sit in the **Physical Environment (PE)** chapter effective January 1, 2026. Waterborne pathogen management aligns with **PE.04.01.05**; utility system management with **PE.04.01.03**. See our Joint Commission

Accreditation 360: 2026 Physical Environment standards breakdown for survey prep.

Core system areas

Potable water supply and distribution

Municipal supply is the starting point. Most acute sites add softening, filtration, or dechlorination for equipment protection. Maintain disinfectant residual per local health rules while executing your Legionella control strategy—those two goals require coordination, not contradiction.

Legionella and waterborne pathogen management

Healthcare populations carry high risk for Legionella pneumonia when aerosolized water is inhaled. Cooling towers, hot water systems, showers, hydrotherapy, and decorative features belong in a facility-specific risk assessment. ASHRAE 188 expects documented control limits, corrective actions, and validation after changes. Our Legionella water management programs guide walks through ASHRAE 188, the CDC toolkit, and CMS-aligned documentation.

Dialysis and other high-purity water

Hemodialysis water must meet ANSI/AAMI/ISO 13959 because it contacts the extracorporeal circuit. Endotoxin and bacterial action limits are orders of magnitude tighter than potable rules. RO trains, loop sanitation, and breach response are dialysis-specific competencies. Follow our dialysis water quality guide for RO design and microbiological monitoring.

Sterile processing and endoscope reprocessing lines fall under **ANSI/AAMI ST108:2023** (utility and critical water categories). That standard explicitly excludes hemodialysis—do not merge those programs on shared equipment without a formal risk analysis.

Facilities logging ST108 results can use the ST108 water quality worksheet on our sterile processing guide — it scores each result against the limits your own program adopted and prints a log built for survey review.

Medical gas systems

Bulk oxygen, medical air, instrument air where applicable, vacuum, and nitrous oxide pipelines are life safety infrastructure. NFPA 99 uses a risk-based category framework; the 2024 edition adds emphasis on auxiliary connections, pressure-drop documentation, and designer qualification references. Operational testing and labeled zone valves still matter daily. Our medical gas systems guide covers bulk storage, vacuum, and medical air; the NFPA 99 risk-based approach article explains category decisions that drive design and testing intervals.

Key quality parameters (by use)

Potable and general building water

- Meet EPA Safe Drinking Water Act limits and local health department rules
- Chlorine or chloramine residual as required locally for distribution integrity
- Hot water control per your ASHRAE 188 plan (temperature, thermal disinfection, or equivalent validated measures)
- Softening or treatment where hardness damages steam or equipment

Dialysis water (ANSI/AAMI/ISO 13959)

- Microbiological action limits per current AAMI adoption (colony counts and endotoxin thresholds your medical director and dialysis vendor verify)
- Chemical maximums for chloramine, aluminum, and other specified contaminants
- Conductivity and RO performance trending on each shift of treatment

Medical gas

- Oxygen USP purity at point of use
- Medical air dew point and contaminant limits per NFPA 99 and manufacturer criteria
- Vacuum pressure and flow adequate for clinical demand in procedural areas

Integration with HVAC and the rest of the plant

Cooling towers bridge HVAC and water management. ASHRAE 170 ventilation requirements drive air changes and pressurization that affect humidifier and reheat coil operation—see HVAC Systems: Expert Video Analysis for expert video walkthroughs of healthcare ventilation and ASHRAE 170. Coordinate with HVAC engineers when you alter utility rooms or air intakes near oxygen venting. Water intrusion in clinical zones requires infection control sign-off before you restore occupancy.

Legionella programs

Risk assessment, control measures, testing, and outbreak response—detailed in the Legionella water management guide.

Dialysis water

AAMI water quality, RO trains, and microbiological monitoring—covered in the dialysis water quality guide.

Medical gas

NFPA 99 testing, bulk oxygen, vacuum, and medical air—see the medical gas systems guide and the NFPA 99 risk-based approach.

Documentation, rounds, and surveys

Inspectors trace from policy to log to work order. Maintain:

- Water management program with team roster, system descriptions, control measures, and verification results
- Dialysis and ST108 water monitoring logs with corrective actions
- Medical gas annual verification, valve checks, and alarm tests per NFPA 99 and manufacturer instructions
- Staff competency records for utility emergencies

Structured environment-of-care rounds catch labeling drift, inaccessible shutoffs, and deferred maintenance before they become patient events. Tie findings to the healthcare facility management program so capital and corrective work stay funded.

Emergency response

Water contamination or loss

- Notify infection prevention, clinical leadership, and local health authorities per protocol
- Define clinical restrictions (no showers, bottled water for drinking, dialysis contingency)
- Document investigation, remediation, and clearance sampling before lifting precautions

Medical gas failure

- Activate area alarms and clinical escalation paths immediately
- Deploy backup cylinders or portable vacuum per your emergency operations plan
- Prioritize ICU, ED, and active procedural suites until permanent supply is restored

Practical starting point

- Confirm which FGI, NFPA, and AAMI editions your AHJ and CMS certification reference today.
- Crosswalk PE.04.01.03 and PE.04.01.05 to your existing utility and water management binders.
- Close gaps on medical gas documentation against NFPA 99 before the next triennial window.
- Schedule a joint walk with infection prevention, biomed, and plant engineering on cooling tower, dialysis, and sterile processing water paths—review healthcare HVAC and airborne infection control video analysis first if tower zones and air-handler intakes are on the route.

Frequently asked questions

Where do water management and medical gas requirements sit under Accreditation 360?

Effective January 1, 2026, hospitals and critical access hospitals use the Physical Environment chapter. Utility system management sits under PE.04.01.03, and the water management program for waterborne pathogens under PE.04.01.05. Medical gas compliance still ties to NFPA 99 through building safety and facility management standards in the same chapter.

Does the 2026 FGI Code replace the 2022 Guidelines for new hospital work?

The 2026 FGI Codes are the current minimum planning and design requirements, with supplemental material in the digital FGI Handbooks. Many jurisdictions still enforce earlier adoptions, so confirm which edition your state or authority having jurisdiction references before you design upgrades.

What is the most common Legionella exposure path in acute care?

Aerosolized water from showers, cooling towers, decorative fountains, and other wet systems that patients or immunocompromised occupants inhale. Hot water systems held below effective control temperatures and dead legs that stagnate remain frequent contributing conditions.

Should dialysis RO water and sterile processing water share treatment equipment?

No. Hemodialysis water must meet ANSI/AAMI/ISO 13959 limits because it contacts the extracorporeal circuit. Sterile processing lines fall under ANSI/AAMI ST108:2023 with different categories and monitoring. Shared piping creates cross-contamination risk and audit findings.

How often should facilities reassess water and medical gas infrastructure?

Document ongoing monitoring and maintenance continuously. Plan a documented risk review at least annually for your water management program, keep medical gas testing on the NFPA 99 schedule your accreditation program expects, and commission a multidisciplinary engineering walkthrough every three to five years or after major renovation.

About this guide

William Tygart prepared this overview for healthcare facility managers. Standards change; verify current editions of ASHRAE 188, AAMI dialysis and ST108 documents, NFPA 99, FGI Codes, CMS Conditions of Participation, and Joint Commission manuals before relying on it for compliance decisions.

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Healthcare regulatory compliance for hospitals means meeting CMS Conditions of Participation—especially 42 CFR 482.41 (physical environment) and 482.42 (infection control)—while aligning with accreditor standards, adopted NFPA 101 and NFPA 99 editions, ventilation requirements such as ASHRAE 170, and design guidance including the FGI Guidelines 2026 edition. Facility leaders run this as a program: clear ownership, current documentation, disciplined rounding, tracked corrective actions, and readiness for CMS, state health department, and deemed-status surveys.

Why this sits on facility leadership

Surveyors trace what they see, what staff explain, and what records show when something failed. Most acute-care hospitals operate under CMS CoPs. With deemed status through The Joint Commission or another CMS-recognized accrediting organization, state health departments still enforce CoPs on behalf of CMS. Accreditors add cadence and structure; they do not replace federal law.

Gaps appear where teams assume someone else owns the work: interstitials, after-hours contractors, corridor storage, and renovation without proper infection control barriers. See how frameworks overlap in healthcare regulatory convergence in 2026.

CMS Conditions of Participation

Hospital CoPs in 42 CFR Part 482 set Medicare and Medicaid participation requirements. For facilities, two areas dominate:

- **482.41 Physical environment.** Safe, functional space; maintained essential systems; hazards identified and corrected.
- **482.42 Infection control.** Transmission risks, including environment and construction, under a hospital-wide program.

Authoritative text: 42 CFR Part 482 and CMS certification guidance at cms.gov. Our walkthrough of CMS CoPs and hospital environment-of-care requirements maps tag language to daily operations.

CMS adopts specific NFPA 101 and NFPA 99 editions for hospitals through CoP policy. Know which edition governs Medicare certification in your cycle versus what state licensing or local fire codes require.

Joint Commission Accreditation 360 and unified Physical Environment

Effective January 1, 2026, hospitals surveyed under The Joint Commission use **Accreditation 360**, including a unified **Physical Environment (PE)** chapter that consolidates expectations once spread across environment-of-care, life safety, and related tracers. The model stresses continuous readiness and scoring such as **SAFER**.

Under the new PE structure, the legacy standalone written Environment of Care plan is not the organizing center. Programs, risk assessments, and records still matter; surveyors ask whether maintenance, testing, training, and mitigation work in practice. Detail lives at jointcommission.org and in our Accreditation 360 physical environment standards for 2026 explainer.

State surveys and deemed status

State agencies conduct CMS certification surveys and enforce licensing. Deemed hospitals still face federal validation surveys; CoP deficiencies are federal findings.

Repeat physical-environment themes include life safety violations (doors, penetrations, egress, impaired fire systems), deferred maintenance, construction without ICRA-class barriers and monitoring, emergency power and medical gas problems, and records that do not match the floor. Prep is operational rhythm, not a pre-survey sprint. See state health department surveys: preparation, deficiencies, and corrective action.

NFPA 101, NFPA 99, and the CMS crosswalk

NFPA 101 Life Safety Code

NFPA 101 covers egress, compartmentation, fire protection features, and health care occupancy provisions. CMS surveyors benchmark to the adopted edition. Reference: NFPA 101.

NFPA 99 Health Care Facilities Code

NFPA 99 applies a risk-based approach to medical gas, electrical systems in patient care, related HVAC scope, and critical utilities. Pair it with 101: building protection versus systems failure modes. See our NFPA 99 overview for medical gas, electrical, and fire systems.

Practice note

Gap analysis between design standards and the CMS-adopted NFPA edition belongs in renovation charters. Interim life safety measures must be documented when compliant conditions cannot be maintained during

work.

FGI 2026, ASHRAE 170, and AAMI

The **FGI Guidelines, 2026 edition** shapes new construction and major renovation where states or projects reference FGI—room layouts, hand hygiene, isolation concepts, sterile processing adjacency, behavioral health safety. FGI does not replace CMS CoPs, but operators inherit what design teams program.

ASHRAE Standard 170 anchors patient-care ventilation requirements, often incorporated through NFPA 99, FGI, or state code. Pressure, air changes, filtration, and humidity surface in infection control tracers. ASHRAE: ashrae.org. FGI: fgi-guidelines.org.

AAMI standards tie sterile processing and device workflows to survey paths; failures in the OR suite often walk back to layout, utilities, and HVAC. Construction requires ICRA when policy and accreditors expect it—barrier class, negative air, and monitoring matched to the work, not generic signage.

Where frameworks converge or conflict

One accurate life safety picture should support 482.41, NFPA features, Joint Commission PE elements, state licensing, and local fire inspection. Breakdowns follow outdated drawings after capital work, unit storage that defeats egress hardware, PM backlogs that outlive ILSMs, and contractors in ceilings without infection control sign-off. ASHE (ashe.org) is a practical forum for these overlaps.

Running a compliance program

Ownership

Name accountable leaders for environment of care, life safety, and utilities. Repeated findings in committee minutes signal a governance problem, not a formatting problem.

Documentation

Keep accurate life safety plans where permitted, medical gas and emergency power inventories, NFPA-aligned test records, construction permits, ICRA packets, and closed work orders tracers can pull quickly.

Rounding and corrective action

Schedule rounds by risk—egress, procedural areas, behavioral health, recent construction—and use finding language that matches survey categories. Tie closures to owners and dates; escalate slippage to capital planning when the same defect returns.

Continuous readiness

Technology helps when it mirrors field truth. See continuous compliance monitoring and CMS survey readiness for operationalizing tracking without skipping physical verification.

FAQ

What is the difference between CMS CoPs and Joint Commission standards for the physical environment?

CMS CoPs in 42 CFR Part 482 are federal requirements for Medicare and Medicaid participation; survey findings on CoPs are compliance failures with corrective action obligations. Joint Commission standards, including the unified Physical Environment chapter under Accreditation 360, define deemed-status survey expectations and scoring such as SAFER. You must satisfy both when accredited: CMS sets the regulatory floor; the accreditor defines how comprehensively and frequently you demonstrate performance.

Does Accreditation 360 eliminate the written Environment of Care plan?

Accreditation 360 shifts emphasis to the unified Physical Environment chapter and continuous readiness rather than maintaining the legacy standalone written Environment of Care plan as the primary organizing document. You still need programs, assessments, training, inspection records, and mitigation when systems fail—the survey question is whether those elements work in practice, not whether a single plan binder exists with an old title.

Which NFPA codes apply to hospitals under CMS?

CMS adopts specific editions of NFPA 101 for life safety and NFPA 99 for health care facilities systems through hospital Conditions of Participation policy. The edition in force for your certification cycle is the survey benchmark; confirm the adopted edition through current CMS guidance rather than assuming the latest NFPA print year applies automatically.

How does FGI 2026 affect existing buildings versus new construction?

FGI 2026 primarily drives programming and design for new construction and major renovation where states or projects reference that edition. Existing occupied buildings are not typically retrofitted to every new FGI room dimension overnight, but licensing reviews, change-of-use projects, and internal master planning should flag when FGI expectations outpace your current stock so upgrades are deliberate and budgeted.

Who should own healthcare regulatory compliance day to day?

The CEO and governing body hold ultimate accountability, but day-to-day compliance runs through a shared model: facilities engineering for building and systems, safety and emergency management for life safety programs, infection prevention for 482.42 and ICRA oversight, and clinical leaders for unit-level practices. Quality and compliance functions coordinate tracers and findings; no single department owns every citation type alone.

How often should hospitals conduct life safety and environment rounding?

High-risk areas—egress routes, OR and procedural suites, behavioral health units, and locations with recent construction—warrant monthly or more frequent targeted rounds by trained staff. Broader campus sweeps often fit a quarterly cycle, with additional walks after impairments, significant weather, or contractor work above the ceiling. Frequency matters less than consistency, documented findings, and closed corrective actions before the next round.

Related reading: The Biggest Operational Challenges Facing Hospital Facility Teams Today — the operator-level read on the challenges behind the compliance load

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Direct answer: A healthcare facility infection control program is a hospital-wide system—required under CMS Conditions of Participation and overseen by a qualified infection prevention leader—that combines clinical precautions, environmental hygiene, water and ventilation controls, and construction barriers to stop pathogen spread. Facility managers own the physical environment pieces: HVAC performance, ICRA barriers, water management, and survey-ready documentation that ties the building to NHSN surveillance and CDC HICPAC guidance.

What an infection control program is—and who owns what

CMS expects hospitals to maintain an organized infection control program under 42 CFR 482.42; skilled nursing facilities follow parallel requirements at 42 CFR 483.80. The program is not an EVS checklist or a single committee. It is policy, surveillance, outbreak response, and competency training wired into every department that touches patients, equipment, or the environment.

The infection preventionist (or equivalent) leads program design, data review, and liaison with medical staff. Nursing and medical leadership approve clinical protocols. Environmental services executes cleaning and disinfection standards. Facilities engineering maintains air, water, and medical gas systems per NFPA 99 and applicable ASHRAE guidance. Plant operations and safety support life safety integration under NFPA 101. When something fails—a negative-pressure room that drifts positive, a cooling tower without a written plan—the surveyor asks who had authority to fix it. Clear ownership prevents drift.

New design and major renovation projects should align infection control intent with the FGI Guidelines 2026 edition early. Waiting until punch list guarantees expensive rework on handwashing locations, soiled utility flow, and isolation capacity.

Standard precautions vs transmission-based precautions

CDC infection control guidance for healthcare personnel rests on two layers. Standard precautions treat all blood, body fluids, non-intact skin, and mucous membranes as potentially infectious: hand hygiene, PPE when exposure is anticipated, safe injection practices, and appropriate reprocessing of instruments.

Transmission-based precautions add controls when a patient has a known or suspected pathogen spread by contact, droplet, or airborne routes. Contact precautions need gowns and gloves plus dedicated equipment when feasible. Droplet precautions add a surgical mask within about six feet. Airborne precautions require a respirator for staff and an airborne infection isolation room (AIIR) that meets ventilation design

criteria—typically aligned with ASHRAE Standard 170—for negative pressure, exhaust, and minimum air change rates.

Facility managers feel this distinction during outbreaks and census surges. Contact isolation strains room inventory and toilet access; layout decisions for pathogens such as *Clostridioides difficile* still hinge on private toilet access and dedicated cleaning routes. Airborne events stress the AIIR fleet and emergency ventilation plans. The infection control committee should know how many rooms of each type you can stand up in 24 hours without borrowing space from the wrong wing.

Surveillance, HAI reporting, and NHSN

Surveillance turns cleaning, device use, and surgical care into trend lines leadership can act on. Most acute care hospitals report healthcare-associated infections through the National Healthcare Safety Network (NHSN), CDC's surveillance hub. Module selection depends on services provided; the facility's role is reliable data: correct location mapping, admission dates, device days, and procedure codes. Bad location metadata makes a clean building look guilty on paper.

IP teams lead definitions and validation. Facilities supports them with as-built isolation lists, OR suite identifiers, unit names that match the electronic health record, and construction-related bed closures documented so denominators stay honest. When NHSN flags a cluster, the first questions often include water sources, HVAC zones, and recent project work—keep those records retrievable.

Hand hygiene: infrastructure matters

Hand hygiene is a clinical behavior supported by physical design. Sinks need splash control, adequate water temperature, and placement that does not force staff to touch contaminated surfaces after washing. Alcohol-based hand rub dispensers belong at point of care, not only at room entry—corridor-only placement guarantees missed moments.

FGI and functional program requirements drive counts and locations for new work. In existing buildings, joint commission-style tracers still find empty brackets and blocked dispensers. Facilities should treat dispenser mounting, refill contracts, and sink repairs as infection control work orders, not cosmetic maintenance.

Environmental cleaning and disinfection

Environmental services (EVS) applies EPA-registered disinfectants with contact times that match the label, uses appropriate tools for high-touch surfaces, and completes terminal cleaning when patients leave isolation or OR suites turn over. The clinical program sets priorities; EVS executes with measurable QA.

Low-touch UV or hydrogen peroxide vapor systems may supplement manual cleaning where policy allows—they do not replace it. Managers should verify that product selection matches outbreak organisms and that staff read SDS sheets for PPE and ventilation needs during application.

Evidence-based terminal cleaning steps, frequencies, and audit methods are laid out in our guide to environmental services terminal cleaning protocols. Sterile processing sits adjacent to this world: instruments must meet reprocessing standards such as AAMI ST79—facilities owns steam, water quality, and ventilation to decontamination areas.

Construction, renovation, and ICRA

Dust from drywall, ceiling tiles, or old duct liner carries Aspergillus and other molds into immunocompromised units. An Infection Control Risk Assessment (ICRA) classifies the project, defines barrier types, pressure relationships, traffic routes, and monitoring before walls open. Interim Life Safety Measures (ILSM) address fire and egress when life safety systems are impaired—they do not substitute for ICRA.

Use a written matrix, train contractors, log daily inspections, and tie activation to medical staff notification. Our ICRA matrix and construction barrier resource walks through class selection. Pair ICRA with Interim Life Safety Measures when fire or egress systems are impaired—ILSM does not replace dust and pressure controls.

Include HVAC shutdowns, temporary exhaust, and post-project cleaning in the ICRA packet—brief contractors with expert video breakdowns of healthcare ventilation and airborne infection control when temporary systems are on the critical path. A project that passes fire inspection but blows dust into a bone marrow unit fails the only test that counts.

Water management and Legionella

CMS expects facilities to minimize Legionella and other waterborne pathogens in building water systems as part of the infection control program. A water management program identifies control locations (cooling towers, decorative fountains, certain sinks and showers), assigns teams, sets monitoring, and documents corrective actions—consistent with CDC toolkit principles and industry standards such as ASHRAE 188.

Facilities engineering maintains temperature strategies, stagnation controls, and point-of-use filtration where policy requires. Dialysis and other high-risk loops add specialized water standards from AAMI. Detailed Legionella program steps appear in Legionella water management: ASHRAE 188, CDC toolkit, and CMS alignment.

Ventilation and airborne infection isolation

Ventilation separates clean from dirty air at the room and zone level. ASHRAE Standard 170 defines minimum ventilation, pressure relationships, and filtration for healthcare spaces; new and renovated work should meet the current edition referenced in the FGI 2026 documents. AIIRs must stay under negative pressure relative to adjacent areas, exhaust to the outdoors away from intakes, and maintain required air changes when the door is closed.

Facilities should trend pressure differentials, verify alarm setpoints, and document filter maintenance. Temporary conversion of standard rooms during surge requires written infection control and fire/life safety review—not fan-in-a-window fixes. Design concepts and operational testing are summarized in our healthcare HVAC and ASHRAE 170 guide; for visual walkthroughs of the same requirements, see HVAC Systems: Expert Video Analysis.

Antibiotic stewardship and the physical environment

Antimicrobial stewardship is primarily a clinical and pharmacy program, but the physical environment shapes its success. Contact precautions for resistant organisms depend on room availability and cleaning turnaround. Cultures and susceptibility results move faster when lab HVAC and workflow support safe specimen transport. C. difficile stewardship ties directly to private toilet access and rigorous sporicidal cleaning.

Include a facilities representative on stewardship committee meetings at least quarterly. Bring data on isolation capacity, EVS terminal cleaning times, and water disinfection status so prescribing discussions connect to real-world isolation and cleaning constraints.

Survey readiness: CMS and Accreditation 360

State surveyors and accrediting organizations trace infection control into the physical environment: clean utility storage, sterile corridor width where applicable, maintenance of critical utilities, and proof that ICRA and water management programs run as written.

The Joint Commission's Accreditation 360 model, with its unified Physical Environment chapter effective January 1, 2026, expects cohesive documentation across EC, EM, and PE domains—one story, not three binders that contradict each other. Our breakdown of Accreditation 360 physical environment standards maps chapter themes for facility leaders. CMS hospital Conditions of Participation for environment of care overlap infection control expectations; see CMS CoPs and environment of care requirements for hospital-specific hooks.

Practical prep: current isolation room list with last pressure test dates; ICRA log for active projects; water management plan with meeting minutes; EVS audit results; NHSN validation sign-offs; staff competency for ILSM when construction affects exits or fire alarms. Joint Commission and CMS hospital health and safety standards publish expectations publicly—align mock tracers to those sources, not to rumor.

Professional societies such as ASHE offer education on bridging clinical infection prevention and engineering; use them for staff development, not as a substitute for your own policies.

Frequently asked questions

Who is legally responsible for the infection control program in a hospital?

CMS places ultimate responsibility on the hospital's governing body and administration to implement the program described at 42 CFR 482.42, with day-to-day leadership typically assigned to a qualified infection prevention professional. Facility managers are accountable for environmental and engineering controls that the program depends on.

What is the difference between standard and transmission-based precautions?

Standard precautions apply to all patients and all body fluid contact. Transmission-based precautions add PPE, room placement, and movement restrictions based on whether an organism spreads by contact, droplet, or airborne routes.

When is an ICRA required?

Conduct an ICRA before any construction, renovation, or maintenance that disturbs dust, closes supply or exhaust paths, or changes pressure relationships in or near occupied clinical areas. Scale barriers and monitoring to the ICRA class; document daily when work is active.

How often should AIIR pressure be checked?

Follow manufacturer, policy, and code requirements—many organizations verify continuous monitoring with alarms and perform periodic manual checks or calibration per engineering standards. After any HVAC repair

affecting the room, test before placing an airborne precaution patient.

Does NHSN reporting replace local outbreak investigation?

No. NHSN is standardized national surveillance. Local investigation still requires environmental assessment, chart review, and control measures when clusters appear, whether or not they meet NHSN definition thresholds.

What documents do surveyors request first for infection control and the physical environment?

Expect the written infection control plan, water management program, active ICRA sheets, isolation room inventory with maintenance logs, EVS cleaning policies and audit tools, and evidence that ILSM was implemented when life safety systems were impaired during projects.

The Citation List Is Moving Toward the Source Document

Source: https://healthcarefacilityhub.org/citation-list-moving-toward-source-documents/ Published: October 19, 2026

When a facilities director, an infection preventionist, or a design team asks an AI assistant a clinical or plant question, whose document does the answer cite? Increasingly, it cites the source itself — and that shift has a direct consequence for what hospitals and the firms that build for them should publish.

The measurement comes from Ahrefs' Brand Radar citation data for the US, comparing 2.4 million ChatGPT answers in March 2026 with 3.8 million in September 2026, ranked across the 200 most-cited domains. In that cut, PubMed climbed from 64th to 4th among the most-cited domains, and the FDA entered at 8th. The CDC, MedlinePlus, DailyMed, and the NIH rose with them. The sites that fell were the summarizers: health explainers such as WebMD and Verywell Health lost ground, and general reference and forum sources fell sharply in the same window — Reddit from about one citation in five answers to about one in 43, Wikipedia from one in seven to one in 35. Ahrefs checked the movement against roughly 25,000 prompts present in both months; every tracked site moved the same direction on identical questions.

What counts as a source document in a hospital

A source document is the version a professional would accept in the room: the standard itself, the regulator's own page, the manufacturer's instructions for use, the peer-reviewed paper. In facility work it is also the owner's own primary documents — the water management program written to ASHRAE 188, the infection control risk assessment process the construction team actually follows, the ventilation positions the plant holds against ASHRAE 170. These are documents with an author who is accountable for them, stated values, and a date.

The summarizer layer — the explainer sites, the aggregators, the marketing pages that restate a standard's conclusions without its numbers — is exactly the layer losing citation share. An answer engine that has learned to prefer PubMed over a health explainer will, given the choice, prefer the facility's own stated program over a vendor's summary of what such a program usually contains.

The habit that now loses

Much of a hospital's specification knowledge still lives where machines read worst: scanned PDFs of submittals, binder documents behind a project portal, values stated in drawings but never in text, program descriptions written as brochure copy ("we take water safety seriously") with no temperatures, no control limits, no monitoring frequencies. None of that is citable. An engine cannot quote a number it cannot read, and it will cite the nearest readable source instead — which is how a summarizer ends up speaking for your plant.

The fix is publishing discipline, not marketing volume. State the actual values your program runs to. Name the standard and the edition. Date the page and keep it current when the program changes. Put it on the domain of the organization accountable for it — the hospital's own site, the firm's own site — in plain text a machine can lift without excavation.

Where to start

Water safety. Your ASHRAE 188 program is the model: control locations, temperature and disinfectant limits, monitoring cadence, corrective actions. We cover the working structure in ASHRAE 188 water management plans for hospitals and the construction-side discipline in Water ICRA: infection control for hospital water work. A published program page at that level of specificity is a source document; a paragraph saying the hospital "follows best practices" is not.

Infection control in construction. The ICRA process — who assesses, what the classes and precautions are, how containment is verified — is asked about constantly by project teams, usually through an AI intermediary first. Publish the process as you run it, with the matrix values in text, and your version becomes the citable one in your market.

For design and construction firms. Your project and capability pages are source documents too, or they are brochures. The firms whose pages state system types, standards worked to, and project parameters in plain text give the engine something to cite when an owner asks who builds this kind of space. Adjectives do not get cited; specifications do.

Read the instrument honestly

One study, one engine, free logged-out US answers — this is not a census of clinical search, and the decimals should not be treated as gospel. The defensible claim is the direction, confirmed on matched prompts: answers are being built from primary documents more, and from summaries of them less. For organizations whose specifications carry life-safety weight, that direction is enough to act on. Publish the document, not the summary of it.

The operator's reading of the companion dataset — how often the engine searches at all, and what it searches for when it does — is on Tygart Media: Six in Seven AI Answers Never Look Anything Up.

Source: Ahrefs, "How ChatGPT Does Query Fan-Out" (October 12, 2026), Brand Radar US citation comparison — 2.4 million answers (March 2026) and 3.8 million answers (September 2026), ranks among the 200 most-cited domains; matched-prompt check on ~25,000 prompts. Figures from the separate fan-out dataset in the same article are not used here.

Local Law 97 Is a Mechanical Problem: Compliance Through the Hospital Plant

Source: https://healthcarefacilityhub.org/local-law-97-mechanical-compliance-hospitals/ Published: October 19, 2026

Our first piece on this law treated Local Law 97 as what it looks like from the compliance office: limits, periods, fines, pathways. Local Law 97 in the Hospital Plant is that view, and it holds. But a hospital's emissions number is not actually decided in a compliance office. It is decided in the plant — by the air handlers, the chiller plant, the boilers and the reheat coils — because in a hospital the mechanical systems are not one load among many. They are most of the load, running all of it, all the time.

This is the companion piece: Local Law 97 read through the mechanical plant, for the people who run it. The law's arithmetic is fixed. What a facilities team controls is the machinery the arithmetic is applied to.

The limit, translated into plant terms

A general hospital — "Hospital (General Medical & Surgical)" in the Department of Buildings' property-type table — carries the highest emissions limit in the law for the 2024–2029 period: 0.02381 metric tons of CO2 equivalent per square foot per year, a ceiling it shares only with laboratories and data centers. An office building's limit over the same years is 0.00846. The law itself concedes, in its own numbers, that a hospital is close to three times as emissions-intensive as the building type the law is usually discussed through.

The concession ends in 2030. Under the Department of Buildings' rule (1 RCNY 103-14), the hospital limit for 2030–2034 falls to 0.00734 tons per square foot — a cut of roughly 69 percent, among the deepest single steps in the law. Run the arithmetic on a 500,000-square-foot hospital and the shape of the problem appears: an allowance of about 11,900 tons a year becomes about 3,670 tons a year. A hospital whose plant performed exactly at today's limit and changed nothing would face roughly 8,200 tons of excess emissions in 2030, fined at $268 per ton, per year — about $2.2 million a year, every year, until the plant changes.

Numbers like that are not closed by behavior programs or lighting retrofits. They are closed by machinery: by how much air the building moves, how it makes hot water and chilled water, and how much of its own waste heat it uses twice. That is the subject of everything below.

Ventilation is the floor the number stands on

Start with the load that cannot be negotiated. ANSI/ASHRAE/ASHE Standard 170 — the ventilation standard for health care facilities, and the document behind most of what New York's hospital engineers design to — sets minimum air change rates by room type in its Table 7.1. An operating room requires 20 total air changes per hour, at least 4 of them outdoor air, held at positive pressure. Airborne infection isolation rooms and protective environment rooms each require 12 total air changes per hour with 2 of outdoor air; an isolation room's air is exhausted directly outdoors, all of it, by design. A standard patient room requires 4 total air changes with 2 of outdoor air. Pressure relationships between rooms are part of the same table, and they are clinical requirements, not comfort settings. (Our explainer walks the standard itself: What Is ASHRAE Standard 170?, and the ASHRAE 170 edition tracker follows which edition a given project is held to.)

Every one of those air changes has to be heated, cooled, humidified or dehumidified, filtered and moved — and fan energy rises much faster than airflow, roughly with its cube, so a 20-air-change operating room consumes air-side energy out of all proportion to its floor area. In an office tower, ventilation is a dial. In a hospital, ventilation is the floor the emissions number stands on, and the floor is set by infection control.

The standard itself hands back exactly two dials, and plant teams should know both cold. Standard 170 permits an operating room's airflow to be set back when the room is unoccupied, provided the pressure relationship is maintained. And an airborne infection isolation room that is not in isolation use may drop to 6 total air changes per hour, again with its negative pressure held. Those are real savings — an unoccupied OR at setback is one of the few places a hospital can simply move less air — but they are scheduling savings at the margin. Everything beyond them has to come from recovering energy out of air the building is still required to move.

Reheat: the waste stream hiding in plain sight

The most characteristically hospital waste stream in the plant is reheat. Humidity control in clinical space is typically achieved by cooling air below its dew point to wring moisture out — and then reheating it back up to a temperature a patient room or an operating room can accept. The result is a building that heats and cools the same air, in the same hour, all summer. In most building types, simultaneous heating and cooling is a malfunction. In a hospital it is the design condition. What is not fixed by design is how large that stream runs — and where the reheat energy comes from.

This is where the heat recovery chiller has become the central machine of hospital decarbonization. A conventional chiller makes chilled water and throws the extracted heat — plus the heat of its own compressor work — away to a cooling tower. A heat recovery chiller makes chilled water and hot water at the same time, routing that condenser heat into the building's heating loops instead. The temperatures line up with the hospital's needs: condenser water in the 90–140°F range is directly useful for terminal reheat, preheat and domestic hot water preheating, and engineering references for heat-recovery operation put the combined coefficient of performance — the cooling delivered and the heating delivered, added together from one machine — as high as about 7. Every unit of reheat supplied from condenser heat is a unit the boiler or the steam meter does not supply, and it is a unit recovered from a cooling load the building was going to run anyway.

The plant-room translation of Local Law 97 is mostly this sentence: the cheapest ton in a New York hospital is usually a ton of heat the building already made, threw away at the tower, and then bought back from the boiler.

The coefficient table is a design brief

Local Law 97 does not count energy. It counts energy multiplied by a coefficient for each fuel, and the Department of Buildings' schedule of those coefficients — set in rule 1 RCNY 103-14 — is the most important design document in New York hospital engineering right now. Read it as an engineer and it reads as instructions.

Natural gas counts at 0.00005311 tons per kBtu in every period, forever. The law never forgives a gas molecule. District steam starts at 0.00004493 and declines slowly — 0.00004320 in 2030–2034, 0.00003200 in 2035–2039, 0.00002500 in the 2040s. Grid electricity starts as the dirtiest input a hospital buys — 0.000288962 tons per kWh in 2024–2029, which works out to about 0.0000847 per kBtu, well above gas or steam per unit of energy — and then it collapses: 0.000145 in 2030–2034, 0.0000867 in 2035–2039, and zero in the 2040–2049 schedule. The crossover lands at 2030: from 2030 onward, a kBtu of grid electricity counts for less than a kBtu of steam, and less than a kBtu of gas.

Put one unit of work through all three machines — 1,000 MMBtu of heat delivered to a building loop — and the ordering becomes concrete. An on-site gas boiler at 80 percent seasonal efficiency burns about 1,250 MMBtu of fuel to deliver it and is charged about 66 tons of CO2e, in 2026 and in 2046 alike. Purchased district

steam is charged about 45 tons in the current period, 43 in the 2030s' first half, 32 late in that decade, 25 in the 2040s. A heat pump delivering the same heat at a coefficient of performance of 3 draws about 97,700 kWh and is charged about 28 tons today, 14 tons in 2030–2034, 8.5 tons in 2035–2039 — and nothing at all in the 2040s.

Two practical conclusions fall straight out of that table. The first is the steam trap, and it is worth stating plainly because the instinct runs the other way: converting a hospital from district steam to on-site gas boilers raises its counted emissions per unit of delivered heat — roughly 45 tons against 66 on the example above — because the steam coefficient is charged on steam delivered while the gas coefficient is charged on fuel burned, boiler losses included. Steam has real problems, and our earlier piece treats the strategic question in full; but as pure compliance arithmetic, on-site gas is a step backward. The second conclusion is the order of operations the coefficients impose: recover the building's own waste heat first, because recovered heat is charged to no fuel at all; electrify the heat that remains, because electricity is the one input whose coefficient is scheduled to fall to zero; and treat any fossil plant installed now as a thirty-year position against a published schedule.

Recovering energy from air you cannot recirculate

The air side has its own version of the same discipline, with an infection-control edge. The isolation room whose entire air volume is exhausted directly outdoors is throwing away air that was filtered, heated or cooled, and humidity-controlled — by design, and correctly. The engineering question is whether the energy leaves with it. Heat can be pulled from an exhaust stream without the airstreams ever touching: run-around coil loops and heat pipes move heat between exhaust and supply through a sealed fluid circuit, which is precisely why they are the standard answer on clinical exhaust. Rotating enthalpy wheels, which recover more energy per pass, carry a leakage path between the two airstreams, and that carryover is why they are commonly kept off isolation and laboratory exhaust. The design rule the law quietly rewards is unglamorous: every exhaust stream in the building should be audited for a recovery device its air classification allows, because energy recovered from exhaust is ventilation the building gets to keep without paying for twice.

The same logic extends past the clinical core. Kitchens, laundries, sterile processing and the general exhaust of a large hospital are all conditioned air leaving the building on a schedule the plant team can read. None of it is as constrained as isolation exhaust, and much of it runs around the clock. A hospital's exhaust map is, from the compliance side of the desk, a list of pre-paid energy looking for a coil.

The cooling plant, and the one input that improves on its own

Cooling is the plant's electrical heart — chillers, cooling towers, condenser and chilled water pumps — and it is the one major load whose counted emissions fall even if the plant team does nothing, because the electricity coefficient halves at 2030 and falls again behind it. That is an argument for patience about exactly nothing. At the 2024–2029 coefficient, grid electricity is the most expensive carbon a hospital buys per unit of energy, so every kilowatt-hour the cooling plant saves in the current period is saved at the worst rate the schedule will ever offer. High-efficiency chiller selection, variable-speed drives across the plant's pumps and tower fans, and condenser-water temperature reset are mature, unglamorous measures whose Local Law 97 value is at its maximum right now and declines — on paper — as the grid cleans up behind them. The fine schedule pays $268 a ton for reductions in this period too.

There is a sequencing subtlety worth naming. Measures that save electricity look worse in a naive 2035 projection than they are, because the projection applies a cleaner coefficient to them; measures that eliminate

fossil fuel look better every year, because the gas coefficient never moves. A capital plan that ranks projects on a single year's arithmetic will systematically under-buy electrification and over-buy electric efficiency late. Ranking the same projects across the published coefficient schedule — the arithmetic above, run per measure — is the correction, and it costs nothing but honesty about which year's coefficient a measure will actually live under.

Retro-commissioning is the cheapest ton in the building

None of the machinery above performs at its nameplate in a building that has drifted, and hospitals drift like every other complex plant: control valves that no longer close, steam traps failed open, sensors reporting temperatures the rooms are not at, air handlers left in override after a long-forgotten emergency, heating and cooling valves open against each other in the same unit. Local Law 87's audit and retro-commissioning cycle — the ten-year obligation hospitals already carry alongside Local Law 84 benchmarking — exists to find exactly this. What Local Law 97 changes is the value of finding it: every ton a retro-commissioning pass removes is now also $268 a year of fine exposure retired, in the period where the hospital is closest to its limit.

The plant version of the compliance asset list is therefore short and familiar: retro-commissioning treated as maintenance rather than paperwork; submetering that separates the plant's end uses — chilled water, heating water, steam, the big air handlers — so a coefficient can be managed system by system instead of argued about at the utility meter; and a controls culture in which an override is an event with an owner and an end date. A hospital cannot manage an emissions limit it can only see in aggregate, twelve months late, in a benchmarking report. It can manage the five systems that produce the number.

One equipment generation to get there

The last mechanical fact is about time. Chillers, air handlers and boiler plant are twenty-to-thirty-year decisions. The 2030 limit — the 69 percent cut — arrives inside the service life of equipment being specified in New York hospitals today, and the 2035 and 2040 coefficients will be met, or missed, substantially by the plant that this decade's capital plans install. That is what makes Local Law 97 a mechanical problem in the end: not that the law is about machinery, but that its deadlines are written in the machinery's own units of time.

The teams that will meet the 2030 limit are not waiting for a technology. They are recovering heat they already make, electrifying the heat that remains in the order the coefficient table dictates, taking the two setbacks the ventilation standard legitimately offers, and keeping the plant commissioned tightly enough that the nameplates mean something. The law's arithmetic is published. The machinery is known. The work is sequencing — and, as our first piece argued, the time to sequence it is while it can still ride along with the renovations the building already has planned.

Run a hospital plant in New York City? Tell us what this missed — corrections and practitioner quotes are credited by name, by organization, or fully anonymously, your choice. We would rather cite the people who run these buildings than describe their work from outside.

Frequently asked questions

What is a hospital's Local Law 97 limit for 2030–2034?

For a general hospital — the Department of Buildings property type “Hospital (General Medical & Surgical)” — the 2030–2034 limit is 0.00734 metric tons of CO2 equivalent per square foot per year, set in rule 1 RCNY 103-14. The same hospital’s 2024–2029 limit is 0.02381, so the 2030 step is a cut of roughly 69 percent, among the deepest in the law.

Why can’t a hospital comply by turning down its ventilation?

Because the ventilation rates are infection-control requirements, not comfort settings. ANSI/ASHRAE/ASHE Standard 170 sets minimum air change rates by room type — 20 total air changes per hour in an operating room, 12 in isolation and protective-environment rooms, 4 in a patient room — along with the pressure relationships between rooms. The standard offers two legitimate reliefs: an unoccupied operating room may be set back while its pressure is held, and an isolation room not in isolation use may drop to 6 air changes. Beyond those, compliance has to come from recovering energy, not from moving less air.

Does converting from district steam to on-site gas boilers improve a hospital’s Local Law 97 position?

On the law’s arithmetic, no — it makes it worse. Purchased steam is charged at 0.00004493 tons per kBtu of steam delivered in 2024–2029. Natural gas is charged at 0.00005311 tons per kBtu of fuel burned, so a boiler at 80 percent efficiency is charged about 0.0000664 per kBtu actually delivered — roughly half again the steam figure. Steam supply carries its own strategic questions, but a conversion to on-site gas raises counted emissions per unit of heat unless it is paired with heat recovery or electrification that changes the equation.

Which mechanical measures usually matter most for a hospital’s number?

Practice points to a consistent order. First, heat recovery aimed at the reheat load — recovering condenser heat from the chiller plant to serve reheat, preheat and hot water instead of rejecting it at the tower. Second, electrification of the remaining heating load, which is the only input whose emissions coefficient is scheduled to fall to zero. Third, exhaust-air heat recovery wherever the air classification allows it, and retro-commissioning to keep all of it performing. The right order for a specific building comes out of its own submetered end uses, which is why the metering matters.

When do the fines actually start?

The first compliance period, 2024–2029, is already running, and emissions above a building’s limit are fined at $268 per ton per year in that period — though the limits for these years were drawn to catch the worst performers, and the city’s first-period rules included good-faith-effort provisions for buildings actively working a plan, with adjustments available for hospitals and other special cases. The limits that bind most hospitals are the 2030–2034 limits. Annual reporting is required either way, and there are separate penalties for failing to file.

FGI State Adoption Tracker: Which States Adopted the Guidelines, and Which Edition Each One Enforces

Source: https://healthcarefacilityhub.org/fgi-state-adoption-tracker/ Published: October 17, 2026

Last full regulation-level review: October 17, 2026. This is a living page — state rows are re-verified as regulations change.

Direct answer: FGI's own adoption map counts **42 states** that have adopted an edition of the FGI Guidelines into regulation (FGI adoption map, August 31, 2026). Our regulation-level review of all 50 states and the District of Columbia confirms adoption in 40 jurisdictions, finds three partial adoptions (Illinois, Kansas, Wisconsin), one adoption that runs through certificate-of-need review (Vermont), one state with no direct adoption (Texas), one unclear case (Connecticut), and five states where no adoption was found (Arkansas, California, Hawaii, Ohio, South Dakota). The editions actually enforced run from the 2001 edition (Alaska) to states whose rules point at whatever edition is current — and the enforced edition, not the newest one, is what your project will be reviewed against.

How to read this tracker

Adopted means the state's regulation incorporates an FGI edition by reference or names it as the design standard. **Dynamic** means the rule points at the current or most recent edition, so the enforced edition moves when FGI publishes — those rows name what the agency currently enforces. **Partial** means adoption covers only some facility types or code sections. **Basis** shows what each row rests on: the regulation text itself, an agency source, or secondary sources only — treat the last group as a pointer, not an answer.

One rule outranks this entire page: the authority having jurisdiction's answer for your project beats every website, including this one and including FGI's own map. Where the two disagreed, this tracker prints the disagreement rather than picking a winner.

On this page: The tracker · Where sources conflict · What this means for a project · Questions · Go deeper

The tracker: FGI adoption and enforced edition, all 50 states + DC

State | Status | Edition enforced | Adopting authority + citation | Source | Basis

Alabama | Adopted | 2014 (hospital, outpatient surgery, and freestanding emergency care chapters) | Ala. State Board of Health, Ala. Admin. Code 420-5-22-.03 | Source | Regulation text

Alaska | Adopted | 2001 | AK Dept of Health, 7 AAC 12.900(b)(1) | Source | Regulation text

Arizona | Adopted | 2018 | ADHS, 9 A.A.C. 10, R9-10-104.01(B)(1); R9-10-234 | Source | Regulation text

Arkansas | No adoption found | Not found (2001 AIA Guidelines appear only as reference item in rules appendix; equivalency use allowed) | AR Dept of Health, Health Facility Services rules | Source | Agency source

California | No adoption found | Not found (no code adoption; FGI informs HCAI/OSHPD Title 24 amendments; FGI record: "Equivalency") | CA Dept of Health Care Access & Information, Building Safety | Source | Agency source

Colorado | Adopted | 2022 (eff. 10/1/2025) | CDPHE, 6 CCR 1011-1 Ch. 2 §3.2.3 | Source | Regulation text

Connecticut | Unclear | Unclear — hospice inpatient regulations cite FGI 2010 (RCSA 19a-495-6m); hospital adoption not confirmable at regulation level; FGI claims current-edition statutory adoption | CT DPH, RCSA 19a-495-6m (hospice inpatient) | Source | Secondary only — verify with the AHJ

Delaware | Adopted | 2022 | DHCQ / Office of Health Facilities Licensure & Certification, plan-review requirements | Source | Agency source

District of Columbia | Adopted | Edition not stated in the rule (22 DCMR §2034.2(d) names the Guidelines without an edition); FGI records 2018 | DC Dept of Health, 22 DCMR Ch. 20 §2034.2(d) | Source | Agency source

Florida | Adopted | 2022 via the Florida Building Code, 8th edition (eff. 12/31/2023); FGI records a 2026 adoption effective 12/31/2026 | FL AHCA Office of Plans and Construction / FL Building Commission | See citation | Agency source

Georgia | Adopted | Dynamic — "edition accepted by the Department" (2026 Codes enforced beginning 8/31/2026); nursing homes recommended only | GA Dept of Community Health, Rules 111-8-40-.40/.41 | Source | Regulation text

Hawaii | No adoption found | Not found (HAR §11-93-6 construction requirements contain no FGI reference) | HI DOH, HAR Title 11 Ch. 93 | Source | Secondary only — verify with the AHJ

Idaho | Adopted | Dynamic "most recent edition" (statute, eff. 7/1/2025; FGI record: 2022 adopted) | Idaho Code §39-1305 (Title 39, Ch. 13) | Source | Regulation text

Illinois | Partial | No general hospital adoption; FEC rules cite 2010 (77 IAC 518.1050(F)); FGI record says 2006 — conflict | IL DPH, 77 Ill. Adm. Code 518.1050(F) | Source | Agency source

Indiana | Adopted | Dynamic "most recent published version" (Ind. Code 16-21-2-12.5, eff. 7/1/2025); FGI record stale (2018) — conflict | Indiana Dept of Health / Ind. Code 16-21-2-12.5 | See citation | Regulation text

Iowa | Adopted | 2018 | IA Dept of Inspections & Appeals, 481 IAC 51.26(1)(a) | Source | Regulation text

Kansas | Partial | 1996-97 in rule; newer editions allowed via variance/guidance (FGI lists KS as permitting newer editions "in some instances") | KDHE, K.A.R. 28-34-32b | Source | Regulation text

Kentucky | Adopted | 2006 | KY Cabinet for Health & Family Services, 902 KAR 20:009 | Source | Regulation text

Louisiana | Adopted | Dynamic "most current edition" (LAC 48:I.9305(N)(2)(b), as amended by 2026 SCR No. 2, replacing 2014) | LDH Health Standards Section / State Fire Marshal plan review | Source | Regulation text

Massachusetts | Adopted | Dynamic; 2022 in force (DPH 2022 compliance checklists eff. 6/1/2025) | MA DPH, 105 CMR 130.107 | Source | Regulation text

Maryland | Adopted | 2022 Hospital + 2014 Residential (nursing homes) + 2001 Outpatient (FECs) — "...incorporated by reference..." | MD OHCQ, COMAR 10.07.01.02 | Source | Regulation text

Maine | Adopted | 2006 (10-144 CMR 112 §2.21); waiver practice for newer editions (FGI lists ME in "newer editions in some instances" group) | ME DHHS Division of Licensing & Regulatory Services | Source | Regulation text

Michigan | Adopted | 2018 (all three FGI documents + ASHRAE 170-2017) | MDHHS/LARA Bureau of Construction Codes, R 325.45263 | Source | Regulation text

Minnesota | Adopted | 2022 for hospitals eff. 1/1/2024 (MDH interpretation doc under Minn. Stat. 144.55); 2018 Residential for assisted living | MN Dept of Health, Engineering & Plan Review | See citation | Regulation text

Mississippi | Adopted | Edition not stated in the rule ("codes recognized by this agency on date of construction"); FGI claims 2006 — unconfirmed | MS State Dept of Health, 15 Miss. Code R. 16-1-41.8.2 | Source | Agency source

Missouri | Adopted | 2010 or 2014 ("(2010 edition) or... (2014 edition)", commissioning chapters excluded) | MO DHSS, 19 CSR 30-20.030 (2026 emergency amendment retains same text) | Source | Regulation text

Montana | Adopted | 2018 | MT DPHHS, ARM 37.106.302(2)(a) | Source | Regulation text

Nebraska | Adopted | 2018 (statutory adoption) | Neb. Rev. Stat. §71-439 | Source | Regulation text

Nevada | Adopted | Dynamic "most recently published" (2022 + errata adopted 2023) | NV DPBH, NAC 449.0105(1)(c) | Source | Regulation text

New Hampshire | Adopted | Multi-edition: 2022 hospitals; 2018 nursing homes/assisted living; 2014 other types (He-P 802.07(f) + App. A incorporation list) | NH DHHS, He-P 802.07(f) | Source | Regulation text

New Jersey | Adopted | Conflict — rule text codifies FGI Residential 2014 "as amended and supplemented"; FGI claims automatic adoption of the newest edition | NJ Dept of Health, N.J.A.C. 8:43G | Source | Secondary only — verify with the AHJ

New Mexico | Adopted | Dynamic "current edition... AIA guidelines" (FGI record: 2022 by mid-2023, current 2026) | NM DOH, NMAC 8.370.12.41 | Source | Regulation text

New York | Adopted | Conflict — rule text cites 1996-97/2010; DOH guidance (DAL 17-01) applies 2014; FGI lists 2014 + 2018 | NYSDOH, 10 NYCRR 711.2 + DAL 17-01 | Source | Agency source

North Carolina | Adopted | Dynamic "including all subsequent amendments and editions" (hospital + outpatient chs. 2.x; outpatient 3.x excluded; state-written rules for nursing homes) | N.C. DHSR Construction Section, 10A NCAC 13B .6105 | Source | Regulation text

North Dakota | Adopted | 2014 | ND HHS, NDAC 33-07-02.1 (agency project-review page) | Source | Agency source

Ohio | No adoption found | Not found (no adoption; FGI may be used as alternate if it meets/exceeds state requirements) | Ohio Dept of Health | Source | Agency source

Oklahoma | Adopted | 2018 (eff. 9/13/2019) | OSDH Medical Facilities Service, health facilities plan review | Source | Agency source

Oregon | Adopted | 2018 with OR amendments (OAR 333-535-0015(3); amendments eff. 3/1/2025; skipped 2022, targeting 2026) | OHA Health Care Regulation & Quality Improvement | Source | Regulation text

Pennsylvania | Adopted | 2022 (mandatory eff. 2/1/2023, 52 Pa.B. 5570); 2018 Residential for LTC nursing facilities | PA Dept of Health, 28 Pa. Code plan review | Source | Agency source

Rhode Island | Adopted | Conflict: reg text cites AIA 2006 (216-RICR-40-10-4 §4.2(A)(10)); RI DOH guidance and FGI say 2018 | RI DOH Health Facilities Regulation | Source | Agency source

South Carolina | Adopted | Edition not stated in the regulation ("most current nationally accepted standards" in the FGI Guidelines, R.61-16 §1902); FGI claims current edition — unconfirmed | SC DPH, R.61-16.1902 | Source | Agency source

South Dakota | No adoption found | Not found | SD Dept of Health | Source | Secondary only — verify with the AHJ

Tennessee | Adopted | Dynamic "current edition... as approved by the Board" (2018 in practice since 1/1/2019 per FGI) | TN Dept of Health Board for Licensing Health Care Facilities, 0720-18-.08 (hospital standards ch. 1200-08-01) | See citation | Regulation text

Texas | No direct adoption | No direct adoption — state-authored hospital rules (26 TAC Ch. 505) historically based on FGI 2001; a reported 2018-based rewrite is unverified | TX HHSC / DSHS, 26 TAC Ch. 505 | Source | Secondary only — verify with the AHJ

Utah | Adopted | 2010 (R432-4-23; companion R432-4-24 reported repealed eff. 3/14/2025 — partial now); FGI record stale | Utah Dept of Health & Human Services licensing rules R432-4 | Source | Agency source

Vermont | Adopted (CON review) | Current edition (2022 per GMCB CON decision) | Green Mountain Care Board, 18 V.S.A. §9434 CON review | Source | Agency source

Virginia | Adopted | 2022 + errata (12VAC5-410-650); FGI says 2026 — a fast-track amendment was filed April 2026, effectiveness unconfirmed | VDH Office of Licensure & Certification | Source | Regulation text

Washington | Adopted | 2022 with WA amendments for hospitals ("...comply with the 2022 edition..." WAC 246-320-600); 2006 for ASCs (WAC 246-330) | WA Dept of Health | Source | Regulation text

West Virginia | Adopted | 2022 in rule text (64 CSR 12 §5.1.2.a); FGI record says "current edition" | WV Office of Health Facility Licensure & Certification | Source | Regulation text

Wisconsin | Partial | Conflict: FGI says no adoption (eff. 11/1/2025) but Wis. Admin. Code SPS 364.0300/364.1500 incorporate FGI 2014 (Mechanical/HVAC; Residential) for plan review | WI Dept of Safety & Professional Services, ch. SPS 364 | Source | Agency source

Wyoming | Adopted | 2006 | WY Dept of Health, Wyo. Code R. 048-3 Ch. 3 §3-5(b)(i) | Source | Regulation text

Where the sources conflict — read these rows twice

Adoption trackers usually print one clean answer per state. Several states do not have one. These are the disagreements that matter most, because a design team working from the wrong one designs to the wrong book:

- **New York.** The regulation text (10 NYCRR 711.2) still cites the 1996-97 and 2010 editions; Department of Health guidance (DAL 17-01) applies the 2014 edition; FGI lists 2014 + 2018. Three sources, three answers — confirm the applicable edition with the DOH for your project type before design development.
- **New Jersey.** The readopted rule text codifies the FGI Residential Care Guidelines 2014 “as amended and supplemented,” while FGI’s own record claims New Jersey automatically adopts the newest edition. The rule text is the safer planning basis; the claim of automatic adoption is FGI’s, not the state’s.
- **Rhode Island.** Regulation text cites the AIA 2006 edition; state guidance and FGI both say 2018. Guidance is what plan reviewers work from in practice, but the printed rule has not caught up.

- **Indiana.** A 2025 statute (Ind. Code 16-21-2-12.5) now points at the "most recent published version" — a dynamic adoption — while FGI's record still shows 2018. The statute is newer than the map.
- **Illinois.** There is no general hospital adoption. Freestanding emergency center rules cite FGI 2010; FGI's record says 2006. Illinois hospital design runs on state rules, with FGI appearing only in specific facility-type regulations.
- **Wisconsin.** FGI records no adoption (as of November 1, 2025), yet the state building code (SPS 364) incorporates FGI 2014 for mechanical/HVAC and residential care plan review. Both statements are true in their own lanes — which is exactly why "adopted or not" is the wrong question in Wisconsin.
- **Virginia and Florida.** Both are mid-transition: Virginia's verified rule text is the 2022 edition with a 2026 fast-track amendment filed but unconfirmed as effective; Florida enforces 2022 through its building code with a 2026 adoption recorded as effective December 31, 2026. Design teams in both states should date-stamp which edition their permit falls under.
- **Connecticut.** FGI claims a current-edition statutory adoption. The only regulation text this review could confirm is FGI 2010, in hospice inpatient regulations. Hospital-level adoption could not be confirmed at regulation level — the row is marked Unclear rather than borrowed from FGI's claim.

What this means for a project

Design to the enforced edition, not the published one. FGI publishes on a four-year cycle; states adopt on their own clocks, and some are a decade or more behind (Alaska enforces 2001; Kansas and Wyoming enforce 2006-era text). A detail that is compliant in the current Guidelines can be non-compliant in the edition your state reviews against — and the reverse is also true: older editions sometimes permit what newer ones prohibit.

Dynamic states move under a long project. Georgia, Idaho, Louisiana, Nevada, New Mexico, North Carolina, Tennessee, Indiana, and others point their rules at the current or most recent edition. On a multi-year design, the edition in force at permit can differ from the edition at project start. Pin the applicable edition in writing with the reviewing agency early, and re-confirm at permit milestones.

Amendments are part of the edition. Several states adopt with their own amendment packages — Oregon's amendments to the 2018 edition run to dozens of sections, and Washington publishes its own amended "Washington hospital licensing construction standard guidelines" built on the 2022 edition. Citing the edition without the state's amendments is only half the standard.

Questions

How many states have adopted the FGI Guidelines?

FGI's own adoption map counts 42 states (August 31, 2026). This tracker's regulation-level review confirms adoption in 40 of the 51 jurisdictions it covers (50 states + DC), with three partial adoptions, one CON-conditioned adoption, and the remaining states having no direct adoption, an unclear record, or no adoption found. The small gap between the two counts is mostly definitional — what counts as adoption — and the conflicts section above shows the specific states where the sources diverge.

Which FGI edition should my project be designed to?

The edition your state enforces for your facility type — find it in the tracker, then confirm it with the authority having jurisdiction before design development. In dynamic-edition states, get the confirmation in writing and re-confirm at permit submission, because the enforced edition can change between project start and permit.

What if my state has not adopted FGI?

Your state still has design and construction requirements — they live in state-authored rules instead (Texas and California are the large examples). FGI may still appear as an equivalency path or an accepted alternate where the state rules allow one; Ohio expressly permits FGI as an alternate where it meets or exceeds state requirements. Absence of adoption is not absence of standards.

How is this tracker kept current?

It is a living page: rows are re-verified against regulation text as states amend their rules, and the review date at the top of the page states when the last full pass ran. If your state's row is wrong — or has changed — tell us. Corrections from the people who work under these rules are how this page stays worth citing, and we credit contributors by name and organization, or anonymously, as they prefer.

Go deeper

- Which FGI edition is my state on? — the edition question answered state-group by state-group.
- How states adopt the FGI Guidelines — the three adoption mechanics: by reference, with amendments, and the health-department channel.
- FGI Guidelines for healthcare facilities — the Hub's working guide to the Guidelines themselves.
- FGI 2022 vs. 2026: what changed — the current transition, edition to edition.

Water ICRA: The Infection Control Assessment for Plumbing and Water System Work

Source: https://healthcarefacilityhub.org/water-icra/ Published: October 17, 2026

Updated October 17, 2026.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the five assessment questions, and the return-to-service checks for water system work. Free PDF, prints clean, works offline.

Download the field sheet (PDF)

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The direct answer: there is no separate water ICRA standard, and waiting for one is how plumbing work escapes infection control review. The water assessment rides inside the two programs every hospital already runs: the ICRA, which governs construction risk to patients, and the water management program, which ASHRAE 188 requires and CMS expects. A water ICRA is what happens when those two meet before a valve closes — the team maps which lines the work touches, which patients drink and breathe downstream, how long the water will sit still, and what has to be verified before the line goes back into service. The airborne ICRA asks what the dust will do. The water ICRA asks what the stagnation will do. Both questions belong on the

same permit.

Books for Bots: take this to your assistant.

This page as a book for your AI – the five-question assessment, the four scope tiers and their controls, and the return-to-service verification, with instructions your bot can run with, including what it should ask you first. Upload it to your assistant and plan the job together.

Download the book for your bot (PDF)

On this page: Why water needs its own assessment · The five questions · Four scope tiers, four control sets · During the work · Return to service is a verification, not a date · FAQ

Why water needs its own assessment

The classic ICRA was built around dust. Its matrix weighs what the work shakes loose into the air against who is breathing on the other side of the barrier, and it is genuinely good at that job. But a plumbing shutdown does not threaten patients through the air the crew is working in. It threatens them through the water system itself — through stagnation while lines sit idle, through biofilm sheared loose when pressure returns, and through every faucet, shower, and ice machine downstream of the work, including rooms the crew will never enter. A barrier and a negative-air machine do nothing for any of that.

Stagnant water is an incubator; moving water is a defense. When flow stops, disinfectant residual decays, hot water drifts down into the 77–113°F band where Legionella amplifies, and biofilm — the structured community of bacteria living on pipe walls — keeps growing in the dark. Restart is its own hazard: pressure transients and renewed flow shear biofilm off the wall and seed the system with exactly the organisms the shutdown cultivated. Our water system risks guide maps the five mechanisms in detail. This page is about the assessment that runs before them.

The regulatory floor already assumes this assessment happens. ASHRAE 188 water management programs — the programs CMS policy expects hospitals to maintain, and that The Joint Commission carries in its Physical Environment expectations — are built on system mapping, risk assessment, control limits, monitoring, and corrective action. Construction and renovation are exactly the disturbances those programs exist to govern. When a project touches the water system and the water management team hears about it afterward, the program has failed at its one job. The water ICRA is the hand-off that prevents that: the project notifies the program, in writing, before the work starts.

The five questions

Every water assessment, whatever form your facility uses, answers five questions. If a proposed plumbing job cannot answer all five, it is not ready for a permit.

1. Which water, which lines? Name the systems and segments the work touches: domestic cold, domestic hot, recirculation loops, and any specialty water in scope. Note what feeds them and what they feed. A valve map beats a memory — the line the crew believes is isolated and the line that is actually isolated have disagreed on real projects, and the discovery method was a wet ceiling.

2. Who is downstream? List the areas the affected lines serve, and name the highest-risk occupants among them — transplant, oncology, neonatal, burn, and other immunocompromised populations first, then general

patient care, then non-clinical space. Risk in water work is a property of the downstream census, not of the work area. A shutdown in a mechanical room can be a high-risk event for a bone marrow unit three floors away if the riser is shared.

3. How long will the water sit? Stagnation time is the water version of dust load. A two-hour tie-in and a two-week phased shutdown are different risk events wearing the same work order. Record the expected idle time for every affected segment, including the low-use outlets at the ends of runs — the rarely opened faucet in the closed wing ages water exactly as surely as the capped line does.

4. What gets created, opened, or left behind? New piping, opened lines, and cut-outs each carry their own requirements. New piping must be disinfected and flushed before it connects to the potable system. Abandoned piping must be removed, not capped — a capped dead leg is a permanent incubation chamber plumbed into the building. If the design leaves a dead leg because removal is hard, the assessment is where that decision gets argued, not the punch list.

5. What proves it is safe to use again? Define the return-to-service verification before the work starts: which temperatures and disinfectant residuals get measured, at which sentinel points, by whom, and what result sends the line back for more flushing or disinfection instead. A job whose verification is "we will flush it good" has no verification. The full sequence is in return to service below.

Four scope tiers, four control sets

The tiers below are a working framework — the Hub's synthesis of the ICRA's scope logic and the water controls in CDC guidance and ASHRAE 188 programs — not a published standard's table. Adapt the boundaries to your facility's program; keep the ladder, because the ladder is the point: controls grow with stagnation time and downstream risk, never with how the work order happened to be written.

Tier 1 — No line opened, no shutdown. Like-for-like fixture work above the trap, inspections, and work on the room side of isolation valves in non-clinical areas. Controls: notify the water management team through the normal work-order channel; no flushing regime beyond reopening any outlet that sat unused; document and close. Most facilities handle Tier 1 inside routine maintenance, and that is fine — as long as the notification actually happens, because Tier 1 work in a closed wing is how unrecorded stagnation starts.

Tier 2 — Line opened or brief shutdown, non-clinical or low-risk areas. Localized repairs, valve replacements, short tie-ins outside patient care space. Controls: scheduled flushing of affected segments and low-use outlets at least weekly while any part sits idle; temperature and residual spot-checks at the nearest sentinel points before the area returns to normal use; new materials disinfected per the program before connection. The infection preventionist is informed; the water management team logs the event.

Tier 3 — Shutdowns or tie-ins affecting patient care areas, or any new piping connection. This is the tier where the water ICRA becomes a formal attachment to the ICRA permit. Controls: the five questions answered in writing; a flushing schedule for every idle segment, at least weekly and daily where the program calls for it; disinfection of new and opened piping before connection; temperature and disinfectant residual verification at sentinel points downstream before return to service; and a documented decision — made with the water management team and infection prevention, not by the contractor — on whether Legionella sampling is warranted before the lines reopen. High-risk units downstream move any Tier 3 job's verification up to Tier 4 discipline.

Tier 4 — High-risk downstream, extended stagnation, or system-level work. Work affecting transplant, oncology, neonatal, or sterile processing water; shutdowns measured in weeks; boiler, heater, or riser work that drops temperatures system-wide. Controls: everything in Tier 3, plus a written recommissioning plan approved by the water management team and infection prevention before the shutdown begins; staged return to service area by area, each with its own verification; Legionella sampling where the team judges the risk elevated; and a named owner for the flushing regime for as long as any segment remains idle. Tier 4 jobs get a line in the water management program's own records, not just the project file — surveyors read the program's records, and a major construction event that never appears in them is a finding about the program, not the project.

During the work

Three habits carry the controls from paper to pipe. First, the flushing regime is a route, not an intention: named outlets, a named person, a schedule, and a log with temperatures where the program requires them. Weekly is the floor CDC guidance supports for dead legs and low-flow runs during construction; the log is what makes the floor real. Second, temperature discipline survives the disruption: hot water storage stays above 140°F and circulation at or above 120°F wherever the system still serves patients, and cold water stays below the growth range — construction that degrades the running system to protect the project has the priorities backwards. Third, changes re-open the assessment. A shutdown that stretches from days into weeks, a newly discovered dead leg, a downstream unit that converts to higher-acuity care mid-project — each one changes a five-questions answer, and the permit attachment gets amended, not annotated in someone's notebook.

The coordination runs both ways. The ICRA for the same project already escalates precautions when water shows up as an environmental hazard — gray and black water events push work into the highest precaution classes in the ICRA matrix, and mold or water-damage remediation aligns its containment with the same barrier and pressure rules. Run the airborne and water assessments as one permit conversation and the scopes stop contradicting each other: the crew dewatering a flooded chase and the crew tying in two floors up are, to the building's water system, a single event.

Return to service is a verification, not a date

More water events trace to recommissioning than to construction. The work finishes, the schedule exhales, and lines go live because the calendar says so — carrying two weeks of aged, warm, residual-free water straight to patient outlets. The water ICRA closes differently: the line returns when the verification passes, and the verification is the one defined in question five, before the work began.

The closing sequence is short enough to memorize. Flush every affected segment, including the low-use ends of runs, until temperatures and disinfectant residual at sentinel points match the program's control limits — hot at temperature, cold genuinely cold, residual detectable. Confirm any required disinfection is complete and flushed out. Record the sampling decision and, where sampling was done, the results. Then three signatures close the permit attachment: facilities, infection prevention, and the water management team's designee. One signature is a contractor's assurance. Three signatures are a program working as designed.

File the closed attachment with the water management program's records as well as the project's. The program's annual review — and the next surveyor — should be able to reconstruct every significant water event of the year from the program file alone: what was touched, how long it sat, what was verified, who signed. Facilities that can produce that file stop fearing the water questions in a survey. Facilities that cannot are

describing their program from memory, and surveyors can tell the difference in about four minutes.

Frequently asked questions

Is there a separate water ICRA standard we should buy?

No. No ASHE or AAMI publication defines a standalone water ICRA. The assessment lives inside the ICRA process for the construction side and the ASHRAE 188 water management program for the water side. What you need is the hand-off between them, in writing, per project — which is what this page lays out. Beware any framework that sells the water assessment as a second program; two programs is how the hand-off gets lost.

Does every plumbing job need a water ICRA?

Every job needs the five questions; not every job needs the formal permit attachment. Tier 1 work — nothing opened, nothing shut down, non-clinical areas — is a notification and a log entry. The formal written assessment starts when lines open, water sits, or patients are downstream, and it scales with the tiers above. If your team cannot tell which tier a job is, that uncertainty is itself the answer: assess it.

When is Legionella testing part of the assessment?

When the water management team and infection prevention judge the risk elevated — extended stagnation, high-risk downstream populations, a system with a positive history, or a major disturbance. Testing is a decision the program makes with a reason recorded either way, not a default and not a substitute for the control measures. Temperature, residual, and flushing discipline prevent growth; a sample only reports on one moment at one outlet. Our Legionella water management guide covers the program-level logic, and the ASHRAE 188 requirements page covers the plan itself.

Who signs a line back into service?

Facilities, infection prevention, and the water management team's designee — three functions, because the failure modes live in three different houses. Facilities owns the mechanical state of the line, infection prevention owns the patient risk call, and the water management team owns the record that the program was followed. A contractor's sign-off belongs in the project file too, but it never substitutes for the owner's three.

How does this relate to the renovation Legionella sequence?

It is the assessment half of the same job. Our renovation Legionella prevention guide walks the work itself — the prevention sequence during renovation and water system work. This page runs one step earlier: how the project gets assessed, tiered, and permitted so that sequence has authority behind it, and one step later: how the line earns its way back into service.

Go deeper

- Water System Risks During Healthcare Construction — the five amplification mechanisms this assessment exists to control.
- Healthcare Water Quality and Medical Utilities — the complete guide to the plant side, including where ST108 processing water splits from the building program.
- ICRA Meaning in Healthcare Construction — the pillar: the matrix, the classes, and the permit this assessment attaches to. Run a project through the Class Finder for the airborne half.

- ICRA in California — how the assessment discipline holds when HCAI's seismic wave sets the schedule.

Running water work through an assessment your surveyor would recognize, or found a gap in this one? Talk to the Hub — corrections and field experience make these pages better.

ICRA in California: Running Infection Control Inside HCAI's 2030 Seismic Wave

Source: https://healthcarefacilityhub.org/icra-california-hcai/ Published: October 17, 2026

Updated October 17, 2026.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the two gates, and the phase-planning rules for California seismic work. Free PDF, prints clean, works offline.

Download the field sheet (PDF)

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The direct answer: California hospital construction runs through two gates at once, and they belong to two different systems. HCAI (the former OSHPD) permits and inspects the *construction* — plan review, building permit, continuous inspection by a certified Inspector of Record. The ICRA governs the *patients* on the other side of the barrier, and it does not come from HCAI: it rides on your licensing and accreditation side — the written infection control program Title 22 requires, CDPH's infection prevention guidance, and the preconstruction risk assessment your accreditor expects. With the January 1, 2030 seismic deadline now driving the largest occupied-hospital renovation wave in the state's history, the facilities teams that plan both gates together will finish. The ones that treat the ICRA as paperwork after the HCAI permit lands will discover it on the critical path.

Books for Bots: take this to your assistant.

This page as a book for your AI – the 2030 standard in plain terms, the two-gate map, the phase rules, and instructions your bot can run with, including what it should ask you first. Upload it to your assistant and plan the job together.

Download the book for your bot (PDF)

This page is the California chapter of our ICRA coverage. The process itself is the one in the pillar guide and the Class Finder. What California adds is a deadline, a second regulator in the room, and a volume of in-occupied-building work that turns infection control from a per-project task into a program.

On this page: The 2030 wall · Two gates, two systems · Why seismic work is ICRA work · Phasing multiplies everything · The relief cohort · One planning table · FAQ

The 2030 wall

Under the Hospital Facilities Seismic Safety Act (SB 1953, building on the Alquist Act), a California hospital meets the standard on January 1, 2030 only when *every* general acute care building on its campus is rated SPC 3, 4, 4D, or 5 for structural performance *and* NPC 5 for nonstructural performance — the rating that covers

ceilings, partitions, pipes, ducts, conduit, equipment, and the water, sewage, and medical gas systems patients depend on. Buildings below the line must be retrofitted, replaced, or taken out of acute care service. There is no fourth option, and the deadline held: in September 2024 the governor vetoed SB 1432, which would have let all hospitals apply for extensions toward 2035, noting that hospitals have known about the 2030 deadline for 30 years.

The scale is the story. More than half of California's roughly 410 hospitals have at least one building that likely could not keep operating after a major earthquake, and RAND's statewide cost estimate for compliance runs from $34 billion to $143 billion. Nearly all of that work happens in buildings that stay open, full of patients, while it proceeds.

Two gates, two systems

The HCAI gate is construction. Hospital projects in California do not go through the city building department; they go through HCAI: electronic plan review, a building permit posted on site, construction observed continuously by an HCAI-certified Inspector of Record hired by the owner, periodic HCAI field visits, and a certificate of occupancy or substantial compliance at the end. HCAI's own guidance is explicit that phased occupancy — using finished portions of a project before the whole job is done — should be discussed with field staff before construction begins.

The ICRA gate is patient protection, and it is worth being precise about where it comes from, because California teams regularly misattribute it. HCAI does not issue or approve your ICRA. The obligation rides on the other side of the house: Title 22 requires every hospital to maintain a written infection control program; CDPH's Healthcare-Associated Infections Program publishes the construction guidance California surveyors work from — the ICRA sets the protective measures for the job, the *ICRA permit must be posted at the job site*, and the infection prevention team monitors compliance routinely; and the Joint Commission's EC.02.06.05 standard requires a preconstruction risk assessment before demolition, construction, or renovation begins. Two gates, two logics: one asks *is it built right*, the other asks *did the building stay safe for the patients inside it while you built*. A project needs both answers, from both systems, at the same time.

Why seismic work is ICRA work

Read the NPC list again as a facilities person: ceilings, partitions, pipes, conduit, ducting, medical gases. NPC-5 compliance is, in large part, **above-ceiling systems work** — bracing, anchoring, and replacing the crowded mechanical layer that hangs over occupied patient areas. That is among the highest-dust, highest-disruption work in the ICRA matrix, performed not in one project but in phase after phase, building after building, for the rest of the decade. Add the structural side — SPC upgrades mean demolition and heavy retrofit inside operating hospitals — and the conclusion writes itself: California's seismic program is the largest sustained infection-control construction program in the country, whether or not anyone budgets it that way. CDPH's construction guidance names the organisms at stake: *Aspergillus*, carried in drywall, ductwork, soil, and ceiling tiles, and *Legionella* in the water systems that phased work keeps opening and closing.

Phasing multiplies everything

Nobody retrofits an occupied hospital in one motion. The work decants: a unit moves to swing space, its home gets gutted and braced, the unit moves back, the next one rotates. Every rotation is an ICRA event — a fresh

assessment for the new configuration, new barriers, a new permit, new verification, and a teardown clearance at the end. The HCAI side phases too, with its own approvals and inspections per increment. The failure mode is planning the two phase plans separately: the construction sequence says a wing turns over in March, but the infection control sequence for that turnover — assessment, IP review, barrier verification, cleaning clearance — was never given dates, so March arrives with an IOR ready to inspect and an ICRA nobody has signed. Phase plans belong on one calendar, built together, with the ICRA steps drawn as predecessors to the construction steps they gate.

The relief cohort runs the same race with smaller teams

The one extension path the state did open, AB 869, is aimed at the facilities with the least slack: small hospitals (50 beds or fewer), rural and critical access hospitals, health care district hospitals, and recipients of the state's Distressed Hospital Loan Program can apply to HCAI for up to three more years, with a seismic compliance plan and an NPC-5 evaluation report. Those are precisely the facilities where the facilities department may be three people — which is why our companion page, ICRA With a Small Team, exists. An AB 869 extension buys calendar time. It does not reduce the number of assessments, permits, or checkpoints the work requires; it spreads them across more years for a team that was already thin.

One planning table

The practical fix is a single preconstruction table per phase, with both gates represented before work starts: the design professional and contractor, the Inspector of Record, facilities, and infection prevention — the same meeting that walks the HCAI submittal and inspection milestones walks the ICRA for that phase: activity types, risk groups, class, barriers, negative air, debris routes, water-system impacts, and the verification checkpoints. When the IP and the IOR have heard the same plan on the same day, the two gates stop surprising each other. In a state where the work runs to 2030 and beyond, that meeting — repeated per phase, documented like it matters — is the whole game.

Frequently asked questions

Does HCAI require an ICRA for hospital construction?

No — HCAI permits and inspects the construction itself. The ICRA obligation comes from the licensing and accreditation side: the written infection control program Title 22 requires, CDPH's infection prevention guidance (which specifies the posted ICRA permit and routine IP monitoring), and the Joint Commission's preconstruction risk assessment standard. In practice the ICRA is unavoidable; it just answers to a different system than your building permit.

What exactly is due by January 1, 2030?

Every general acute care building on a hospital campus must be SPC 3, 4, 4D, or 5 and NPC 5. Buildings that cannot meet the standard must be retrofitted, replaced, or removed from acute care service by that date.

Can a hospital still get more time?

The blanket path is closed — the governor vetoed SB 1432's general extension in 2024. AB 869 gives qualifying small, rural, critical access, district, and financially distressed hospitals an application path to HCAI for up to three additional years, with a seismic compliance plan and an NPC-5 evaluation.

Why does seismic work change our ICRA volume so much?

Because NPC-5 work is largely above-ceiling systems work — bracing and replacing pipes, ducts, conduit, ceilings, and medical gas systems over occupied patient areas — and because occupied-hospital phasing turns one project into a series of moves, each of which is its own assessment, permit, and clearance.

Go deeper: the ICRA pillar guide for the full process; ICRA With a Small Team for staffing the process lean; ICRA in Older Hospital Buildings for the investigation side — most SPC-2 buildings are old buildings; and the Books for Bots shelf for the companion books.

Working seismic phases in a California hospital and have a sequencing lesson — or a correction for this page? Tell the Hub. Practitioner corrections and field methods make these pages better, and we credit contributors the way they ask to be credited.

ICRA With a Small Team: Running the Full Process When Three People Wear Every Hat

Source: https://healthcarefacilityhub.org/icra-small-teams/ Published: October 17, 2026

Updated October 17, 2026.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the role-consolidation map, and the four second-eyes checkpoints. Free PDF, prints clean, works offline.

Download the field sheet (PDF)

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The direct answer: ICRA does not scale down for small teams — the same assessment, the same precautions class, the same permit discipline apply whether the team is thirty people or three. What changes is how the roles are staffed. The infection control risk assessment names functions, not headcount: somebody assesses the risk, somebody sets the precautions, somebody builds the containment, and somebody other than the builder verifies it. In a small facility those are four hats on two or three heads. The process survives that. What it does not survive is one person wearing all four hats with no checkpoint where a second pair of eyes looks at the work.

Books for Bots: take this to your assistant.

This page as a book for your AI – the role-consolidation map, the checkpoint discipline, the call-for-help triggers, and instructions your bot can run with, including what it should ask you first. Upload it to your assistant and plan the job together.

Download the book for your bot (PDF)

The ASHE ICRA 2.0 framework was written by people imagining a hospital with an infection prevention department, a facilities department, a safety officer, and a design team. A community hospital may have one facilities manager, a maintenance tech or two, and an infection preventionist who is shared across a system, contracted by the hour, or carrying three other jobs. This page is for that team. The standard is the standard; the staffing plan is yours to build honestly.

On this page: What doesn't shrink · Who can double up · The infection prevention seat · Checkpoint discipline · The minimum kit · When to call for help · Documentation · FAQ

What doesn't shrink

Four things are the same size in every facility. The **assessment** itself: the activity type and the patient risk group still get matched through the ICRA matrix, and the precautions class still comes out of that match, not out of how busy the team is. The **precautions** for the class: a Class III job in a small hospital needs the same sealed barrier, negative air, and debris control as the identical job in a medical center. The **permit**: Class III and above, and every Class IV and V job, runs on a permit that somebody issues and somebody signs. And the **daily check**: containment gets inspected and the inspection gets written down for as long as the barrier stands.

Notice what is not on that list: a committee. Nothing in the process requires the assessment to happen in a meeting of eight people. It requires that the functions happen and leave evidence. A two-person assessment done carefully and documented beats an eight-person meeting that produced no paper.

Who can double up — and who can't

Role consolidation works when the combined roles do not check their own work. The pairings that hold up:

Combination	Verdict	Why
Facilities manager + safety officer	Works	Overlapping knowledge, and neither role verifies the other's physical work
Project lead + permit issuer	Works, with a checkpoint	Fine for issuing; the daily containment check still needs a second person at least at start and teardown
Infection prevention + employee health	Works	A common small-facility pairing already; the clinical risk judgment is the same seat of expertise
The person who built the barrier + the only person who checks it	Does not work	Self-verification is where containment failures hide — the builder stops seeing the gap they left
Contractor's superintendent + permit issuer	Does not work	The facility issues permits for work in its own building; that authority is never the vendor's

The pattern underneath the table: hats can stack on one head as long as the verification moments still involve a second head. Plan the stack around the checkpoints, not around the org chart.

The infection prevention seat

The seat small facilities struggle to fill is infection prevention. The ICRA needs a clinical risk judgment — which patients are in the risk group, how immunocompromised the unit next door really is — and that judgment should not default to whoever is standing closest. The arrangements that work in practice: a **system-level infection preventionist** who covers several facilities and joins the assessment by phone or video for higher-class work; a **contracted IP consultant** retained for project review rather than full-time coverage; a **shared-services arrangement** with a neighboring facility; or the facility's own IP wearing the hat part-time with project work scheduled around their availability.

What matters is that the arrangement is named before the project starts, with a response time the project schedule can live with. “We’ll find someone when we get there” is how Class IV work ends up assessed by the construction schedule instead of by risk.

Checkpoint discipline: the four second-eyes moments

A lean team cannot watch a barrier all day. It does not have to. Containment fails at transitions, so verify at transitions:

- **Before work starts:** barrier sealed, negative air running and verified, walk-off and debris route set. Second person walks it before the first tool turns on.
- **First day, mid-shift:** the plan meets the building — the penetration nobody drew, the dust path nobody predicted. One walk, early, while changing course is cheap.
- **Any change of scope:** the job that grows from a ceiling tile to a pipe chase is a new assessment, not a longer old one. Growth past the permitted class stops and re-permits.
- **Teardown:** cleaning verified before the barrier comes down, not after. The most common small-team failure is an eager teardown by the same person who has been staring at the plastic for a week.

Four walks, each a few minutes, each signed on the permit. That is the whole verification system, and it fits a team of three.

The minimum kit

Small teams run ICRA well when the paperwork and materials are pre-built instead of improvised per project. The kit is short: the ICRA Class Finder for the assessment itself, with its printable worksheet carrying the class precautions for the job; a one-page permit form the facility uses every time; pre-written precautions by class so nobody drafts barrier language at midnight; negative-air machines and HEPA capacity sufficient for the largest single zone the facility would ever seal — rented for big jobs, owned for the common ones; and a stocked barrier cart (poly, tape, zipper doors, walk-off mats) that does not get raided for other work. The ICRA Readiness Check will show you which of these your program is missing.

When to call for help

Lean is a staffing model, not a virtue. Bring in outside capacity — a healthcare-experienced contractor, an IP consultant for the project, or the system office — when the work is **Class IV or V**; when it touches or overlooks the highest-risk areas (operating rooms, sterile processing, protective environments); when it involves a **water event** in an occupied patient area; or when the honest answer to “who checks this while I’m on vacation” is nobody. The trigger list belongs in writing, agreed in a calm week, because no team in the middle of a flood has ever concluded it was the day to hire help.

Documentation that survives a survey

Surveyors do not count your staff. They read your evidence. The file that answers them is thin and complete: the completed assessment for each project, the issued permits, the daily check entries for the days the barrier stood, and the sign-offs at the checkpoints. Kept in one place, in one format, for every job above Class II — that file is the program, and a three-person team produces exactly as convincing a file as a thirty-person department. The gap surveyors find in small facilities is rarely effort; it is the job that ran on a verbal okay because everyone

involved already knew. Everyone knowing is not evidence. Write it down anyway — especially when everyone knows.

Frequently asked questions

Can one person run an ICRA alone?

One person can perform most of the functions, but the verification steps need a second person at the checkpoints — before work starts and at teardown at minimum. A facility with literally one facilities employee should formalize the second-eyes role with a named partner: a clinical manager, a system colleague, or a contracted reviewer.

Does a small hospital have to follow the same ICRA classes?

Yes. The precautions class comes from the construction activity type and the patient risk group, and neither of those depends on facility size. A small hospital's highest-risk unit carries the same risk as a large one's.

What if we have no infection preventionist on staff?

Use a system-level IP, a contracted consultant, or a shared arrangement, named in advance with an agreed response time. The clinical risk judgment in the assessment should come from that seat, not from the project schedule.

How much documentation is enough?

The assessment, the permit, the daily checks, and the checkpoint sign-offs for every job that requires a permit — one consistent format, filed in one place. Thin and complete beats thick and occasional.

Go deeper: the ICRA pillar guide walks the full process step by step; ICRA in Older Hospital Buildings covers the investigation side when the building itself is the surprise; and the Books for Bots shelf holds the companion books for the Hub's core guides.

Run a lean team with a process that works — or a workaround you're prouder of than this one? Tell the Hub. Practitioner corrections and field methods make these pages better, and we credit contributors the way they ask to be credited.

ICRA in Older Hospital Buildings: What Changes When the Building Is Older Than the Matrix

Source: https://healthcarefacilityhub.org/icra-older-hospital-buildings/ Published: October 17, 2026

Updated October 17, 2026.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the pre-work investigation, and the five surprises. Free PDF, prints clean, works offline.

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Direct Answer: The ICRA matrix does not change in an old building – the investigation does. ASHE ICRA 2.0 assigns the same Class I–V from the same activity types and patient risk groups whether the wing opened in 2024 or 1962. What the building's age changes is everything around the number: whether the drawings can be trusted, what is hiding above the ceiling and inside the walls, whether the partitions and HVAC can actually hold the containment the class requires, and how often the job will stop and re-assess when the building reveals something the permit did not plan for. In an old hospital, the pre-work investigation is not paperwork before the ICRA. It is the ICRA.

Books for Bots: take this to your assistant.

This page as a book for your AI – the investigation sequence, the five surprises, the class-bump rules, and instructions your bot can run with, including what it should ask you first. Upload it to your assistant and plan the job together.

Download the book for your bot (PDF)

More than half of U.S. hospital facilities are over 50 years old, so this is not the edge case. For most facilities teams, the old building is the job.

On this page: Why Old Buildings Change the ICRA · Before You Open Anything: The Pre-Work Investigation · The Five Surprises · When a Surprise Changes Your Class · Containment in Old Geometry · Closeout in an Old Building · FAQ **Go deeper:** The ICRA Matrix & Construction Barriers (pillar guide)

Why Old Buildings Change the ICRA

Start with the stock. ASHE's 2024 Hospital Operations Survey found more than half of U.S. hospital facilities are more than 50 years old, and 80 percent of facilities managers name aging infrastructure as their primary concern. Fitch Ratings put the average age of plant at 12.7 years in FY24 – the oldest reading in more than a decade – and industry estimates put deferred maintenance in the hundreds of billions of dollars. A hospital that opened during the Hill-Burton building era has since been renovated in layers: every decade's work sits on top of the last, documented to the standard of its time, which is to say unevenly.

The standards world quietly assumes a knowable building. FGI's Guidelines apply their current requirements to the altered, renovated, or modernized portions of an existing facility – untouched areas are not retroactively upgraded until their function changes. That scope rule is fair, but it means a renovation lives at a seam: new work built to the current edition, tied into systems built to the editions of 1962, 1983, and 2007, in a building whose paper record may describe none of them accurately.

ICRA sits on that seam. The matrix prices the activity and the patients. It does not price the building. Two identical Type C renovations – same unit, same risk group, same Class IV on paper – are different jobs in a 2015 tower and a 1962 wing, because the older building holds more unknowns per square foot, and unknowns are what infection control plans fail on. The class stays the same. The work to honestly deliver the class does not.

Before You Open Anything: The Pre-Work Investigation

In a new building, the ICRA team reviews drawings and walks the unit. In an old building, add a genuine investigation phase before the class is finalized – because three of the five surprises below can change the class,

the scope, or the schedule, and all of them are cheaper to find with a flashlight than with a demolition saw.

Hazardous materials survey, scoped to the disturbance. Federal asbestos rules (EPA NESHAP) require the building to be inspected for asbestos before renovation work that would disturb it, and OSHA's construction asbestos standard (29 CFR 1926.1101) treats thermal system insulation and surfacing materials in buildings constructed before 1981 as presumed asbestos-containing material – PACM – until sampling proves otherwise. The building owner owes contractors written disclosure of known or presumed asbestos before work begins. The survey that matters covers what this job will actually touch: pipe insulation and mudded fittings, floor tile and the mastic under it (and under the flooring layered on top of it), transite panels, roofing materials at tie-ins, fireproofing, and the joint compound and plaster of the era. Add the rest of the legacy inventory while the inspector is there: lead paint (the federal ban came in 1978; OSHA's lead-in-construction standard, 29 CFR 1926.62, governs the work), PCB-containing caulk, common in buildings built or renovated between roughly 1950 and 1980, and mold or water damage in wall cavities and above ceilings.

Drawings versus the building. Pull the original drawings, then every renovation set since, then assume the truth is a third thing. Verify in the field what the ICRA depends on: which walls are rated and whether they actually run to the deck, where the smoke compartments really break, what the above-ceiling space contains, and which valves and dampers serve the work zone. The deliverable is a marked-up set the permit can cite – not the archive set, the verified one.

Above-ceiling reconnaissance. Before containment is designed, someone qualified opens a discreet inspection point (under whatever interim precautions the area requires) and looks: decades of accumulated dust and debris on top of the ceiling, abandoned cable and piping from dead systems, unsealed penetrations from every prior project, insulation condition, and signs of past water events. What is up there determines how much dust the first ceiling lift will release and whether the work zone's ceiling plane can be part of the containment strategy at all.

Systems archaeology. Old buildings accumulate live surprises: lines shown abandoned that are still in service, cross-connections nobody documented, electrical panels labeled by optimism. The ICRA's HVAC isolation step – cap or isolate the supply and return serving the zone – only works if the dampers that are supposed to close actually close and the duct run serves what the drawing says it serves. Test isolation before the permit promises it. The same applies to the negative-pressure plan: confirm there is a real exhaust path (window, shaft, or dedicated route) and enough makeup-air control to hold a cascade, before the class is posted.

The Five Surprises

These are the findings that most often rewrite an ICRA mid-job in an older facility. Plan for them as a class of event, not as bad luck.

1. Hazardous material nobody budgeted. The mastic under the second layer of floor tile tests positive. The pipe insulation in the chase is PACM and the scope touches it. Per the ASHE ICRA 2.0 hazard rule, discovery of asbestos, mold, sewage, or gray or black water moves the job: Low and Medium risk areas go to Class IV, High and Highest to Class V, regardless of activity type – and the abatement itself is regulated work with its own containment, notifications, and licensed crews. Jobs that pre-survey rarely meet this surprise; jobs that skip the survey meet it with the wall already open.

2. Partitions that stop at the ceiling. In many older wings, the corridor and room partitions terminate at the suspended ceiling rather than the deck. Above the ceiling, the floor is one shared plenum: dust released in the work zone has an open highway over the wall into the occupied rooms the barrier was supposed to protect. This is why Class IV and V barriers run to the deck – and why, in an old building, the wall you are tying into may need the same treatment before your barrier means anything. (More on the deck rule and barrier types in the pillar guide.)

3. Sixty years of unsealed penetrations. Every renovation since the Johnson administration punched holes for cable, pipe, and duct – and firestopping discipline varied by decade. Each unsealed penetration is a leak in your pressure boundary and, where the wall is a smoke or fire barrier, a code deficiency the project may inherit. Negative pressure cannot be held against a boundary that leaks in a hundred places; find them in the investigation, seal them as enabling work, and document what was corrected.

4. HVAC that cannot hold the cascade. Class IV and V controls assume the building can be isolated and the work zone held negative to its surroundings. Older air handlers may lack the capacity, the dampers may be seized or missing, ductwork leaks, and controls are pneumatic archaeology. The practical consequences: negative air machines do more of the work, exhaust routing gets creative (long temporary duct runs to a real exterior opening), and verification matters more, not less – continuous pressure monitoring with a visible indicator, and particulate checks where the pressure readings are hard to trust. See monitoring pressure differentials and negative air pressure in hospital construction for the mechanics.

5. Dust reservoirs and hidden water. The space above an old ceiling is a sediment record: construction dust from every prior era, settled on tiles, duct tops, and cable trays, plus whatever past leaks left behind. Disturbing it releases a load the activity type never contemplated – a Type B cable job in a filthy plenum behaves like a dustier class of work. Hidden moisture is the companion finding: chronic small leaks grow mold inside wall cavities and above ceilings, invisible until demolition opens them, at which point the hazard rule applies. Both findings argue for the same posture: treat the first opening of any old assembly as an inspection, with the crew briefed that stop-and-report is the expected move, not an overreaction.

When a Surprise Changes Your Class

ASHE ICRA 2.0 builds the answer into the permit: a scope change or the discovery of biological or toxic material triggers stop work and re-assess. In an old building, treat that clause as a planned phase of the job rather than an emergency procedure.

The sequence: stop dust-generating work, stabilize containment (the barrier and negative air stay up – a surprise is not a reason to open the boundary), notify infection prevention and engineering, and let the ICRA team re-run the assessment with the new fact in it. The re-run may raise the class (the hazard rule does this automatically for asbestos, mold, sewage, and gray or black water), add abatement scope ahead of the construction scope, extend the containment, or change the exhaust and monitoring package. The permit is re-issued or amended before work resumes – resuming on the old class because the schedule is tight is how a renovation becomes an exposure event. Document the finding, the decision, and who approved the restart; surveyors and, if it ever matters, lawyers will both ask for exactly that paper trail.

Budget and schedule honesty belongs here too: the facilities teams who do this well carry the re-assessment as a named contingency in the project plan – a discovery allowance, float for abatement mobilization – because in a

60-year-old building the question is not whether something will be found, but in which wall.

Containment in Old Geometry

The control packages themselves are unchanged – Class III dust control, Class IV and V critical barriers, anterooms, HEPA exhaust – but old floor plates tax each of them. Hard plaster ceilings and masonry change how barriers anchor and seal compared with modern drywall-and-grid construction. Irregular chases, soffits, and layered additions give containment awkward geometry with more seams to fail. Floor plates are tighter, so the Class V anteroom competes for square footage with the work itself, and staging and waste routes cross clinical traffic that cannot be rerouted around a closed wing – because there is no spare wing. None of this lowers the requirement; it raises the value of the pre-work walk, because a containment design that cannot be built in the actual geometry will be improvised in the field, and improvised containment is how breaches happen. When the geometry defeats the standard detail, the answer is an engineered alternative agreed with infection prevention before work starts, documented on the permit – never a quiet field substitution.

Closeout in an Old Building

The pillar's closeout sequence holds: infection prevention and engineering inspect before critical barriers come down, terminal cleaning includes surfaces and diffusers, negative air runs after dust-generating work until the space is flushed, and HVAC isolation is restored only on release. Two additions matter in old buildings. First, the above-ceiling space you disturbed should be left cleaner than you found it where the work exposed it – the next crew's Type B job inherits your dust if you leave it. Second, and most valuable: correct the record. Every surprise the job found – the undocumented line, the moved damper, the partition that does run to the deck – goes back into the facility's drawings and the asbestos and materials inventory. The investigation you paid for once should not have to be bought again on the next project. A renovation that leaves the building better documented has quietly lowered the risk of every ICRA that follows it.

FAQ

Does ICRA apply differently to older hospital buildings? The matrix, activity types, risk groups, and classes are identical – ASHE ICRA 2.0 does not publish an old-building edition. What changes is the investigation before the class is set (hazardous materials, verified drawings, above-ceiling and systems reconnaissance) and the effort required to honestly deliver the controls the class demands in older partitions, geometry, and HVAC.

Is an asbestos survey required before every hospital renovation? EPA NESHAP requires inspection for asbestos before renovation work that would disturb suspect material, and OSHA treats thermal insulation and surfacing materials in pre-1981 buildings as presumed asbestos-containing until sampling shows otherwise. In practice, any renovation in an older facility that will disturb building materials needs a survey scoped to those materials, and the owner must disclose known or presumed asbestos to the contractor in writing before work starts.

When does an old-building discovery force a higher ICRA class? Under ASHE ICRA 2.0, environmental hazards – sewage, mold, asbestos, gray or black water – set Class IV for Low and Medium patient risk groups and Class V for High and Highest, regardless of the activity type. Scope changes and hazard discoveries trigger stop work and re-assessment on the permit; the class is re-derived with the new facts before work resumes.

Can we rely on the facility's as-built drawings? Use them as a hypothesis. Decades of layered renovation mean the archive set routinely disagrees with the building about wall ratings, deck continuity, damper and valve locations, and which systems serve which zones. The ICRA should cite verified conditions – field-checked during the pre-work investigation – for anything the containment or isolation plan depends on.

Go deeper: the pillar guide, Infection Control Risk Assessment (ICRA) Matrix & Construction Barriers · How to use the ASHE ICRA 2.0 matrix · How often ICRA monitoring happens during construction

Building Inside a Hospital That Never Closes: ICRA Discipline on a Growing Campus

Source: https://healthcarefacilityhub.org/building-inside-a-hospital-that-never-closes-icra/ Published: October 16, 2026

Pierce County keeps growing east and south — Puyallup, South Hill, Frederickson — and its hospitals grow with it. On a suburban anchor campus like MultiCare Good Samaritan in Puyallup, that means a permanent condition most facilities teams know well: construction, somewhere on campus, nearly all the time, inside a hospital that never closes and never gets to pause being a hospital.

Growth work in an operating hospital lives or dies on one discipline: the infection control risk assessment. Here's how that discipline actually runs on a live campus, and why the current standard — ASHE's ICRA 2.0 — changed the daily practice.

ICRA 2.0 starts before the project does

The older ICRA habit treated the assessment as a form you completed when construction was already decided. ICRA 2.0 restructured it: a **safety risk assessment** comes first, weighing how the work touches patients, workflows, utilities, and life safety — and only then does the team classify the job. Construction activity is typed **A through D** (from inspection-level work up to major demolition and renovation), patient risk groups are ranked by vulnerability, and the combination sets a precaution class from **I to V**. The class drives everything downstream: barrier type, air handling, cleaning, monitoring, and who signs what.

On a growing campus this matters because the portfolio is never one project. It's a tower phase, a clinic refresh, an imaging replacement, and a roof job sharing one air handler map — each with its own type, class, and permit, all running at once.

The daily discipline nobody photographs

Barriers and air. The precaution class decides whether the barrier is poly sheeting or a hard wall, and whether the work zone runs negative to the corridor — verified, not assumed, with pressure checks logged on a schedule. A barrier that isn't sealed is a decoration, and on an occupied floor the corridor side of that wall is somebody's grandmother's hallway.

Routes. Debris and materials move on planned paths — a designated elevator, a covered cart, a route that doesn't cross sterile supply or the NICU's corridor. On a campus under phased construction, routing is renegotiated every phase, because last month's clean route is this month's work zone.

Water and tie-ins. The riskiest moments in hospital construction are utility moments: a water line opened, a system drained and refilled, a tie-in at 2 a.m. Those events plug straight into the facility's water management program — flushing, disinfection, and documentation before the system returns to patient service.

The permit habit. ICRA 2.0's companion permit makes the assessment a working document: posted at the job, signed by the team, revisited when scope changes. When the permit and the field disagree, the field stops — that norm, enforced on a tired Tuesday, is the entire culture in one sentence.

When life safety gets touched, the second hat comes out

Construction that breaches a fire barrier, blocks an egress path, or takes a detection system offline leaves ICRA territory and enters interim life safety measures — the ILSM side of the house. The two assessments answer different questions (infection risk versus life-safety risk) and a project of any size usually needs both, run by the same team in the same meeting. If your campus hasn't read them side by side, our explainer on the difference between ICRA and ILSM — and when you need both is the short version.

The team is the technology

None of this runs on software. It runs on a standing triangle — infection prevention, facilities, and the contractor — that meets before the project, walks the barriers during it, and argues honestly about the schedule when the class says the work can't be rushed. On a campus like Good Samaritan's, where growth is the permanent condition, that triangle is less a project structure than a department of its own. The campuses that do this well aren't the ones with the thickest standards binder. They're the ones where the 2 a.m. tie-in gets the same rigor as the ribbon cutting.

Good Samaritan's growth now has a twenty-year shape: in January 2026 the Puyallup City Council authorized a development agreement implementing a master plan that adds a 160-bed patient tower, expands the central utility plant, and starts — tellingly — with the hospital's kitchen. We walked through the plan here.

Run facilities or build in hospitals around Puyallup or greater Pierce County? Tell us what we missed — corrections and practitioner quotes are credited by name, by org, or fully anonymously, your choice.

ICRA vs ILSM: What's the Difference — and When Do You Need Both?

Source: https://healthcarefacilityhub.org/icra-vs-ilsm-difference/ Published: October 15, 2026

ICRA vs ILSM: What's the Difference — and When Do You Need Both?

ICRA controls infection risk; ILSM controls life-safety risk. That is the whole distinction: an Infection Control Risk Assessment evaluates how construction could spread infection — dust, water, air — and sets the containment precautions. Interim Life Safety Measures are the temporary protections a hospital puts in place when a life safety feature — egress, fire alarm, sprinklers, barriers — is impaired or out of service. A hospital construction project routinely needs both, running side by side, because the same work that releases dust also, often, takes a sprinkler zone down.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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What each one evaluates

- **ICRA** asks: what will this work release, who is exposed, and what class of precautions does that pairing require? Its outputs are containment barriers, negative pressure, cleaning, water controls, and monitoring — the process in how to perform an ICRA for a renovation. Owners: infection prevention, with facilities and the project team.
- **ILSM** asks: which life safety features are impaired by this work or this deficiency, and what interim measures compensate until they are restored? Its outputs are fire watch, temporary detection, egress management, staff notification and training, and increased inspections — the measures in the ILSM measures expected during construction. Owners: the life safety / facilities function, under the fire safety plan — see how ILSM interact with the fire safety plan.

Side by side

	ICRA	ILSM
Risk controlled	Infection (dust, water, air pathways)	Life safety (fire, egress, detection, suppression)
Trigger	Construction/renovation activity near patients	A life safety feature impaired or out of service
Signature controls	Barriers, negative air, HEPA, cleaning, water controls	Fire watch, temporary alarms, egress management, inspections
Ends when	Work completes and the area is cleaned and returned	The impaired feature is restored and verified

When a project needs one, the other, or both

- **ICRA only:** dusty renovation that touches no life safety system and blocks no egress — a contained interior refresh on an unoccupied floor, with detection and suppression intact.
- **ILSM only:** no construction at all — a sprinkler impairment from a system failure, or a life safety deficiency under repair. ILSM is not a construction program; construction is just its most common trigger. The trigger test is in when ILSM are required during hospital construction.
- **Both:** the typical occupied-hospital renovation — demolition releasing dust (ICRA) while a sprinkler zone is shut for tie-ins and a corridor segment is inside the work zone (ILSM). The two run in parallel, documented in parallel, and close out on their own criteria; finishing the ICRA close-out (cleaning, barrier removal) does not close the ILSM record, and restoring the sprinkler does not end containment.

Surveyors test the seam: The Joint Commission will ask a construction project for its ICRA permit and its ILSM assessment in the same conversation, and the findings in each cluster — common ILSM deficiencies on one side, containment findings on the other — often trace to a project that ran one process and forgot the other.

What is the difference between ICRA and ILSM?

ICRA (Infection Control Risk Assessment) controls infection risk from construction — dust, water, and air pathways — through containment precautions. ILSM (Interim Life Safety Measures) are temporary fire and life-safety protections used while a life safety feature is impaired. Different risks, different owners, different close-outs.

Can a project need ICRA and ILSM at the same time?

Yes — most occupied-hospital renovations do. Demolition triggers ICRA; the sprinkler shutdowns, barrier breaches, and egress changes that come with it trigger ILSM. Each runs and closes on its own criteria.

Related reading

- ILSM Measures During Construction
- How to Perform an ICRA for a Renovation
- ICRA Matrix and Construction Barriers

What Is ASHRAE Standard 170? Ventilation for Healthcare Facilities, Explained

Source: https://healthcarefacilityhub.org/what-is-ashrae-standard-170-healthcare-ventilation/ Published: October 15, 2026

What Is ASHRAE Standard 170? Ventilation for Healthcare Facilities, Explained

ASHRAE Standard 170 — Ventilation of Health Care Facilities — is the consensus standard that sets the minimum ventilation requirements for hospitals, outpatient facilities, and residential care settings in the United States: air change rates, pressure relationships, filtration, temperature, and humidity, room by room. Published by ASHRAE (the American Society of Heating, Refrigerating and Air-Conditioning Engineers) as ANSI/ASHRAE/ASHE Standard 170, it is the ventilation layer of healthcare design and operation — the standard a surveyor, an engineer, and a facility director are all, from their different sides, talking about.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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What the standard covers

Standard 170 governs the design and operation of healthcare ventilation systems. Its core is a room-by-room table — often called Table 7-1 in the editions most facilities run under — giving, for each space type (operating rooms, airborne infection isolation rooms, protective environment rooms, patient rooms, imaging, sterile processing, laboratories, and the rest):

- **Pressure relationship** — positive, negative, or none relative to adjacent spaces;

- **Air changes per hour** — minimum outdoor air changes and total air changes, new vs. existing construction distinguished;
- **Exhaust and recirculation rules** — what must be exhausted directly outdoors and what may be recirculated, and through what filtration;
- **Filtration levels, temperature, and humidity ranges** for the space.

The applied, room-by-room numbers live in the ASHRAE 170 room-by-room benchmarks; this page is the map of the standard itself.

How it works with FGI and ASHRAE 62.1

Standard 170 does not stand alone. The **FGI Guidelines** — the design standard most states adopt for healthcare facilities — incorporate ASHRAE 170's ventilation requirements by reference, so a project designed to FGI is designed to 170 for ventilation; the interaction is detailed in ASHRAE 170 × FGI Guidelines interaction. **ASHRAE Standard 62.1** governs ventilation for acceptable indoor air quality in general buildings; healthcare spaces answer to 170 where the two overlap, because 170's requirements are written for infection control as well as comfort. Who publishes and maintains the standard — ASHRAE, with ASHE as a co-sponsor — and how editions are revised is tracked in ASHRAE 170 recent edition changes.

Which edition applies — and who enforces it

The edition that governs a facility is the one adopted through its state's FGI adoption, licensure rules, or code pathway at the project's trigger date — facilities commonly operate under different editions in different wings of the same building, by era of construction. Enforcement runs through several hands: the authority having jurisdiction at design and construction; state licensure and CMS survey processes in operation (the physical-environment condition makes ventilation performance a survey subject); and accrediting surveyors. The enforcement map is laid out in the ASHRAE 170 coverage of healthcare HVAC commissioning, testing, and balancing, where verification of 170 performance after upgrades is the working routine.

Why it matters beyond design day

Ventilation designed to 170 drifts: dampers fail, balances change with unrelated work, filters load, rooms change use. The standard's operating life is a maintenance discipline — pressure relationships verified, air changes re-measured after change, filtration maintained at the specified level for the space (surgical suites being the demanding case in ASHRAE 170 filtration for surgical suites). The single most safety-critical application is the isolation room set in ASHRAE 170 requirements for airborne infection isolation rooms.

What is ASHRAE Standard 170 for healthcare ventilation?

ANSI/ASHRAE/ASHE Standard 170, Ventilation of Health Care Facilities: the consensus standard setting minimum healthcare ventilation requirements — air change rates, pressure relationships, filtration, temperature, and humidity — room by room, incorporated into the FGI Guidelines and enforced through state adoption and survey processes.

Is ASHRAE 170 the same as ASHRAE 62.1?

No. Standard 62.1 covers ventilation for acceptable indoor air quality in general buildings. Standard 170 is healthcare-specific and governs where healthcare spaces are concerned, adding infection-control-driven

requirements for pressure, air changes, and filtration.

Related reading

- ASHRAE 170 Room-by-Room Benchmarks
- ASHRAE 170 × FGI Guidelines Interaction
- ASHRAE 170 Requirements for AII Rooms

Air Sampling During Healthcare Construction: When It's Used and What It Proves

Source: https://healthcarefacilityhub.org/air-sampling-during-healthcare-construction/ Published: October 15, 2026

Air Sampling During Healthcare Construction: When It's Used and What It Proves

Air sampling during healthcare construction measures what is in the air — particles, and sometimes viable fungi or bacteria — at a place and moment, to answer a specific question: is containment holding, did an exposure happen, is this area clear to reoccupy? It is a targeted tool with real limits: there is no universal "safe" fungal count for hospital air, results take days for cultures, and a single sample proves little. Used with a baseline, a question, and a plan for the result, it is valuable. Used as a ritual, it is expensive noise.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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The two kinds of sampling — and why particle counting does most of the work

- **Particle counting** gives immediate, non-specific counts of airborne particles by size. During construction it is the practical monitoring tool: counts inside the work zone vs. outside the barrier vs. a clean reference area show, in near-real time, whether containment and negative pressure are holding — the same job, by a different instrument, as the pressure monitoring in monitoring pressure differentials during hospital construction.
- **Microbial (viable) sampling** collects organisms on culture media — typically fungal sampling aimed at Aspergillus during healthcare construction. It identifies what is present, which particle counting cannot, but culture results take days and counts vary widely hour to hour.

When sampling is actually indicated

- **Baseline before work** near high-risk units, so later results have something to be compared against — sampling without a baseline is the most common way this tool is wasted.

- **After a containment failure** — a barrier breach, a pressure loss, visible dust outside the zone — to scope where construction air actually went.
- **During an infection investigation,** when infection prevention is evaluating whether cases could be construction-related; here sampling supports epidemiology, it does not replace it. The hazard being hunted is described in Aspergillus risk during hospital construction.
- **Clearance questions** in defined circumstances — for example after remediation of a known contamination — where a pass/fail criterion was agreed before sampling, not invented after the result.

Who performs it, and how results are interpreted

Sampling is performed or directed by infection prevention with industrial-hygiene or environmental microbiology support, using a written plan: locations (work zone, barrier line, adjacent patient areas, outdoor/reference), timing relative to activity (sampling during dusty work reads differently than sampling on a quiet Sunday), and the comparison the result will be judged against.

Interpretation rules that keep the tool honest:

- There are **no regulatory pass/fail limits** for total fungal counts in hospital air; interpretation is comparative — inside vs. outside, during vs. baseline — and species matter more than totals (Aspergillus where it should not be outweighs a count of common outdoor fungi).
- A clean single result does not prove an area was clean yesterday; an elevated result does not prove patients were exposed. Both need the construction and clinical context in how construction projects spread infections in hospitals.
- Results feed decisions through infection prevention and the ICRA team — containment repair, cleaning, relocation, continued monitoring — documented in the project record assembled under the healthcare construction containment guide.

Is air sampling required during hospital construction?

No universal requirement mandates routine air sampling for construction. It is used selectively — baselines near high-risk units, after containment failures, in infection investigations, and for defined clearance questions — under infection prevention direction. Continuous pressure monitoring is the routine containment check; sampling answers specific questions.

What does air sampling prove during construction?

Particle counts show whether containment is holding in near-real time. Microbial sampling identifies organisms present at the sampled place and time. Neither proves safety or exposure on its own — results are interpreted comparatively, against baselines and reference areas, in construction and clinical context.

Related reading

- Monitor Pressure Differentials During Hospital Construction
- Aspergillus Risk During Hospital Construction
- Healthcare Construction Containment Guide

Preventing Legionella During Hospital Renovation and Water System Work

Source: https://healthcarefacilityhub.org/prevent-legionella-during-hospital-renovation/ Published: October 15, 2026

Preventing Legionella During Hospital Renovation and Water System Work

Renovation grows Legionella by disturbing the water system: shutdowns stagnate water, tie-ins open pipework, pressure events strip biofilm, and new dead legs give the bacteria warm, still water to colonize. Prevention is a water-management task run alongside the construction schedule — keep water moving or drain it, disinfect what was opened or stagnated, control temperatures, and verify before patients are exposed. Hospitals already carry this duty under their water management program; renovation is when the program earns its keep.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

Download the field sheet (PDF)

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How renovation disturbs a hospital water system

Legionella lives in building water systems at low levels under normal operation. Construction changes the conditions in its favor:

- **Stagnation:** wings or floors taken out of service, capped lines, and little-used outlets leave water standing at growth temperatures for days or weeks.
- **Dead legs:** renovation creates them — abandoned branches, capped stubs “for future use,” and oversized runs serving fixtures not yet installed.
- **Pressure events and intrusion:** shutdowns, draining, and repressurization scour biofilm into the water column and can draw contaminants in at openings.
- **Temperature drift:** temporary systems and partially commissioned loops run in the Legionella growth range instead of at the facility’s control temperatures.

The prevention sequence, tied to the construction schedule

- **Before work:** the water management team reviews the construction plan for every water-system touch — shutdowns, tie-ins, new branches, areas going out of service — and writes the flushing, disinfection, and sampling steps into the project plan, not as an afterthought.
- **During work:** keep out-of-service areas flushed on a documented rhythm or drained and isolated; remove dead legs at the main rather than capping at the branch; maintain hot- and cold-water control temperatures in the occupied systems around the work.
- **At tie-in and commissioning:** disinfect new and opened sections per the water management program (thermal or chemical, as the program specifies), flush to stable temperatures and disinfectant residuals, and complete any program-required sampling before the area returns to patient use.

- **On return to service:** confirm results, document what was done against the plan, and put the new outlets and equipment on the program's routine flushing and monitoring schedule.

Who owns what

The water management program — the ASHRAE 188-based structure most hospitals run, detailed in ASHRAE 188 Legionella water management plan requirements — owns the risk assessment and the control limits. The construction team owns executing the flushing, disinfection, and documentation steps in the plan. Infection prevention owns the patient-risk call: which units (transplant, oncology, ICU) get point-of-use filters or additional sampling while work proceeds. The broader construction water picture — beyond Legionella — is covered in water system risks during healthcare construction, and the general program framework in Legionella water management: ASHRAE 188, the CDC toolkit, and CMS requirements.

Why is Legionella a special risk during hospital renovation?

Renovation stagnates water, creates dead legs, opens pipework, and causes pressure events that strip biofilm — exactly the conditions Legionella colonizes. Immunocompromised patients exposed through showers, faucets, and medical water uses can develop Legionnaires' disease, which is frequently fatal in this population.

When should a renovated water system be disinfected and sampled?

After sections are opened, stagnated, or newly installed — disinfection and flushing at tie-in and commissioning, with any program-required sampling completed and reviewed before the area returns to patient use.

Related reading

- Water System Risks During Healthcare Construction
- ASHRAE 188 Legionella Water Management Plan Requirements
- How Construction Projects Spread Infections in Hospitals

ASHRAE 170 Edition Tracker: Which Version Applies to Your Facility (2008–2025)

Source: https://healthcarefacilityhub.org/ashrae-170-edition-tracker/ Published: October 11, 2026

Short answer: The current edition is **ANSI/ASHRAE/ASHE Standard 170-2025**, and the 2026 FGI Codes incorporate it, including all issued addenda (HFM Magazine). The edition your building must meet is the one your state or local authority having jurisdiction (AHJ) has adopted, and ASHE notes that AHJs have adopted and are enforcing different editions. For Medicare hospitals, CMS enforces NFPA 99-2012, which The Joint Commission describes as including the 2008 edition of ASHRAE 170. Confirm your edition in writing for every project.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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On this page: Current edition at a glance · Edition timeline: 2008 to 2025 · FGI pairings: which 170 edition each FGI edition contains · What CMS and The Joint Commission enforce

Current edition at a glance

- **Current edition:** ANSI/ASHRAE/ASHE Standard 170-2025, *Ventilation of Health Care Facilities*, published in 2025 by ASHRAE in partnership with ASHE (ASHE).
- **Errata:** ASHRAE's errata sheet dated April 14, 2026 applies to the first printing and adds items to an earlier errata sheet dated March 23, 2026.
- **Addenda to 170-2025:** ASHRAE's addenda listing shows two so far, Addendum v and Addendum y, both dated September 23, 2026. What they change is summarized under How addenda work.
- **Older editions still in use:** ASHE still lists the 2021, 2017 and 2008 editions and tells readers to connect with their AHJ to determine which edition to follow.

For the working numbers by space type — including the 20–60% RH operating-room range and how it changed across editions — see humidity control in hospitals under ASHRAE 170.

Edition timeline: 2008 to 2025

Each row lists only changes that a public source states. The standard itself is sold by ASHRAE and ASHE, so the summaries credit the page that describes the change.

Edition	Key changes reported by public sources	Source
170-2008	First edition. ACHR News reports that, according to ASHRAE, it was the first ANSI standard to specifically address ventilation in health care facilities. Addendum d, approved in July 2010, lowered the minimum design relative humidity for operating rooms and other short-term patient treatment spaces from 30% to 20%.	ACHR News (2013); ACHR News on Addendum d
170-2013	Published December 2013. Specifically addresses energy recovery, provided it allows no cross-contamination of exhaust air back to the supply airstream. Updates and clarifications on humidity, ducted returns, recirculating room units and duct lining. Permits some use of plenum returns in outpatient facilities.	ACHR News, Dec 26, 2013

Edition	Key changes reported by public sources	Source
170-2017	Began dividing requirements into hospital, outpatient and residential categories (FGI calls this “the beginning of the process”). Added adiabatic humidifiers as an acceptable humidifier type, a new lower-requirement exam room type, and clarified that controls to change pressure relationships are prohibited for all spaces. Operating room design relative humidity is 20% minimum and 60% maximum.	FGI 2018 summary; ACHR News (2018); ASHRAE TC 9.6 white paper
170-2021	Incorporated 17 addenda to the 2017 edition. Allows airborne infection isolation (AII) room exhaust to discharge to general exhaust under certain conditions. Extensive revisions to air filtration, with new ventilation-table columns for filtration and unoccupied turndown. Extensive changes to the outpatient and residential sections. Expanded intake and exhaust separation guidance. Improved behavioral and mental health guidance.	ASHRAE, May 11, 2021
170-2025 (current)	Optional natural ventilation. Outdoor air calculated at the system level for systems serving both Standard 170 and Standard 62.1 spaces. Updated Class 2 and Class 3 imaging requirements. Clarified outpatient unoccupied turndown. Reorganized requirements for ventilation during construction. Updated cooling and heating reserve capacity and on-site fuel requirements. New behavioral health space types, clarified bronchoscopy requirements, and new space types coordinated with FGI 2026.	ASHE 170-2025 page

For a plain-English walk-through of the 2021 and 2025 changes, see what changed in recent editions of ASHRAE 170.

How addenda and continuous maintenance work

ASHRAE keeps Standard 170 under **continuous maintenance**, which, in FGI’s words, permits official changes to be made at any point over the life cycle of the document. Approved changes are published as lettered addenda. ASHRAE’s addenda listing shows, for example, addenda to the 2021 edition running from Addendum c (July 30, 2021) to Addendum w (July 31, 2025). A new edition folds in the addenda published before it: ASHRAE says the 2021 edition incorporates 17 addenda to the 2017 edition.

Corrections to the printed text are issued separately as **errata**. ASHRAE’s errata listing shows one current errata sheet for 170-2025, dated April 14, 2026.

The two addenda to 170-2025 so far, both approved by ASHRAE and ANSI on September 22, 2026, do the following, according to their published forewords:

- **Addendum v:** adds equivalences between MERV ratings (ASHRAE Standard 52.2) and ISO 16890 filter classes for the minimum filtration Standard 170 requires, to help users outside the United States.
- **Addendum y:** follows research on operating room testing and balancing data from 45 hospitals and 521 operating rooms. The committee recommends a risk assessment before making operational adjustments to operating room ventilation, and, per the foreword, adds new related notes to Tables 7-1 and 8-1.

FGI treats later addenda as part of its documents. For the 2022 hospital Guidelines, FGI states that published addenda to ASHRAE Standard 170-2021 shall be considered part of the 2022 Guidelines. If your project runs over several years, track the addenda, not just the edition year.

FGI pairings: which 170 edition each FGI edition contains

FGI has incorporated Standard 170 into its Guidelines since the 2010 edition, so a state that adopts an FGI edition also takes in the 170 edition that FGI document contains. See FGI 2022 vs 2026 and our FGI Guidelines overview for the wider changes.

FGI document	ASHRAE 170 edition included	Source
2010 Guidelines	170-2008. FGI states that Standard 170 has been incorporated into the Guidelines beginning with the 2010 edition.	FGI 2018 summary; ACHR News
2014 Guidelines (Hospitals and Outpatient Facilities)	170-2013, with all addenda approved through November 2013, as Part 4.	FGI 2014 summary
2018 Guidelines	170-2017, with all addenda approved through November 2017, as Part 3. Addenda issued after the 2017 edition count as part of the 2018 documents.	FGI 2018 summary
2022 Guidelines (Hospitals)	170-2021, dated November 2021, which incorporates addenda c and d. Later published addenda count as part of the 2022 Guidelines.	FGI 2022 summary
2026 FGI Codes (released August 31, 2026)	170-2025, including all issued addenda. FGI's 2026 hospital handbook lists 170-2025 as included content.	HFM Magazine; FGI press release; FGI OneSource

For how the two documents divide the work, see how ASHRAE 170 interacts with FGI Guidelines.

What CMS and The Joint Commission enforce

CMS. The hospital Conditions of Participation require hospitals to meet the Health Care Facilities Code (NFPA 99) and its Tentative Interim Amendments, and the regulation incorporates the 2012 edition of NFPA 99 by reference. CMS adopted the 2012 NFPA 99 and NFPA 101 effective July 5, 2016, and began surveying to them on November 1, 2016 (CMS Survey and Certification letter 16-29). NFPA 99 TIA 12-2, which CMS also adopted, added a chapter on HVAC stating that systems serving covered spaces "shall be provided in accordance with ASHRAE 170" (NFPA 99-2012, 9.3.1.1). 42 CFR 482.41 itself does not name an ASHRAE 170 edition. For the life safety side of the same rule, see which NFPA 101 edition CMS enforces.

Which 170 edition does NFPA 99-2012 point to? The Joint Commission's September 2026 Survey Tools Guide says heating, cooling and ventilation follow "NFPA 99-2012, which includes 2008 ASHRAE 170, or

state design requirements if more stringent". We have not yet confirmed this edition reference in the text of NFPA 99 itself.

The Joint Commission. In the hospital Survey Tools Guide issued September 2, 2026, critical-area ventilation is scored under **PE.04.01.01 EP 3**, formerly EC.02.05.01 EP 15, mapped to CMS CoP 482.41(d)(4). The EP reads: "In critical care areas designed to control airborne contaminants (such as biological agents, gases, fumes, dust), the ventilation system provides appropriate pressure relationships, air-exchange rates, filtration efficiencies, temperature and humidity." Its notes apply NFPA 99-2012 to new and existing facilities and to altered or renovated systems with construction or plans approved on or after July 5, 2016. The Joint Commission's utility systems web page still shows the former number, EC.02.05.01 EP 15.

State adoption: how to confirm your edition locally

FGI's adoption map reports that, as of August 31, 2026, 42 states have adopted some edition of the FGI Codes or Guidelines, 3 allow FGI as an alternate path to compliance in some instances, and 5 do not use them in any official capacity. Because each FGI edition carries a specific 170 edition, the FGI edition your state adopted points to the 170 edition you are likely to be held to.

- **Ask the state licensing agency** which FGI edition it enforces for your facility type. FGI notes that the state health department licensing entity is typically the AHJ. See which FGI edition your state enforces.
- **Check the state or local mechanical code.** Some jurisdictions also reference ventilation requirements through their mechanical code. Ask the code official which edition of ASHRAE 170, if any, the mechanical code references.
- **Check for exceptions.** FGI reports that 5 states (Kansas, Maine, Mississippi, New Hampshire and New York) permit use of a more recent FGI edition than the one adopted in some instances.
- **Get the answer in writing** for each project, naming the FGI edition, the 170 edition and any addenda the AHJ will apply.

Still being verified

Which edition of ASHRAE 170 each edition of the International Mechanical Code references, and where. We will add it once we can confirm it from a public ICC source.

Existing vs new construction

New editions generally reach existing buildings only when you build, alter or renovate. NFPA 99-2012's HVAC chapter applies to new construction and to altered, renovated or modernized portions of existing systems, and existing construction or equipment may continue in use when it does not constitute a distinct hazard to life. The Joint Commission's Survey Tools Guide adds that existing facilities may comply with the 2012 NFPA 99 ventilation requirements or the edition CMS had adopted when the system was installed, for example the 1999 NFPA 99.

CDC's environmental infection control guideline says to ensure that existing structures continue to meet the specifications in effect at the time of construction. For AII rooms, CDC sets at least 12 air changes per hour (ACH) for new and renovated rooms and at least 6 ACH for existing rooms, and continuous negative pressure of 2.5 Pa (0.01 in. water gauge) relative to the corridor. ASHE's 2021 ventilation guidance states that rooms constructed before 2005 may operate at -0.001 in. of water (-0.25 Pa) and 6 ACH. For full isolation room

specifications, see ASHRAE 170 requirements for airborne infection isolation rooms.

Under CMS Survey and Certification letter 16-29, buildings constructed, or given design approval or building permits, before July 5, 2016 can meet Existing Occupancy requirements. All other construction must meet New Occupancy requirements.

Change log

Date	Change
October 2026	Tracker created. Current edition 170-2025; errata sheet dated April 14, 2026; Addenda v and y to 170-2025 (September 23, 2026) listed and summarized; FGI pairings 2010 to 2026; CMS and Joint Commission enforcement with the current PE.04.01.01 EP 3 numbering.

FAQ

What is the current edition of ASHRAE 170?

The current edition is ANSI/ASHRAE/ASHE Standard 170-2025, published in 2025 by ASHRAE with ASHE. An errata sheet dated April 14, 2026 corrects its first printing, and ASHRAE has published Addenda v and y to it. See ASHE's 170-2025 page.

Which ASHRAE 170 edition does my hospital have to meet?

Your hospital has to meet the edition your state or local AHJ has adopted, usually through the FGI edition it enforces, plus whatever CMS and your accreditor survey to. ASHE notes that AHJs are enforcing different editions, so confirm the edition in writing for each project.

Does CMS enforce ASHRAE 170?

CMS enforces ASHRAE 170 indirectly. Hospitals must meet NFPA 99-2012, and NFPA 99 TIA 12-2, which CMS adopted, requires HVAC systems serving covered spaces to be provided in accordance with ASHRAE 170.

Which ASHRAE 170 edition does NFPA 99-2012 reference?

The Joint Commission's September 2026 Survey Tools Guide describes NFPA 99-2012 as including the 2008 edition of ASHRAE 170, with state design requirements applying if they are more stringent.

Which Joint Commission standard covers critical-area ventilation now?

The Joint Commission's hospital Survey Tools Guide issued September 2, 2026 scores critical-area ventilation under PE.04.01.01 EP 3, which it marks as formerly EC.02.05.01 EP 15. It covers pressure relationships, air-exchange rates, filtration efficiencies, temperature and humidity.

Which ASHRAE 170 edition is in the 2026 FGI Codes?

The 2026 FGI Codes for Planning and Design incorporate ASHRAE 170-2025, including all issued addenda, according to HFM Magazine.

What is an ASHRAE 170 addendum?

An addendum is an official change to Standard 170 published between editions under ASHRAE's continuous maintenance process. The next edition folds addenda in, and FGI treats later published addenda as part of its documents.

Do existing AII rooms need 12 air changes per hour?

Not under CDC's guideline. CDC sets at least 12 ACH for new and renovated AII rooms and at least 6 ACH for existing AII rooms. Your AHJ may require more, so check the edition it enforces.

Related on Healthcare Facility Hub

- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes
- What Changed in Recent Editions of ASHRAE 170
- ASHRAE 170 Requirements for Airborne Infection Isolation Rooms
- How ASHRAE 170 Interacts with FGI Guidelines
- What is the difference between FGI 2022 and FGI 2026?
- Which edition of the FGI Guidelines does my state enforce?
- Which NFPA 101 Edition Does CMS Enforce?

Sources

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- ASHRAE, 170-2025 errata sheet, April 14, 2026 (PDF)
- ASHRAE, Standards addenda listing and errata listing
- ASHRAE, Addendum v and Addendum y to 170-2025 (PDF)
- ASHRAE, ASHRAE Publishes Updated Health Care Facility Ventilation Standard (May 11, 2021)
- ASHRAE TC 9.6, white paper on humidity control events in perioperative care areas (PDF)
- ACHR News, Behind the change in ASHRAE/ASHE Standard 170; ASHRAE publishes revised health care ventilation standard (2013); ANSI/ASHRAE Standard 170-2017: What's New? (2018)
- FGI, major additions and revisions: 2014, 2018, 2022 (PDF)
- FGI, FGI Launches 2026 FGI Codes and Handbooks (August 31, 2026); Adoption Map; 2026 FGI Handbook for Hospitals
- HFM Magazine, The 2026 FGI codes and FGI handbooks are now available
- eCFR, 42 CFR 482.41
- CMS, Survey and Certification letter 16-29-LSC (PDF)
- NFPA, TIA 12-2 to NFPA 99, 2012 edition (PDF)
- The Joint Commission, Hospital Accreditation Survey Tools Guide, September 2026 (PDF)
- CDC, Recommendations for Environmental Infection Control in Health-Care Facilities
- ASHE, 2021 ventilation guidance for health care facilities (PDF)

Related reading

- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes
- What Changed in Recent Editions of ASHRAE 170
- Humidity Control in Hospitals Under ASHRAE 170

Healthcare Construction Containment Guide: ICRA Barriers, Negative Pressure, and Daily Checks

Source: https://healthcarefacilityhub.org/healthcare-construction-containment-guide/ Published: October 10, 2026

Direct answer: Healthcare construction containment is the physical system that keeps dust, fungal spores, and contaminated air from leaving a work zone in an occupied facility. The barrier, the airflow, the entry path, the housekeeping, and the paperwork all count as part of it. The ASHE ICRA 2.0 matrix tells you *which class* of precautions a job needs (Class I through V). Containment is how you build that class, keep it working every shift, and take it down without letting dust out at the last minute. In occupied buildings the same barrier is usually also a life-safety element, so Interim Life Safety Measures (ILSM) and NFPA 241 apply to it too.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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This guide is for hospital facilities teams, construction project managers, infection preventionists, and the trade contractors who do the work. It goes through containment element by element, shows how each one ties back to the ICRA 2.0 matrix and CDC guidance, marks the places where the published sources stop short of a hard number, and ends with checklists you can drop into a permit packet.

Need the class first? Use the ICRA Class Finder to read your class off the ASHE ICRA 2.0 matrix, or the ICRA Readiness Check to score how ready your project is before mobilization.

On this page

- What containment is (and what it is not)
- From the ICRA 2.0 matrix to a containment package
- Containment controls by class (I to V)
- Barrier types: soft, rigid, modular, and fire-rated
- Ceiling access, floor-to-deck, and MEP penetrations
- Anterooms and the entry path
- Negative pressure, HVAC isolation, and HEPA exhaust
- Pressure monitoring: what is required and what is practice

- Dust control, walk-off mats, debris, and traffic
- Utility shutdowns and system impacts
- ILSM and life-safety overlap
- Daily monitoring and breach response
- Checklists: pre-construction, daily, teardown, sign-off
- Infection prevention during renovation: the clinical side
- Where containment fails in the field
- Products and systems (not endorsements)
- FAQ
- References and further reading

What containment is (and what it is not)

An infection control risk assessment (ICRA) is a decision process, and three different bodies stand behind it. The federal starting point is CDC's 2003 *Guidelines for Environmental Infection Control in Health-Care Facilities*, developed with HICPAC, which tells facilities that "before the project gets underway, perform an ICRA to define the scope of the project and the need for barrier measures" (CDC, Part II recommendations). For how that assessment turns into a precaution class, see our ICRA matrix breakdown.

The matrix most U.S. hospitals use today is ASHE ICRA 2.0, published in April 2022 by the American Society for Health Care Engineering of the American Hospital Association. It pairs construction activity Types A–D with four patient risk groups to assign Classes I–V, and ASHE makes the matrix and sample permit free to the public (ASHE ICRA 2.0 Toolkit). Our step-by-step guide to the ASHE ICRA 2.0 matrix walks through each step, and the ICRA Class Finder applies it to your project.

ICRA is not new. ASHE notes that "the first formal ICRA was introduced in the 1996 edition of the Facility Guidelines Institute's Guidelines" (ASHE, April 20, 2022). FGI's current editions are the 2026 FGI Codes, released August 31, 2026 (FGI). In short: credit CDC/HICPAC for the recommendation to perform an ICRA, ASHE for the 2.0 matrix, and FGI for building the ICRA requirement into design and construction.

Containment is what you build once that decision is made. Treat it as a system with five parts:

- **The envelope:** barriers, doors, ceiling and floor seals, and every penetration through them.
- **The air:** HVAC isolation inside the zone, negative pressure, HEPA filtration or outdoor exhaust, and verification that adjacent spaces still meet their design pressure relationships.
- **The path:** the anteroom or entry, walk-off or adhesive mats, the worker clothing and shoe-cover rules, debris and material routes, and elevators.
- **The housekeeping:** daily cleaning inside and outside the zone, covered waste, and wiping down tools.
- **The proof:** permit, pressure records, inspection logs, breach reports, and the sign-off that ends or downgrades precautions.

Containment does not replace the ICRA itself, the life-safety review, or clinical surveillance. For the vocabulary, see ICRA: which one are you looking for? and ICRA meaning in healthcare construction. For how

dust actually gets to patients, see how construction projects spread infections in hospitals and why Aspergillus is a construction risk.

From the ICRA 2.0 matrix to a containment package

The ASHE ICRA 2.0 Matrix of Precautions has four steps. You pick the activity type (A to D) from Table 1 and the highest patient risk group affected (Low, Medium, High, Highest) from Table 2. You read the class of precautions from Table 3. Then you assess the surrounding areas (below, above, lateral, behind, in front) in Table 4. Table 5 lists the minimum precautions before and during work, and Table 6 lists what has to happen when the work is complete.

Patient risk group	Type A	Type B	Type C	Type D
Low	I	II	II	III*
Medium	I	II	III*	IV
High	I	III	IV	V
Highest	III	IV	V	V

Source: ASHE ICRA 2.0 Matrix of Precautions for Construction, Renovation and Operations (copyright 2022 ASHE). The asterisk is explained in the next list.

Four rules on the matrix pages change the containment package, and teams often miss them:

- **Permit trigger.** An infection control permit and approval are required for Class III when the work is Type C, and for every Class IV or V job.
- **Environmental hazards raise the class.** Sewage, mold, asbestos, gray water, and black water require Class IV in Low and Medium risk groups and Class V in High and Highest, whatever the activity type. Pair this with the site's guides on mold remediation containment and asbestos and lead abatement.
- **The asterisk.** Class III areas from Type C work in Medium risk or Type D work in Low risk that cannot be sealed and fully isolated from occupied patient-care space should be raised to include the Class IV negative air exhaust requirements.
- **Surroundings can add controls.** Table 4 has you consider noise, vibration, dust, ventilation, pressurization, vertical shafts, and elevators and stairs for each neighboring unit, along with impacts on data, mechanical, medical gas, and hot and cold water. Use the higher risk group if more than one is affected.

A wrinkle to settle in your policy: Table 5 says Class II "must never be used for construction or renovation activities." Table 3, however, assigns Class II to Type B and Type C work in Low risk areas, and Type C includes single-room renovation and new drywall. Read literally, the two tables leave a Low-risk Type C renovation without a clear answer. Many programs settle this by applying at least Class III dust controls to any work that meets the Type C definition, wherever it is. Decide this in writing with infection prevention rather than leaving it to each project.

For a step-by-step walkthrough of the matrix, see how to use the ASHE ICRA 2.0 matrix and how to perform an ICRA before a renovation. For who signs, see who should be on the ICRA team and the infection preventionist's role.

Who the barrier protects: aspergillosis and the severely immunocompromised patient. In a hospital, the people most at risk from construction dust are usually not the workers. They are the patients nearby. The Fungal Infection Trust, a UK charity (registered charity no. 1147658), says Aspergillus infections "can be fatal in people undergoing treatments for cancer, after transplant, and those whose immune system is suppressed for whatever reason, including steroid treatments" (Fungal Infection Trust). Its educational site, the Aspergillus Website, notes that "people with a healthy immune system have little to fear from inhaling the amounts of fungal spores normally present in the air" (Aspergillus Website, 2012).

The link to building work is well documented. The Aspergillus Website is funded by the Trust and maintained by a team at the University of Manchester (About the Aspergillus Website). It states: "It is widely accepted that invasive aspergillosis can be linked to demolition, excavation, construction and refurbishment activities within or close to hospital sites" (Aspergillus Website, 2016). The site also summarized a 2018 outbreak report from a Japanese haematology ward (Kaya et al., *Internal Medicine*, 2018): "In this case, a partition with sealed windows and HEPA filtration was built between the building works and the patient areas. After the outbreak a negative-pressure unit was added, which appeared to halt the outbreak. The authors note that ceiling demolition is a particularly risky activity as it produces a lot of dust" (Aspergillus Website, 2018).

What that means for the matrix. These are the patients the matrix's higher risk groups exist to protect. It is why Type C and D work in High and Highest risk areas lands in Class IV or V. At those classes, ICRA 2.0 calls for:

- critical barriers that meet NFPA 241 and reach the deck when ceiling tile is out
- sealed penetrations
- isolated return and supply diffusers
- a negative airflow pattern from the entry, through the anteroom, into the work area
- negative pressure across the whole workspace, held by HEPA exhaust air systems directed outdoors

If exhaust is directed indoors, it must be HEPA filtered, and the filtration must be verified by particulate measurement at no less than 99.97% efficiency before work starts (ASHE ICRA 2.0 matrix, PDF). CDC's construction recommendations likewise ask for barriers that are "impermeable to fungal spores and in compliance with local fire codes" (CDC/HICPAC, 2003). The ceiling-demolition lesson is the reason above-ceiling access near these units needs its own controls. See ceiling access and penetrations and negative pressure and HEPA exhaust below, and our posts on Aspergillus risk during hospital construction and protecting immunocompromised patients during renovation.

Containment controls by class (I to V)

The table below condenses Table 5 of ASHE ICRA 2.0 into containment elements. "Policy" means ICRA 2.0 leaves the detail to the facility. Your permit should still make the choice explicit.

Element	Class I	Class II	Class III	Class IV	Class V
Nature of work	Non-invasive, no dust, not in occupied patient areas	Limited-dust facilities work under standing precautions; never construction	Active dust prevention	Critical barriers per NFPA 241	Critical barriers per NFPA 241 plus anteroom

Element	Class I	Class II	Class III	Class IV	Class V
Barrier	None; replace displaced ceiling tile	Per standing procedure	HEPA vacuum, poly containment, or closed room door; seal doors with non-residue tape	Plastic or hard, to ceiling or to deck if tile removed; affixed and secured; gaps taped	Same as Class IV, including anteroom barriers
Penetrations	n/a	n/a	Not itemized	Seal all, including floor and ceiling; UL firestop where applicable	Same, including anteroom
HVAC in zone	n/a	Policy	Remove or isolate return and supply diffusers	Same	Same
Pressure	n/a	n/a	If contained: neutral to negative at all times	Entire zone negative; cascade from outside to inside	Same
Exhaust	n/a	n/a	Not specified (see asterisk rule)	HEPA exhaust directed outdoors; unfiltered allowed only 25 ft or more from entrances, intakes, windows; indoor discharge must be HEPA verified at 99.97% or better before work; no shared or recirculating systems	Same
Monitoring	n/a	n/a	Not specified	Device on containment exterior that monitors negative pressure continuously; visual indicator recommended	Same
Anteroom	n/a	n/a	n/a	Airflow must cascade from the entry point to the anteroom and into the work area	Required; sized for staging, cart cleaning, workers; adjacent to entrance
Worker clothing	n/a	n/a	n/a	Free of visible dust on exit (HEPA vacuum or cover suits); shoe covers on entry, changed before leaving anteroom	Disposable coveralls at all times, removed in anteroom; shoe covers as Class IV

Element	Class I	Class II	Class III	Class IV	Class V
Mats and waste	n/a	n/a	Adhesive mat per policy; hard-lidded, smooth, cleanable containers damp-wiped before leaving	Same	Same
Particulate data	n/a	n/a	n/a	Consider; may verify HEPA efficiency	Consider; may verify HEPA efficiency

Deeper class pages: ICRA Class III barrier requirements, Class IV construction barriers, and Class IV and Class V requirements.

Barrier types: soft, rigid, modular, and fire-rated

On barrier material, ASHE's Class IV and V precautions do not ban plastic. They require that "all (plastic or hard) barrier construction activities must be completed in a manner that prevents dust release," with barriers meeting NFPA 241 (ASHE ICRA 2.0 matrix, PDF). See how that plays out by class in our matrix breakdown. Whatever the material, the barrier has to be fixed to floor and ceiling, protected from movement or damage, and sealed at the gaps. The CDC guideline is more prescriptive by duration. It says portable plastic enclosures with negative pressure and HEPA-filtered exhaust suit short, low-dust jobs such as above-ceiling cabling. Fire-resistant plastic curtains sealed ceiling to floor with overlapping sheets may be adequate for extensive but short-term work. Rigid noncombustible walls covered with sheet plastic are indicated for long-term projects that produce moderate to large amounts of dust.

System	Typical fit	Strengths	Watch-outs
Closed room door plus taped seals	Class III small jobs in a room with a door	Fast; no new construction	Door undercut and frame leak; door must not be propped; supply diffusers can push the room positive
Portable containment cart or ECU	Above-ceiling access; ICRA 2.0 accepts approved units for Class IV in small areas fully enclosed by the unit with HEPA-filtered exhaust	Repeatable, quick to deploy, small footprint	Seal to ceiling grid; annual or policy-based filter and integrity checks; only covers the area under the unit
Fire-retardant poly on pole or zipper systems	Class III; short-duration Class IV where allowed by policy	Low cost, fast, adaptable	Tears, billows under negative pressure, loses tape seal at floor and ceiling; check fire-retardant labeling and the duration your AHJ allows
Framed poly or poly over rigid frame	Medium-duration Class III and IV	Stiffer than freestanding poly; holds pressure better	Still a soft skin; penetrations and corners leak
Modular rigid panel systems	Class IV and V, phased projects, high-traffic corridors	Reusable; low dust on install and removal; better sound control; easier to hold pressure	Check the fire test data for the specific assembly; gaskets wear; doors and closers must be maintained

System	Typical fit	Strengths	Watch-outs
Gypsum board on studs (hard barrier)	Long-duration Class IV and V; where a fire-rated or smoke-resisting temporary separation is required	Durable, secure, can be built as a rated assembly	Building and demolishing it makes dust, so put up poly first and put it back up for removal; cutting drywall is prohibited during ICRA 2.0 removal

Decision rules that hold up in the field:

- Pick the barrier for the *longest* phase it will see, not the first week. A curtain that holds on day one can billow and tear by week three of demolition.
- If the barrier sits in a corridor that patients, carts, or beds will pass, assume impact and choose rigid.
- If the barrier stands in for part of a required fire or smoke separation, or blocks or changes egress, life safety picks the material and rating first. Infection control then adds seals and pressure. Our fire rating for temporary construction barriers post covers the tiers.
- Whatever the material, treat seams, corners, and the top and bottom tracks as the barrier. Most leaks happen there.

More detail: soft vs. hard containment barriers and polyethylene thickness for ICRA barriers.

Ceiling access, floor-to-deck, and MEP penetrations

Ceiling access

ICRA 2.0 defines Type A ceiling work narrowly: removing ceiling tile for visual inspection, limited to one tile per 50 square feet, with limited exposure time. Prolonged above-ceiling work, such as running conduit or cable, repairing firewalls and barriers, or accessing mechanical or electrical chases, is Type B. Opening a new cable pathway or doing invasive electrical work above ceilings is Type C. Class I requires any displaced tile to be replaced immediately before leaving or at the end of the work. The CDC guideline lists crawling into ceiling spaces in a way that may dislodge dust as an activity that needs a barrier. For major ceiling work in patient-care areas, it calls for plastic sheets or prefabricated plastic units with negative pressure, exhausting through a portable industrial-grade HEPA unit rated for 300 to 800 cfm or directly outdoors.

- Use an above-ceiling permit that records the tile count, location, duration, and class.
- Put a containment cart or tent under the opening for Type B work and above in patient areas.
- HEPA vacuum tile tops and the grid around the opening before closing up.
- Never leave open tiles overnight in a patient area.

Floor-to-deck

Class IV and V barriers must reach the ceiling, or the deck above when tile is removed. The CDC guideline goes further for rigid long-term barriers. It calls for running them floor to floor, which accounts for the space of roughly 2 to 8 feet above the lay-in ceiling. In practice, if the plenum above the work zone connects to occupied space, a barrier that stops at the grid does not contain the air. Air will travel over the top. Seal at the deck, around flutes in metal decking, and around everything passing through the plenum.

MEP penetrations

ICRA 2.0 requires sealing all penetrations in containment barriers, including floors and ceilings, using approved materials. It adds UL-listed firestop "if applicable for barrier type." Two different reviews apply to one hole:

- **Infection control:** is the hole airtight under negative pressure? Pipe, conduit, cable bundle, duct, and sprinkler drops all count.
- **Life safety:** does the hole pass through a rated assembly, whether existing or temporary? If so, a listed firestop system for that assembly and penetrant is required, and it must be documented. A temporary penetration through an existing rated wall is a life-safety impairment until it is restored. Assess it under your ILSM policy.

Keep a penetration log for the containment: location, penetrant, seal or firestop system used, installer, date, and the date of re-inspection.

Anterooms and the entry path

ICRA 2.0 explicitly requires a constructed anteroom for Class V. It must be large enough for equipment staging, cart cleaning, and workers, and it must sit next to the entrance of the work area. The Class IV text requires the negative airflow pattern to run "from the entry point to the anteroom and into the construction area," and requires shoe covers to be changed "prior to exiting the anteroom." In other words, the Class IV text assumes there is an anteroom without spelling out how to build one. Many facility policies require an anteroom or vestibule for every Class IV job. Write your rule into the permit template so contractors are not left guessing.

Function	Practical requirement
Pressure step	Occupied side, then anteroom, then work zone, each lower than the last; verify direction at both doors
Doffing	Room to remove Class V coveralls and change shoe covers without stepping back into the work zone; waste receptacle inside
Cart and tool cleaning	Space to damp-wipe carts, tools, and waste containers before they leave
Door discipline	Self-closing doors; only one door open at a time; nothing propped open
Signage and records	Permit posted; pressure display visible from outside; sign-in and inspection log
Mats	Adhesive or walk-off mat sized so both feet contact it (the CDC guideline places tacky mats inside the construction zone at the entry)

Build details are in building an anteroom for healthcare construction.

Negative pressure, HVAC isolation, and HEPA exhaust

Isolate the HVAC first

ICRA 2.0 Classes III to V require removing or isolating **return** diffusers, so dust does not enter the building system, and **supply** diffusers, so the space does not go positive. The CDC guideline adds two steps. Make sure the air-handling system in the affected area is working properly after the barriers go up and before the area is set to negative pressure. When vibration work could dislodge dust in ductwork serving occupied spaces, or when

that ductwork is modified, temporarily filter the supply grilles. Coordinate with controls staff. Capping diffusers changes static pressure in the duct system and can move air balance in nearby rooms, including rooms with design pressure relationships under ASHRAE 170.

Route the exhaust

- **Outdoors, 25 ft or more** from entrances, air intakes, and windows: ICRA 2.0 does not require HEPA filtration on this stream.
- **Indoors:** must be HEPA filtered. Before work starts, filtration must be verified by particulate measurement as no less than 99.97% efficient, and it must not change airflow or pressure relationships in other areas.
- **Never** into shared or recirculating HVAC, or shared exhaust such as bathroom exhaust.
- The CDC guideline notes window chutes for large debris are acceptable only while the negative pressure differential is maintained. It also recommends sealing work-zone windows where practical.

Size the machines

Neither ICRA 2.0 nor the CDC guideline sets a construction-zone air change rate. Size the equipment so it holds the target differential with the barrier you actually built, after allowing for leakage and duct losses. A working approach engineers use:

- Start from zone volume and a design air change rate set in your ICRA plan (for example, the value your engineer or policy chooses). Required flow in cfm equals volume in cubic feet times air changes per hour, divided by 60.
- Add margin for leakage. Soft barriers leak more than gasketed rigid panels.
- Derate for flexible duct runs and loaded filters, and confirm actual flow at the discharge, not just the nameplate.
- Verify with the differential reading, not the calculation.

HEPA machine operations

- Check pre-filters at start-up every shift. Loaded pre-filters cut airflow and pressure.
- Bag spent filters before transport. The CDC guideline says to bag old filters before moving them.
- Keep negative air running after dust-producing work ends and before critical barriers come down. ICRA 2.0 Table 6 requires this.
- Plan power so machines are not on circuits that will be shut down. Put machines on emergency power if your ICRA calls for it.

Why the pressure matters beyond the zone: the CDC guideline describes an aspergillosis outbreak among oncology patients that was traced to depressurization of the building housing the HSCT unit during construction in an adjacent building. Pressure readings there ranged from 0.1 to 5.8 Pa, and unfiltered outdoor air entered through doors and windows. Containment design has to account for the building pressure balance as well as the box. See negative air pressure in hospital construction and HEPA-filtered negative air machines. For design-side ventilation context, see ASHRAE 170 ventilation, pressure, and air changes and how ASHRAE 170 interacts with FGI.

Pressure monitoring: what is required and what is practice

What ICRA 2.0 requires: for Class IV and V, a device on the exterior of the containment that continuously monitors negative pressure. A visual pressure indicator is recommended so anyone can see the pressure is being held. For Class III, the contained area must be neutral to negative at all times.

What CDC says: create and maintain negative pressure in work zones next to patient-care areas, monitor negative airflow inside rigid barriers, and monitor the construction area daily for compliance with the infection-control plan. CDC also recommends daily monitoring and documentation of negative airflow in airborne infection isolation rooms and of positive airflow in protective environment rooms near construction.

What neither sets: a numeric minimum differential for construction containment. The 2.5 Pa (0.01 in. w.c.) figure that appears in many hospital construction policies comes from CDC's design values for AII and protective environment rooms, not from a construction requirement in the CDC guideline or ICRA 2.0. Vendor and trade articles that cite a single "required" construction number, such as minus 0.03 in. w.c. "per FGI and ICRA 2.0", are not supported by the ICRA 2.0 tool text. Put your set point and alarm threshold in the ICRA permit, and have engineering and infection prevention sign it.

Method	What it proves	Best use	Limits
Digital recording manometer with alarm	Continuous differential, with a time-stamped record	Class IV and V primary device; after-hours alerting	Needs calibration, a correctly placed reference tube, and someone who answers the alarm
Analog differential gauge	Instant differential at a glance	Visual indicator at the entrance; backup	No record unless someone logs it
Smoke tube or tissue test at door gaps	Direction of airflow at one point and one moment	Daily spot checks; locating leaks	Not a measurement; door opening skews it
Ball or flutter indicator	Direction only	Low-cost visual cue for staff	No magnitude; easily ignored
Particle counts at barrier perimeter	Whether particles are escaping; HEPA efficiency	Verifying barrier integrity (CDC Category II); HEPA verification before indoor discharge	Needs a baseline or comparison area to interpret

- Measure between the work zone and the space you are protecting, usually the corridor or the anteroom. Record which pair the reading represents.
- Zero and calibrate per the manufacturer and your policy, and keep the records with the project file.
- Decide in advance who receives after-hours alarms and how quickly someone must respond. A data log nobody reads protects no one.
- If a protective environment or AII room is nearby, trend that room's pressure for the length of the project too.

Setup and records: monitoring pressure differentials during hospital construction. AII context: ASHRAE 170 requirements for AII rooms.

Dust control, walk-off mats, debris, and traffic

The barrier contains dust, and dust control keeps the barrier from being overwhelmed. The CDC guideline's construction table and its numbered recommendations give the operational core:

- **Mats:** tacky or adhesive mats inside the entrance, big enough that both feet land on them. ICRA 2.0 requires an adhesive mat at the entrance of contained work areas per facility policy, changed routinely and when visibly soiled. Keep a separate walk-off mat on the clean side if your policy calls for one.
- **Cleaning:** clean the work zone and its entrances daily or more often. Wet mop, or HEPA vacuum carpeted areas daily. Outside non-contained areas, ICRA 2.0 calls for damp mopping or HEPA vacuuming.
- **Tools and carts:** damp-wipe before they leave the zone.
- **Debris:** keep it contained in the work area. Move it in smooth, hard-lidded containers damp-wiped before they leave. Mist and cover debris carts. Schedule removal for times when patient exposure is lowest, and use a designated route.
- **Traffic:** designated construction entrances, corridors, and elevators where practical. Do not transport patients on the same elevator with construction materials and debris. Provide essential services (such as toilets) inside the zone on long projects to cut traffic.
- **Clothing:** protective outer clothing comes off before entering clean areas. ICRA 2.0 Class IV allows HEPA vacuuming or cover suits, and Class V requires disposable coveralls.
- **Moisture:** store materials dry, do not install wet porous materials, and replace water-damaged porous materials that cannot be dried within 72 hours.
- **Laboratories:** the CDC guideline cites pseudo-outbreaks traced to construction dust near labs and blood culture storage. Treat labs, pharmacy compounding, and sterile storage next to a project as protected spaces in Table 4.

The ICRA 2.0 matrix also lists noise and vibration strategies that double as dust strategies: wet core drilling instead of dry or percussion, wet diamond saws instead of jackhammering, beam clamps instead of powder-actuated fasteners, HEPA vacuums instead of standard wet/dry vacuums, and prefabrication where possible.

Utility shutdowns and system impacts

Table 4 of ICRA 2.0 requires you to identify impacts on data, mechanical, medical gases, and hot and cold water for every surrounding unit. Its mitigation strategies are to schedule outages, provide temporary systems, and back-feed electricity or medical gases. Fan shutdown and startup are listed as Type B activities in their own right. A short HVAC outage near a high-risk unit therefore needs its own ICRA, not just a maintenance ticket.

Event	Containment question	Typical controls
AHU or exhaust fan shutdown	Will adjacent protective rooms lose pressure? Will the zone go positive?	Schedule with affected units; temporary exhaust; trend pressures; restart sequence verified
Ductwork tie-in or modification	Will dust shake loose into occupied supply?	Temporary supply-grille filters (CDC); isolate branches; clean before reconnecting
Domestic water shutdown or tie-in	Stagnation, sediment, and waterborne pathogen risk on restart	Flush per facility procedure after work (CDC); coordinate with water management program
Medical gas outage	Patient safety and verification on restoration	Back-feed or temporary supply; verification per NFPA 99 program before return to service

Event	Containment question	Typical controls
Fire alarm or sprinkler impairment	Life safety, not infection control, governs, but barrier and egress changes interact	ILSM assessment, fire watch per policy, notifications (see next section)
Electrical outage affecting negative air machines	Containment loses pressure silently	Machines on circuits outside the outage scope; alarm; work stops if pressure is lost

Water-side risks: water system risks during healthcare construction, ASHRAE 188 water management plan requirements, and Legionella water management programs. Medical gas: medical gas systems under NFPA 99. Downtime planning: reducing downtime across critical systems.

Sterile processing and surgical suites. ICRA 2.0 places the clean side of sterile processing, OR theaters and restricted areas, procedural suites, and pharmacy compounding in the Highest risk group. The dirty side of SPD is Medium. Work near the clean side or sterile storage usually lands in Class IV or V, and utility outages there can affect steam, water quality, humidity, and pressure. See sterile processing and AAMI ST79, operating room HVAC, and filtration for surgical suites under ASHRAE 170.

ILSM and life-safety overlap

In an occupied hospital, every containment barrier is also a life-safety question. Barriers can block exits, lengthen travel distance, hide fire extinguishers and pull stations, interrupt smoke compartments, or add combustible material. ICRA 2.0 itself ties Class IV and V critical barriers to NFPA 241, the *Standard for Safeguarding Construction, Alteration, and Demolition Operations*.

Regulatory frame. CMS requires hospitals to meet the Life Safety Code (NFPA 101, 2012 edition, with listed TIAs) under 42 CFR 482.41(b). Federal regulations don't use the term "ICRA." The hospital infection-control Condition of Participation requires programs that "demonstrate adherence to nationally recognized infection prevention and control guidelines" (42 CFR 482.42). Under the Joint Commission's Accreditation 360 hospital manual, effective January 1, 2026, the former Environment of Care and Life Safety chapters were combined into a Physical Environment (PE) chapter. Interim life safety measures now sit at **PE.03.02.01** (formerly LS.01.02.01), which covers protecting occupants when the Life Safety Code is not met or during construction. Building safety and facility management, including Health Care Facilities Code expectations, sits at **PE.04.01.01**. ICRA itself stays an infection prevention and control obligation, separate from PE. For the chapter-level picture, see Accreditation 360: the 2026 Physical Environment standards. For the federal side, see CMS CoP environment of care requirements.

Barrier decision	Infection control asks	Life safety asks
Barrier location	Does it fully separate the dusty zone from patients and intakes?	Does it block or reduce exit access, exits, or corridor width? Are alternate routes signed?
Material	Will it hold a seal under negative pressure for the project duration?	Is it noncombustible or flame-resistant as required? Does it need a fire-resistance or smoke-resisting rating where it replaces a separation?
Doors	Self-closing, sealed, one-at-a-time in the anteroom	Swing, latching, hardware, and egress function; not locked against required egress

Barrier decision	Infection control asks	Life safety asks
Penetrations	Airtight	Listed firestop where rated; impairment logged until restored
Ceiling openings	Barrier to deck; plenum sealed	Smoke barrier continuity above the ceiling; sprinkler coverage and obstruction
Negative air ducting	Exhaust route and HEPA status	Ducts through rated walls, doors held open by ducts, and exit obstruction

Run the ILSM assessment and the ICRA from the same drawings and keep them in the same packet. The site's ILSM series goes deeper: what ILSM are, when ILSM are required, ILSM on small projects, documenting ILSM, who is responsible for ILSM, ILSM and the fire safety plan, ILSM staff training, how long ILSM stay in effect, and common ILSM deficiencies. For the side-by-side, see ILSM vs. ICRA in healthcare construction. For the code background, see NFPA 241 and healthcare construction, the NFPA 101 Life Safety Code guide for healthcare, and defend-in-place strategy.

Fire alarm and sprinkler outages: two different clocks. Utility shutdowns, tie-ins, and above-ceiling work often impair fire protection while containment is up. CMS's fire safety survey report for hospitals, Form CMS-2786R, sets the fire alarm threshold at tag K346: "Where required fire alarm system is out of services for more than 4 hours in a 24 hour period, the authority having jurisdiction shall be notified, and the building shall be evacuated or an approved fire watch shall be provided for all parties left unprotected by the shutdown until the fire alarm system has been returned to service" (Form CMS-2786R (07/2018), K346, page 22).

For sprinklers, the hospital Condition of Participation states: "When a sprinkler system is shut down for more than 10 hours, the hospital must: (i) Evacuate the building or portion of the building affected by the system outage until the system is back in service, or (ii) Establish a fire watch until the system is back in service" (42 CFR 482.41(b)(8)). The same form carries the sprinkler outage rule at tag K354 (Form CMS-2786R, K354, page 24). Put the impairment start time, the authority notification, any fire watch log, and the ILSM assessment in the same packet as the ICRA permit. That way a shutdown that runs long does not cross a threshold unnoticed.

Trade reading (not a primary source): Life Safety Express, a healthcare life-safety consultancy in Gallatin, Tennessee, adds two field cautions.

- **A short outage still needs a risk assessment.** "Facilities should not treat four hours as a permission to ignore a shorter shutdown; risk assessment, notification, and temporary measures can be necessary immediately based on the condition."
- **A fire watch is not the same as an ILSM.** "A fire watch is a specific temporary compensatory measure involving assigned personnel and an approved procedure." And: "A fire watch may be one action within a larger interim plan, but completing an ILSM form does not by itself satisfy a required fire watch."

Source: Life Safety Express, "Temporary Fire Protection Impairments: Fire Watch Requirements and ILSM Decision Paths" (2026).

Daily monitoring and breach response

The CDC guideline calls for monitoring the construction area daily for compliance with the infection-control plan. It also calls for monitoring barriers, repairing gaps or breaks in barrier joints, and building

infection-control adherence into construction contracts, with penalties for noncompliance and ways to make sure problems get corrected promptly. ICRA 2.0 leaves the inspection frequency to the facility. A workable split:

Role	Frequency	Focus
Contractor superintendent or foreman	Start of each shift and end of day	Barrier, pressure reading, machines, mats, doors, housekeeping; log entry
Facilities or project manager	Daily for Class IV and V; per policy for Class III	Log review, HVAC isolation, exhaust route, penetrations, ILSM items
Infection preventionist or designee	Per permit (commonly at start-up, then on a set cadence, and after any breach)	Containment integrity, clinical-side dust, adjacent unit concerns, surveillance signals
Clinical unit leaders	Ongoing	Report dust, odors, noise, door propping, or pressure alarms

Breach response sequence:

- Stop dust-producing work in the affected zone.
- Restore the seal or pressure, and find the cause (torn poly, propped door, loaded filter, power loss, HVAC change).
- Clean outside the barrier as far as dust may have traveled, using HEPA vacuuming and damp wiping.
- Notify infection prevention and the affected unit. Decide with the IP whether to relocate patients, check pressures in nearby protective rooms, or add particle counts.
- Document the time found, duration, cause, actions, and who approved restarting.
- If a healthcare-associated aspergillosis or other airborne fungal case occurs during or right after construction, the CDC guideline recommends reviewing the pressure differential records for the construction zone and protective environment rooms and correcting the engineering problems. The logs are evidence, so keep them.

Cadence by class: how often ICRA monitoring should be done. Rounding practice: environment of care rounds and corrective action.

Checklists: pre-construction, daily, teardown, sign-off

Pre-construction checklist

- ICRA completed on the current ASHE ICRA 2.0 tool: activity type, highest patient risk group, class, Table 4 surrounding-area assessment.
- Environmental hazards checked (mold, asbestos, sewage, gray and black water), with the class raised if present.
- Asterisk rule applied for Class III areas that cannot be sealed from patient space.
- Permit signed by infection prevention and facilities (required for Class III Type C, IV, and V).
- ILSM assessment completed on the same drawings, with measures listed.
- Barrier material, rating, and drawings approved, including anteroom layout, doors, and egress changes.

- HVAC isolation plan: which supply and return diffusers are capped, and whether adjacent space balance is checked.
- Exhaust route chosen: outdoors at 25 ft or more from openings, or HEPA indoors with pre-start particle verification.
- Pressure set point, alarm threshold, monitoring device, after-hours alert recipient, and response time written into the permit.
- Utility outages identified and scheduled with affected units, with temporary systems arranged.
- Traffic routes, construction elevator, debris route and times, and worker entrance designated.
- Patients in high-risk adjacent rooms assessed for relocation (CDC). Unit staff briefed.
- Contractor and staff education done. Infection-control adherence clause is in the contract.
- Baseline readings recorded: adjacent protective room pressures, and particle counts if your program uses them.
- Barrier built without releasing dust, inspected, and pressure verified before any dust-producing work begins.

Daily inspection checklist

- Permit and class posted and current. Scope has not grown beyond the permit.
- Barrier intact: no tears, gaps, or loose tape at floor, ceiling, seams, corners. Rigid panels and gaskets seated.
- Barrier continuous to the deck where tile is removed. Plenum openings sealed.
- Penetrations sealed. New penetrations logged.
- Doors self-close and latch, nothing propped, one anteroom door open at a time.
- Pressure display reading within set point. Log reviewed for overnight excursions. Alarm tested per policy.
- Airflow direction confirmed at doors with a smoke tube or tissue.
- Negative air machines running, pre-filters acceptable, ducting intact, discharge at the approved location.
- Supply and return diffusers in zone still capped.
- Adhesive mats clean and changed when soiled.
- Housekeeping: inside zone cleaned, corridor outside clean, no tracking.
- Debris contained, carts covered, containers damp-wiped before leaving.
- Workers following clothing and shoe-cover rules for the class.
- ILSM items in place: exits clear, alternate routes signed, extinguishers accessible, fire watch if required.
- Any breach or complaint documented with corrective action.

Barrier teardown and cleaning checklist (from ICRA 2.0 Table 6 and CDC)

- All drywall removal, dust-producing work, and anything beyond simple touch-up is finished. Barriers stay up until then.

- Work area cleaned: all environmental surfaces, high horizontal surfaces, and flooring. Supply and return registers checked for dust.
- Negative air kept running for a period after dust-producing work ends and before critical barriers are removed.
- Visible mold checked for and eliminated if present (CDC).
- For rigid barriers: barrier curtains in place to contain dust before removal (CDC). Screws and painter tape removed carefully. Hand-held HEPA vacuum used where screw removal raises dust. **No drywall cutting during removal.** Stud tracks HEPA vacuumed before the outer hard barrier comes down. Plastic enclosure used if dust could be generated.
- Area cleaned again of any dust generated during removal.
- HVAC isolation removed after the critical barriers come down. Filters cleaned or replaced with dust containment. Spent filters bagged.
- Water system flushed where lines were affected (CDC).

Sign-off checklist

- Class III (Type C only), IV, and V: area inspected by an infection preventionist or designee *and* an engineering representative before precautions are discontinued or downgraded (ICRA 2.0 Table 6). Inspection documented.
- HVAC verified clean and operational and meeting original airflow and air exchange design specifications (ICRA 2.0 Table 6). Appropriate ACH, humidity, and pressure differentials restored (CDC).
- For ORs and protective environments: designed air balance achieved and space commissioned before occupancy (CDC).
- Fire and smoke separations restored, penetrations firestopped, ILSM closed out and documented.
- Environmental services terminal clean completed before patients return.
- Project file closed out: permit, pressure logs, inspection logs, breach reports, HEPA verification, penetration log, sign-offs.

Cleaning standards: terminal cleaning protocols. Commissioning: HVAC commissioning, testing, and balancing.

Infection prevention during renovation: the clinical side

A tight barrier does not finish the job. The CDC guideline’s construction recommendations reach into clinical practice. Its points, in plain terms:

- **Multidisciplinary team from the start.** Include infection control staff in coordinating demolition, construction, and renovation, and keep a record of the team’s activities.
- **Education both ways.** Teach the construction team and staff in immunocompromised care areas about airborne infection risks from construction, how fungal spores spread, and how to control them.
- **Surveillance.** Establish surveillance for airborne environmental disease such as aspergillosis during construction, including active surveillance in immunocompromised patients and periodic review of microbiology, histopathology, and postmortem data. CDC makes no recommendation for routine

microbiologic air sampling before, during, or after construction. It lists that as unresolved.

- **Relocation decisions.** Relocate patients whose rooms are adjacent to work zones depending on immune status, project scope, and dust or water aerosol potential. CDC notes N95 respirators were well tolerated by patients in one outbreak response but says routine patient respirator use remains unresolved.
- **External work counts.** For outdoor demolition and excavation: decide whether the facility can temporarily run on recirculated air and seal nearby intakes. If not, check and change roughing filters more often. Seal windows and reduce outside-air entry, especially in protective environment areas.

Related: protecting immunocompromised patients during renovation, should patients be relocated?, communicating construction risks to clinical staff, coordinating clinical and facility teams, how FGI affects renovation projects, and the infection control professional guide. For survey context, see how The Joint Commission surveys infection control.

Where containment fails in the field

Failure	Why it happens	Fix
Barrier stops at the ceiling grid	Plenum not considered; tiles removed later	Barrier to deck at setup whenever tiles may come out; re-check when scope changes
Zone goes neutral or positive	Supply diffuser left open; door propped; loaded pre-filter; power lost to machine	Cap supply; door closers; filter checks each shift; alarmed monitor with a named responder
Adjacent protective room loses pressure	Building balance shifted by capped ducts or extra exhaust	Trend protective rooms during the project; coordinate with controls before changes
Soft barrier fails mid-project	Chosen for week one, not the demolition phase	Select for the worst phase; upgrade to rigid when the class or duration grows
Dust track-out in corridor	Mats too small or not changed; shoe covers not changed in anteroom	Mats sized for both feet; change schedule; anteroom discipline
Dust release at teardown	Barriers removed before cleaning; drywall cut during removal	Follow ICRA 2.0 Table 6 sequence; IP and engineering sign-off first
Penetration left open after trades leave	No penetration log; firestop not in scope	Penetration log; daily check; firestop in contract
Permit no longer matches the work	Scope crept into another room or onto another unit	Reassess and re-permit; ICRA class follows the actual work

Products and systems (not endorsements)

The companies and resources below are listed for information only. They are not endorsements, Healthcare Facility Hub has no affiliation with them, and performance statements are each company's own claims. ASHE does not certify products against ICRA 2.0. The project's ICRA team decides whether an installed system meets the precautions for its class.

Rapid Room: a reusable, tool-free temporary wall system for occupied healthcare renovation, made by Imperial Privacy Systems in Pompano Beach, Florida. The company says it installs three times faster than drywall and offers an optional cloud-connected differential-pressure monitor that logs readings and sends alerts. It sells the system outright or rents it. rapidroom.com

STARC Systems: reusable modular containment walls in four lines (RealWall, LiteBarrier, FireblockWall, StackBarrier). The company says FireblockWall is listed by Intertek to ASTM E119 for a one-hour rating. The company says two workers can install about 100 feet of RealWall in an hour, and it publishes healthcare case studies, including Abbott Northwestern Hospital. STARC FireblockWall

Construction Containment Services (5DCCS): a San Jose, California subcontractor founded in 2024 that rents, installs, and removes modular containment walls across the Bay Area and Northern California. The company says it is a service-disabled veteran-owned small business, and federal contractor registration data list it that way. The company says it also holds California DVBE certification and supports VA medical center projects. 5DCCS healthcare containment

Healthcare Facilities Today: a trade publication from Trade Press Media Group covering healthcare facility management, design, and construction. It is a useful source for project news and operations articles. healthcarefacilitiestoday.com

Facility Guidelines Institute (FGI): the not-for-profit that develops the FGI Codes used by many states for healthcare design and construction. The 2026 FGI Codes and companion Handbooks were released August 31, 2026. FGI

FAQ

What is healthcare construction containment?

Healthcare construction containment is the set of barriers, airflow controls, entry procedures, cleaning, and records that keep construction dust and contaminated air inside a work zone in an occupied healthcare facility. The CDC/HICPAC Guidelines for Environmental Infection Control in Health-Care Facilities (2003), Part II tell facilities to construct barriers that keep construction dust out of patient-care areas. An infection control risk assessment (ICRA) sets the class of precautions; containment is how that class is built and maintained.

Which ICRA classes require negative pressure?

Under ASHE ICRA 2.0 (2022), Table 5, Class IV and Class V require the entire construction area to remain negatively pressurized, with airflow cascading from outside to inside. Class III requires a contained work area to be neutral to negative at all times. A note to Table 3 adds that Class III areas from Medium-risk Type C or Low-risk Type D work that cannot be sealed from occupied patient space should add the Class IV negative air exhaust requirements.

Is there a required pressure number for construction containment?

No. ASHE ICRA 2.0 (2022), Table 5 sets no numeric pressure for construction containment. For Class IV and V it requires a device on the outside of the containment that continually monitors negative pressurization, and recommends a visual pressure indicator. The 2.5 Pa (0.01 in. w.c.) value in the CDC/HICPAC Guidelines for Environmental Infection Control (2003) is a design value for isolation and protective environment rooms, not a construction requirement. Record your set point and alarm threshold in the ICRA permit.

Does Class IV require an anteroom?

ASHE ICRA 2.0 (2022), Table 5 explicitly requires a constructed anteroom only for Class V, built next to the work-area entrance and large enough for equipment staging, cart cleaning, and workers. The Class IV

precautions still assume one: negative airflow must run from the entry point to the anteroom and into the construction area, and shoe covers must be changed before exiting the anteroom. Write your facility's Class IV anteroom rule into policy.

Can plastic sheeting be used for Class IV or V?

Yes. ASHE ICRA 2.0 (2022), Table 5 allows plastic or hard barriers for Class IV and V if construction prevents dust release, plastic is affixed to floor and ceiling and secured from movement or damage, gaps are sealed with residue-free tape, and barriers meet NFPA 241. Separately, the CDC/HICPAC Guidelines for Environmental Infection Control (2003), Table 9, recommend durable rigid barriers for ongoing, long-term projects. Check your accreditor's and authority having jurisdiction's fire requirements for plastic barriers.

Where should HEPA exhaust go?

Outdoors, by preference. For Class IV and V, ASHE ICRA 2.0 (2022), Table 5 calls for HEPA exhaust directed outdoors, and exhaust discharged directly outdoors 25 feet or more from entrances, air intakes, and windows does not need HEPA filtration. Exhaust directed indoors must be HEPA filtered and verified by particulate measurement at no less than 99.97 percent efficiency before work starts. Exhaust into shared or recirculating HVAC or other shared exhaust systems is not acceptable.

How often should containment be inspected?

Daily, at minimum, under CDC guidance. The CDC/HICPAC Guidelines for Environmental Infection Control in Health-Care Facilities (2003), Table 9 say to monitor the construction area daily for compliance with the infection-control plan, and CDC also recommends monitoring barriers and repairing gaps in barrier joints. ASHE ICRA 2.0 (2022) sets no inspection frequency, so set the cadence, and who inspects, in the ICRA permit and facility policy.

Who can take containment down?

For Class III (Type C activities only), IV, and V, ASHE ICRA 2.0 (2022), Table 6 requires an infection preventionist or designee and an engineering representative to inspect the area, with documentation, before precautions are discontinued or downgraded. Critical barriers may not come down until the work area has been cleaned, and negative air devices must keep running after dust-creating work ends and until the critical barriers are removed.

How do ILSM and ICRA interact on the same barrier?

They are two separate reviews of one barrier. The ICRA sets dust and pressure controls. For Joint Commission-accredited hospitals, interim life safety measures fall under PE.03.02.01, which the Joint Commission Accreditation 360 Physical Environment webinar transcript (2025) describes as protecting occupants when the Life Safety Code is not met or during construction. Review both on the same drawings, because barrier location, material, doors, and penetrations matter to both.

Does a utility shutdown need an ICRA?

Often, yes. ASHE ICRA 2.0 (2022), Table 1 lists fan shutdown and startup as a Type B activity, so an HVAC outage near patient areas needs its own risk assessment and class. Table 4 of ICRA 2.0 also asks the team to identify impacts on data, mechanical, medical gas, and hot and cold water systems serving surrounding units, with mitigations such as scheduled outages and temporary systems.

References and further reading

Primary and authoritative sources used

- Facility Guidelines Institute. 2026 FGI Codes for Planning and Design (Hospital, Outpatient, Residential), released August 31, 2026; FGI is the primary source for the ICRA requirement in U.S. healthcare design and construction. fgicodes.org. Release announcement: FGI launches 2026 FGI Codes and Handbooks.
- American Society for Health Care Engineering. *ASHE ICRA 2.0 Matrix of Precautions for Construction, Renovation and Operations* (published April 20, 2022). ashe.org/icra2. Announcement: ASHE publishes updated infection control risk assessment.
- Centers for Disease Control and Prevention and HICPAC. *Guidelines for Environmental Infection Control in Health-Care Facilities* (2003, updated July 2019), developed with HICPAC. Part II recommendations: cdc.gov
- The Joint Commission. Accreditation 360, Updated Accreditation Manual: Physical Environment Chapter (webinar slides and transcript, 2025). jointcommission.org (webinar slides, PDF)
- Centers for Medicare and Medicaid Services. 42 CFR 482.41, Condition of participation: Physical environment (ecfr.gov), and 42 CFR 482.42, Infection prevention and control and antibiotic stewardship programs (ecfr.gov).
- National Fire Protection Association. NFPA 241, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*. nfpa.org
- National Fire Protection Association. NFPA 101, *Life Safety Code*. nfpa.org
- ASHRAE. ANSI/ASHRAE/ASHE Standard 170-2025, *Ventilation of Health Care Facilities* (read-only access page). ashrae.org

Optional trade reading

- Healthcare Facilities Today: facilities management, design, and construction news for healthcare buildings. healthcarefacilitiestoday.com

This guide is general information for planning and field use. It does not replace your facility's ICRA policy, your authority having jurisdiction, or the current editions of the codes and standards adopted where you operate.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Mil Polyethylene Requirements for ICRA Containment Barriers
- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- Air Sampling During Healthcare Construction — when sampling is used, and what it can and cannot prove

Sizing the negative air? The companion Negative-Air and CFM Calculator turns this zone's dimensions and target air changes into a machine count, with a printable sizing worksheet.

ASHRAE 188 Legionella Water Management Plan Requirements for Healthcare Facilities

Source: https://healthcarefacilityhub.org/ashrae-188-legionella-water-management-plan-requirements/
Published: October 5, 2026

ASHRAE 188 requires a documented water management plan for Legionella risk.

TL;DR: ASHRAE 188-2021 requires buildings with certain risk factors — including virtually all hospitals — to maintain a written water management plan that controls Legionella growth. For Medicare-certified facilities it's not optional: CMS memorandum S&C 17-30 tells surveyors to expect water management policies built on ASHRAE 188 and the CDC toolkit. The plan needs a team, system diagrams, hazard analysis, control measures, monitoring, corrective actions, and documentation.

ASHRAE 188 is the national standard that requires building owners to control Legionella risk in water systems through a formal, written water management plan. It doesn't prescribe exact temperatures or chemical levels — it requires you to identify your risks, set your own control limits, monitor them, and document everything.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Edition currency: Current as of ANSI/ASHRAE Standard 188-2021, *Legionellosis: Risk Management for Building Water Systems* (supersedes 188-2018). Companion guidance: ASHRAE Guideline 12-2023.

On this page

- What ASHRAE 188 requires
- Who needs a water management plan
- The 7 elements of a compliant plan
- CMS S&C 17-30: why surveyors ask about it
- Control measures that actually work
- ASHRAE 188 vs. Guideline 12
- Common survey deficiencies
- Frequently asked questions

What ASHRAE 188 requires

ANSI/ASHRAE Standard 188-2021 establishes **minimum legionellosis risk management requirements** for the design, construction, commissioning, operation, maintenance, repair, and expansion of building water systems — both potable and non-potable. The 2021 edition replaced permissive language with enforceable language specifically so the standard can be adopted into codes and regulations.

The core requirement is a **Water Management Program (WMP)**: a living, documented plan owned by a designated team. The standard is a framework, not a recipe — it tells you *what* the plan must address, while

your program team decides the specific policies, control limits, and procedures that fit your building.

Common misconception: "ASHRAE 188 tells us what temperature to keep our hot water at." It doesn't. The standard requires temperature *management* as a control measure and requires you to monitor it — but your program team sets the actual control limits based on your systems. (The CDC toolkit offers example limits most teams start from.)

Who needs a water management plan

Under ASHRAE 188, a WMP is required for buildings where a survey identifies heightened risk — which in practice captures **nearly every hospital**. Risk factors include:

- Healthcare facilities with inpatient beds, transplant units, oncology, or ICUs
- Buildings with cooling towers, decorative fountains, or other aerosol-generating devices
- Central hot-water systems serving multiple housing units
- Buildings over 10 stories
- Facilities housing immunocompromised occupants

Separately, **CMS requires it regardless of the survey outcome** (see below) — if you're Medicare-certified, you need the plan.

The 7 elements of a compliant plan

The CDC's toolkit — the practical companion CMS points facilities to — organizes a water management program into seven steps:

- **Establish a water management program team.** Multidisciplinary: facilities/engineering, infection prevention, administration, and often an outside water-treatment vendor. Someone owns it by name.
- **Describe the building water systems.** Written description plus flow diagrams: potable hot and cold, cooling towers, fountains, ice machines, hydrotherapy, irrigation — anywhere water sits or moves.
- **Identify where Legionella could grow.** Hazard analysis: dead legs, low-flow areas, tepid water zones, inadequate disinfectant residual, areas downstream of construction.
- **Decide control measures and how to monitor them.** For each hazard: what control applies, what the control limit is, and how you'll check it (temperature logs, disinfectant residual tests, visual inspections).
- **Establish corrective actions.** Pre-defined responses for when a control limit is missed — flushing protocols, shock disinfection, equipment repair — so staff act instead of improvising.
- **Verify the program works as designed.** Routine checks that monitoring is actually happening and control measures are effective.
- **Document and communicate.** Everything above in writing, current, and accessible to the team — and to surveyors.

CMS S&C 17-30: why surveyors ask about it

On June 2, 2017, CMS issued memorandum **S&C 17-30** (Hospitals/CAHs/Nursing Homes): *Requirement to Reduce Legionella Risk in Healthcare Facility Water Systems*. It requires Medicare-certified healthcare

facilities to have water management policies and procedures that reduce the risk of Legionella and other opportunistic waterborne pathogens.

The memo doesn't hand you a procedure manual — it points you at **ASHRAE 188 and the CDC toolkit** as the framework and expects your program to consider both. Surveyors are instructed to review whether the facility has implemented an effective program. In practice, "we follow ASHRAE 188" with documentation to prove it is the answer surveyors want to hear. For more on how construction activity disturbs water systems specifically, see our guide to water system risks during healthcare construction.

Control measures that actually work

Most hospital WMPs converge on the same handful of controls, because Legionella biology is consistent — it thrives in warm, stagnant water with biofilm and little disinfectant:

- **Temperature management** — keeping hot water hot and cold water cold throughout the distribution system, with no tepid zones.
- **Disinfectant residual** — maintaining measurable disinfectant (e.g., chlorine/chloramine) at distal outlets.
- **Flushing programs** — routine flushing of low-use outlets, dead legs, and areas affected by construction or low occupancy.
- **Equipment maintenance** — cleaning and disinfecting cooling towers, ice machines, showerheads, and storage tanks on schedule.
- **Construction coordination** — water disruptions during renovation get their own risk assessment, since pressure drops and stagnation seed colonization.

ASHRAE 188 vs. Guideline 12

ASHRAE 188 is the requirement; Guideline 12-2023 is the how-to. Standard 188 is written in enforceable code language — it says what you must do. Guideline 12 (*Managing the Risk of Legionellosis Associated with Building Water Systems*) is the companion that gives system-specific, prescriptive guidance: potable systems, cooling towers, fountains, spas, humidifiers, monitoring methods, even PPE considerations. Use 188 to satisfy the surveyor; use Guideline 12 to actually run the program.

Note the naming trap: **ASHRAE 188 covers water; ASHRAE 170 covers air.** They're different standards for different risks — our ASHRAE 170 ventilation guide covers the air side.

Common survey deficiencies

- **No written plan at all** — verbal assurances don't survive a surveyor's document request.
- **A plan nobody owns** — no named team, no assignments, no accountability.
- **No flow diagrams** — the team can't describe the system they're managing.
- **Monitoring without control limits** — logging temperatures nobody evaluates against a threshold.
- **Stale documentation** — a 2019 plan that predates two renovations and a cooling tower replacement.
- **Construction blind spot** — water disruptions during projects handled ad hoc instead of through the WMP.

Frequently asked questions

Does CMS require ASHRAE 188 specifically?

CMS S&C 17-30 requires Medicare-certified facilities to have water management policies and procedures, and directs them to consider ASHRAE 188 and the CDC toolkit as the framework. You won't be cited for "not owning a copy of Standard 188" — you'll be cited for not having an effective program, and 188 is the yardstick surveyors measure it against.

Does ASHRAE 188 require routine Legionella testing?

Not as a standing mandate. The standard requires monitoring of your control measures (temperature, disinfectant residual, etc.). Environmental testing for Legionella enters the picture when control limits are repeatedly missed, after corrective actions, or when cases are suspected — the CDC toolkit and CMS both discuss when testing is warranted.

Who should be on the water management team?

At minimum: facilities/engineering leadership, infection prevention, and administration. Most hospitals also include their water-treatment vendor and, during projects, construction management. One person should own the program by name.

How often should the plan be reviewed?

At least annually — and after any significant change: renovations, cooling tower work, water service disruptions, new wings, or a Legionella detection. A plan that doesn't reflect the current building is a plan that fails surveys.

Informational summary only — verify requirements against the current edition of ASHRAE 188 and applicable CMS guidance. This page does not reproduce copyrighted standard text.

Related reading

- Legionella Water Management Programs: ASHRAE 188, CDC Toolkit, and CMS Requirements
- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes
- ASHRAE 170 Requirements for Airborne Infection Isolation Rooms
- Preventing Legionella During Hospital Renovation — the construction-phase application of this water management plan

How Hospitals Coordinate Operations Between Clinical and Facility Teams

Source: https://healthcarefacilityhub.org/coordinate-operations-clinical-facility-teams/ Published: October 5, 2026

Nurse and facilities technician on joint environment-of-care rounds

What this page covers: how hospitals structure joint clinical and facilities work, including shared governance, joint environment-of-care rounds, one work-request system, and ICRA coordination. **Who it is for:** facility directors, nurse leaders, and infection preventionists who share responsibility for the care environment.

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This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Environment of Care Rounds series · Part 7 of 7 · Back to the EoC Rounds hub

Previous: Most common Joint Commission findings in hospitals

How do hospitals coordinate operations between clinical and facility teams?

Hospitals coordinate clinical and facilities work through **shared governance and joint planning**: facilities leaders at the table for clinical operations decisions (and vice versa), **joint environment-of-care rounds**, a **single work-request system** clinicians actually use, and **construction/renovation coordination** through the ICRA process. The coordination fails when facilities is treated as a vendor ("fix my room") instead of a partner ("help us design the unit"). Structure the relationship as a partnership and the work orders take care of themselves.

What good coordination looks like

- **Joint rounds:** facilities + nursing + infection prevention walking units together — one visit, all perspectives.
- **Shared committees:** environment of care, safety, emergency management — with real decision authority, not rubber stamps.
- **One request system:** a single CMMS front door for clinical staff, with priority levels both sides understand.
- **Project partnership:** facilities involved in clinical space planning from day one — not called after the design is done.
- **Language translation:** facilities learns clinical impact language; clinical learns constraint language. "The chiller is at 90%" means nothing to a nurse; "two ORs may get warm this afternoon" means everything.

Partners, not vendors. Translate everything.

See communicating construction risks and managing large campuses.

FAQ

The standing structures that make coordination real

Coordination that depends on goodwill fails at the first emergency. It holds when it is built into standing structures:

- **A standing clinical–facility huddle** — short, weekly, with a fixed agenda: planned shutdowns, construction impacts, recurring complaints, and the next two weeks of disruptive work. Surprises are the enemy; the huddle exists to eliminate them.

- **A shutdown and construction notification discipline** — affected units hear about planned utility interruptions, noise, and route changes before patients and staff encounter them, with the clinical contact named on the notice. The construction version of this discipline is detailed in communicating construction risks to clinical staff.
- **An escalation path with names, not departments** — when a pressure alarm, leak, or outage hits at 2 a.m., both sides know exactly who calls whom and who can authorize the fix.
- **Shared metrics** — response time to clinical work requests, shutdown-notice lead time, and repeat-issue counts, reviewed together so each side sees the other's constraints.

How should clinical and facilities teams work together?

Shared governance, joint environment-of-care rounds, a single work-request system, and facilities involvement in clinical planning from day one.

Why do clinical-facilities relationships break down?

Facilities treated as a reactive vendor instead of a planning partner — and jargon on both sides that obscures impact.

What are joint environment-of-care rounds?

Facilities, nursing, and infection prevention walking clinical units together to spot issues from all three perspectives in one visit.

How do hospitals coordinate operations between clinical and facility teams?

Through standing structures rather than goodwill: a weekly huddle on planned disruptive work, disciplined shutdown and construction notifications, a named 24/7 escalation path, and shared metrics reviewed by both sides.

More in the Environment of Care Rounds series

- EoC Rounds: inspection, documentation, and corrective action (hub)
- Joint Commission dropped the written EOC plans: what still applies
- Accreditation 360: the 2026 Physical Environment standards
- CMS Conditions of Participation: environment of care requirements
- How to prepare for a Joint Commission EoC survey
- Most common Joint Commission findings in hospitals

Previous: Most common Joint Commission findings in hospitals

Related reading

- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Hospital Evacuation Planning: Horizontal, Vertical, and Full Evacuation Protocols

How Healthcare Facility Managers Reduce Downtime Across Critical Systems

Source: https://healthcarefacilityhub.org/reduce-downtime-critical-systems-healthcare/ Published: October 5, 2026

Technician performing preventive maintenance on hospital critical systems

How do healthcare facility managers reduce downtime across critical systems?

Downtime reduction rests on **three pillars**: **prevent it** (PM compliance, predictive monitoring, and addressing the deferred maintenance backlog), **detect it fast** (building automation alarms, remote monitoring, and staff who report anomalies immediately), and **recover quickly** (documented contingency procedures, staged spare parts, vendor emergency agreements, and rehearsed switchover to redundant systems). The facilities with the least downtime aren't lucky — they're the ones with the highest PM completion rates.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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The downtime playbook

- **PM compliance above 90%:** the correlation between PM completion and unplanned outages is the strongest in the industry.
- **Criticality-ranked assets:** not every pump deserves the same attention — rank by clinical consequence of failure and maintain accordingly.
- **Predictive monitoring:** vibration, thermal, and electrical signature analysis on chillers, generators, and air handlers.
- **Contingency procedures:** written, accessible, rehearsed — for generator failure, chiller loss, medical gas interruption, and water events.
- **Parts and vendors:** critical spares on hand; emergency service agreements with guaranteed response times.

Uptime is a maintenance metric wearing a disguise.

See facility performance metrics and preparing for disruptions.

FAQ

Measuring downtime honestly — and shrinking it

Downtime reduction starts with a definition the whole team shares: a system is down when it cannot do its clinical job, not when it is merely degraded or alarming. With that definition, four levers do most of the work:

- **Preventive maintenance completed on schedule** — PM compliance is the leading indicator; deferred PMs are tomorrow's failures, scheduled.
- **Predictive signals where they pay** — vibration, temperature, and runtime trending on chillers, air handlers, and generators catch failure modes weeks out; see AI in healthcare facility operations for where prediction is actually earning its keep.
- **Redundancy that is exercised, not assumed** — an N+1 chiller that has never carried the load alone is a hope, not redundancy. Rotate lead equipment and run failure drills.
- **Failure review without blame** — every unplanned outage gets a short review: detection time, response time, restoration time, and the one change that would have prevented or shortened it.

Report downtime by system and by clinical impact, trended monthly. A single blended "facility downtime" number hides exactly the systems that matter.

What reduces hospital equipment downtime most?

High preventive maintenance completion rates — the strongest known correlation with fewer unplanned outages.

Should all equipment get the same maintenance?

No — rank assets by clinical consequence of failure and allocate maintenance accordingly.

What should a downtime contingency plan include?

Written recovery procedures, staged spares, vendor emergency agreements, and rehearsed switchover to redundant systems.

What is the fastest way to reduce downtime in a hospital facility?

Fix PM compliance first — it is the lever fully inside the facility team's control — then exercise redundancy with failure drills, and trend downtime by system so the worst performers get capital and attention in the right order.

Related reading

- NFPA 99 Health Care Facilities Code: Risk-Based Approach to Medical Gas, Electrical, and Fire Systems
- Medical Gas Systems: NFPA 99, Bulk Oxygen, Vacuum, and Medical Air Compliance
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers

Metrics Most Important for Measuring Healthcare Facility Performance

Source: https://healthcarefacilityhub.org/metrics-measuring-healthcare-facility-performance/ Published: October 5, 2026

Healthcare facility performance dashboard: PM completion, downtime, and energy metrics

What metrics are most important for measuring healthcare facility performance?

The metrics that matter fall into **four buckets**: **reliability** (PM completion rate, unplanned downtime hours, emergency-to-planned work ratio), **compliance** (life-safety testing completion, ILSM/ICRA documentation currency, survey findings), **cost** (energy use intensity, maintenance cost per square foot, deferred maintenance backlog), and **service** (work-order response and completion times, customer satisfaction). If a metric doesn't drive a decision in one of these buckets, it's decoration.

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The core dashboard

- **PM completion rate:** % of scheduled preventive tasks completed on time — the single best predictor of future failures.
- **Unplanned downtime:** hours of clinical-impacting outages; trending down is the goal.
- **Emergency work ratio:** % of work that's reactive — high means the PM program is failing.
- **Energy use intensity (EUI):** kBtu/sq ft/year, benchmarked against peers.
- **Deferred maintenance backlog:** dollar value of needed-but-unfunded work; growing is a red flag.
- **Compliance currency:** % of required testing and documentation current — should be 100%, always.
- **Response times:** from request to acknowledgement to completion, by priority.

Measure what you'd change. Delete the rest.

See evaluating operations programs and reducing downtime.

FAQ

What each core metric hides — read them in pairs

Every facility metric is honest about one thing and silent about another. Experienced operators read them in pairs:

- **PM compliance %** shows schedule discipline — and hides PM quality. Pair it with repeat-failure rate on the same equipment.
- **Work-order completion and aging** show flow — and hide whether the right work is being requested at all. Pair with the ratio of planned to reactive work; a healthy program moves steadily toward planned.
- **Downtime by system** shows reliability — and hides clinical impact. Pair with a simple impact rating agreed with clinical leadership, so an hour of imaging downtime outranks an hour of office downtime.
- **Energy per square foot** shows efficiency trend — and hides comfort risk if it improves by quietly widening temperature bands. Pair with patient-area temperature compliance.

- **Survey readiness** — findings per survey and repeat-finding count — shows compliance trajectory better than any self-assessment score.

Set the review cadence to match the metric: weekly for flow, monthly for reliability and energy, quarterly for condition and capital. A metric nobody reviews on a rhythm is decoration. These families sit inside the wider program view in what administrators should look for in a facility operations program.

What is the most important facility metric?

PM completion rate — the best predictor of future failures and downtime.

How do hospitals benchmark energy performance?

Energy use intensity (kBtu per sq ft per year), compared against peer facilities.

What is a healthy emergency work ratio?

As low as possible — a high reactive share means preventive maintenance is failing.

What are the most important metrics for measuring healthcare facility performance?

PM compliance (paired with repeat failures), planned-to-reactive work ratio, downtime by system weighted by clinical impact, energy per square foot (paired with temperature compliance), and survey finding trends — each reviewed on a fixed cadence.

Related reading

- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- Healthcare Facility Assessment: The Complete Professional Guide (2026)
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers

Biggest Operational Challenges Facing Hospitals and Medical Facilities

Source: https://healthcarefacilityhub.org/biggest-operational-challenges-hospitals-medical-facilities/
Published: October 5, 2026

Aging hospital mechanical room illustrating operational challenges

What are the biggest operational challenges facing hospitals and medical facilities today?

The biggest operational challenges in 2026: **(1) the skilled-trades workforce shortage** — retiring technicians with no pipeline behind them; **(2) aging infrastructure** — the average US hospital is decades old with compounding deferred maintenance; **(3) energy cost and decarbonization pressure**; **(4) regulatory complexity** — overlapping Joint Commission, CMS, state, and local requirements; **(5) cyber-physical risk** — building automation systems as attack surfaces; and **(6) capital scarcity** — every facilities dollar competing with clinical investment and thin margins.

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Why these six compound

They reinforce each other: aging buildings need more maintenance exactly as the workforce shrinks; decarbonization demands capital that margins don't provide; cyber risk grows as systems get "smarter" with fewer people watching them. Facilities leaders who treat these as separate problems lose — the winners build **integrated strategies** (e.g., automation that both cuts energy and compensates for staffing gaps).

Old buildings, fewer hands, more rules, less money. That's the job.

See 2026 trends and preparing for disruptions.

FAQ

The operator-level response to each challenge

The challenges are well known; what separates facility teams is the response discipline:

- **Aging infrastructure:** answer with condition data, not age. A scored facility condition assessment turns "everything is old" into a sequenced, fundable list — and keeps a single failure from reordering the whole capital plan.
- **Workforce:** the retiring-technician wave is a knowledge problem before it is a headcount problem. Documented rounds, photographed valve and damper locations, and apprentice pairing capture what walks out the door.
- **Compliance load:** CMS, Joint Commission, NFPA, and ASHRAE demands land on the same small team. A single compliance calendar with named owners — the pattern in the regulatory compliance guide — beats four binders that disagree.
- **Capital constraints:** phased fixes sequenced by risk (life safety, then clinical continuity, then efficiency) let a constrained budget still retire the worst exposures first.

None of these responses requires new technology. All of them require the unglamorous asset this topic keeps returning to: current, honest information about the building.

What is the hardest facilities challenge for hospitals?

The skilled-trades workforce shortage — institutional knowledge retiring with no pipeline behind it.

How old is the average US hospital?

Decades — with compounding deferred maintenance backlogs that grow faster than funding.

Are hospital building systems cyber targets?

Yes — building automation and networked controls are attack surfaces that need the same security attention as IT.

What is the biggest operational challenge facing hospital facility teams today?

The compounding of aging infrastructure with a retiring workforce and a growing compliance load on flat budgets. The working response is condition-based capital sequencing, deliberate knowledge capture, and one compliance calendar with named owners.

Related reading

- NFPA 99 Health Care Facilities Code: Risk-Based Approach to Medical Gas, Electrical, and Fire Systems
- Medical Gas Systems: NFPA 99, Bulk Oxygen, Vacuum, and Medical Air Compliance
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers

What Healthcare Administrators Should Look for in Facility Operations Programs

Source: https://healthcarefacilityhub.org/what-administrators-look-for-facility-operations-programs/
Published: October 5, 2026

Administrator reviewing a facility operations dashboard with compliance and reliability metrics

What should healthcare administrators look for in facility operations programs?

Administrators evaluating a facility operations program should look for **five things**: **(1) compliance posture** — survey-ready documentation for Joint Commission, CMS, and life safety without heroics before surveys; **(2) reliability metrics** — work-order completion, PM compliance, and unplanned downtime trending the right way; **(3) capital planning discipline** — a risk-based, multi-year plan instead of annual lobbying; **(4) energy performance** — benchmarking and a credible reduction trajectory; and **(5) workforce stability** — turnover, training, and succession in the trades, because a program is only as good as its people.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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The evaluation checklist

- **Documentation:** can the program produce ILSM logs, testing records, and ICRA permits on demand — any day, not just survey week?
- **Metrics:** PM completion rate, emergency vs. planned work ratio, mean time to repair, energy use intensity.
- **Capital:** is there a 5-year risk-ranked plan with funding strategy, or a wish list?
- **Risk:** what's the deferred maintenance backlog, and what's the plan to stop it growing?
- **People:** turnover rate, time-to-fill for critical trades, apprenticeship or training pipeline.

Ask for the backlog number. The answer tells you everything.

See facility performance metrics and biggest operational challenges.

FAQ

Questions to ask a facility director — and red flags in the answers

Administrators do not need to run the plant; they need to know whether it is being run. Five questions surface the truth quickly:

- **“Show me PM compliance and the deferred list.”** A program that cannot produce both, current, is managing by anecdote.
- **“What failed unplanned this quarter, and what changed because of it?”** Specifics are the sign of a learning system; “nothing failed” is not.
- **“Which systems are single points of failure?”** Every facility has them. A director who has named them, priced the fix, and sequenced it into capital planning is ahead of one who discovers them during an outage.
- **“How did we do on the last survey’s facility findings?”** Environment of Care and Life Safety findings should trend down and stay down — repeat findings are a management signal, per the most common CMS facility deficiencies.
- **“What will break in the next three years that is not in the capital plan?”** The answer reveals whether condition assessment is real — see facility condition assessment and FCI scoring.

Red flags: reports that show only activity (work orders closed) and never condition; survey findings explained one by one with no pattern; and a capital plan built from age alone.

How do you evaluate a hospital facilities program?

Check compliance documentation readiness, reliability metrics, capital planning discipline, energy performance, and workforce stability.

What is the most telling facilities metric?

The deferred maintenance backlog and whether it’s growing or shrinking.

What does “survey-ready” mean?

Documentation (testing, ILSM, ICRA, training) complete and retrievable any day — not assembled in a panic before surveyors arrive.

What should hospital administrators look for in a facility operations program?

Current PM compliance with an honest deferred list, a named single-point-of-failure register, unplanned-failure reviews that change practice, declining repeat survey findings, and a capital plan driven by assessed condition — not age alone.

Related reading

- AI in Healthcare Facility Operations: Predictive Maintenance, Energy Optimization, and Automated Compliance Documentation
- Trends Shaping Healthcare Facility Operations in 2026

- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach

How Healthcare Facilities Improve Operational Efficiency Without Affecting Patient Care

Source: https://healthcarefacilityhub.org/healthcare-facilities-improve-operational-efficiency/ Published: October 5, 2026

Building automation and central plant optimization behind the scenes of a hospital

How do healthcare facilities improve operational efficiency without affecting patient care?

Efficiency without clinical impact comes from **optimizing everything patients don't touch**: building automation tuned to actual occupancy, **preventive maintenance** that prevents premium-cost emergency repairs, **energy procurement and load management**, **standardized supplies and parts**, and **data-driven staffing** of facilities teams. The rule: efficiency projects must be **invisible to the bedside** — if a nurse or patient notices the change, it wasn't an efficiency project, it was a cut.

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The efficiency levers

- **Controls optimization:** schedules, setbacks, and demand control matched to real occupancy — the cheapest kWh is the one never used.
- **Preventive over reactive:** every emergency repair costs multiples of the planned one and risks clinical disruption.
- **Energy strategy:** procurement timing, peak shaving, and utility incentive programs.
- **Standardization:** fewer equipment variants means fewer parts stocked, faster repairs, better technician proficiency.
- **Workforce productivity:** mobile CMMS, planned routes, and kitting so technicians wrench instead of drive.

If the bedside notices, it wasn't efficiency.

See cost vs. patient experience and reducing downtime.

FAQ

Where facility efficiency actually lives

Efficiency programs fail in hospitals when they hunt savings in clinical-adjacent work. The durable gains sit in three operational layers that never touch patient care:

- **Work-order flow:** triage discipline, first-time-fix rates, and parts availability decide how much technician time becomes finished work instead of windshield time. Measure completion and aging, not just volume.
- **Energy:** scheduling, setback where clinically permitted, and retro-commissioning routinely find waste in systems that run 24/7 out of habit rather than need — tracked against the metrics in facility performance metrics.
- **Space utilization:** rooms, storage, and support space allocated years ago drift from current clinical need; periodic utilization reviews hand space back without construction.

The guardrail is explicit: any efficiency change that alters temperature, pressure, air changes, cleanliness, or response time in a patient area is a clinical change, reviewed with clinical leadership — never a facilities shortcut.

How can hospitals cut facility costs safely?

Optimize invisible systems — controls, preventive maintenance, energy procurement, standardization — never the patient environment or clinical support.

What is the biggest source of wasted facility spending?

Reactive maintenance: emergency repairs cost multiples of planned work and risk clinical disruption.

Does energy efficiency affect patient care?

Not when done right — scheduling, setbacks, and procurement changes are invisible at the bedside.

How can a hospital improve facility efficiency without affecting patient care?

Work the non-clinical layers — work-order flow, energy scheduling and retro-commissioning, and space utilization — and treat any change touching patient-area conditions (temperature, pressure, air changes, cleaning, response time) as a clinical change requiring clinical review.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- What are the FGI Guidelines for healthcare facilities?
- Hospital Evacuation Planning: Horizontal, Vertical, and Full Evacuation Protocols

How Hospitals Balance Facility Costs with Patient Experience Goals

Source: https://healthcarefacilityhub.org/hospitals-balance-facility-costs-patient-experience/ Published: October 5, 2026

Healing hospital patient room: quiet HVAC, circadian lighting, and clear wayfinding

How do hospitals balance facility costs with patient experience goals?

Hospitals balance cost and experience by treating the **physical environment as clinical infrastructure**: the evidence is strong that noise, lighting, thermal comfort, and wayfinding affect outcomes (sleep, delirium, falls,

satisfaction scores that drive reimbursement). The practical balance: **invest where environment touches outcomes** — quiet HVAC in patient rooms, circadian lighting, clear wayfinding — and **drive efficiency where patients never see it** — central plants, controls optimization, procurement. Cut the back-of-house; protect the bedside.

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Where to spend

- **Acoustics:** quiet HVAC and sound masking in patient rooms — sleep quality is an outcome and a satisfaction driver.
- **Lighting:** circadian-supportive lighting reduces delirium risk and improves staff alertness.
- **Thermal comfort:** responsive room-level control; nothing erodes satisfaction like a room that's always wrong.
- **Wayfinding:** clear signage and intuitive circulation reduce stress for patients and families — and staff interruptions.

Where to save

Central plant efficiency, building automation optimization, strategic energy procurement, and preventive maintenance that avoids premium emergency repairs. None of these touch the patient — all of them fund the things that do.

Cut the back-of-house. Protect the bedside.

See operational efficiency and facility performance metrics.

FAQ

The costs patients actually perceive

Patients cannot see a chiller plant. What they experience — and what shows up in surveys and complaints — is a short list of facility conditions:

- **Temperature and air movement** in the room they cannot leave;
- **Noise** at night: alarms, carts, doors, and above-ceiling work scheduled without regard to rest;
- **Cleanliness** as judged by the eye — bathrooms, floors, and the state of the room on arrival;
- **Wayfinding and wait spaces:** lighting, signage, seating, and whether the building feels cared for.

The tradeoff discipline is to name which list a proposed cut touches. Savings taken from preventive maintenance on patient-area HVAC, night staffing, or cleaning frequency are not invisible — they are deferred

patient-experience costs with interest. Savings from energy scheduling, contract rebids, and space consolidation genuinely are invisible to patients. Facility leaders who sort every proposal into those two buckets make the cost–experience balance explicitly, instead of discovering it in next quarter's scores. The campus-level view in best practices for managing large healthcare campuses shows the same sorting applied at scale.

Does the hospital environment affect patient outcomes?

Yes — noise, lighting, thermal comfort, and wayfinding are linked to sleep, delirium, falls, and satisfaction scores.

Where should hospitals cut facility costs?

In invisible systems: central plants, controls, procurement, preventive maintenance — not in the patient environment.

How does facility spending connect to reimbursement?

Patient satisfaction scores (HCAHPS) influenced by the environment feed into value-based reimbursement.

Which facility costs most affect patient experience when cut?

Cuts patients feel first are patient-area HVAC maintenance, night noise control, and cleaning frequency. Costs that can usually be reduced invisibly are energy scheduling waste, contract pricing, and under-used space.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Hospital Evacuation Planning: Horizontal, Vertical, and Full Evacuation Protocols
- NFPA 99 Health Care Facilities Code: Risk-Based Approach to Medical Gas, Electrical, and Fire Systems

Best Practices for Managing Large Healthcare Campuses

Source: https://healthcarefacilityhub.org/best-practices-managing-large-healthcare-campuses/ Published: October 5, 2026

Aerial view of a large healthcare campus with a central facilities operations hub

What are the best practices for managing large healthcare campuses?

Large healthcare campuses run best on **centralized standards with distributed execution**: one system-wide facilities playbook (maintenance standards, capital planning criteria, emergency procedures, vendor qualifications) executed by empowered site teams who know their buildings. The practices that separate well-run campuses: **unified asset data** across all buildings, **system-wide capital prioritization** by risk rather than squeaky wheels, **shared specialist resources** (reliability engineers, energy managers, code specialists) that no single site could justify alone, and **standardized emergency response** so any site's team can support another's.

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The playbook

- **One asset registry:** every building, system, and major component in a single CMMS with condition data — no site-level spreadsheets.
- **Risk-based capital planning:** prioritize by failure consequence (life safety, clinical impact, regulatory exposure), not by who lobbies hardest.
- **Shared expertise:** central reliability, energy, and compliance specialists serving all sites.
- **Standard procedures:** identical emergency, ILSM, and ICRA procedures everywhere — mutual aid only works if everyone's playbook matches.
- **Benchmarking:** energy, work-order, and compliance metrics compared across sites to spread what works.

Standardize the system. Empower the site.

See facility performance metrics and the facility management guide.

FAQ

Should large health systems centralize facilities management?

Centralize standards, data, and specialist expertise; keep execution local with empowered site teams.

How do you prioritize capital across many hospitals?

By risk — failure consequence for life safety, clinical impact, and regulatory exposure — not by lobbying.

What data do campuses need in common?

A unified asset registry with condition data in a single CMMS across all buildings.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Hospital Evacuation Planning: Horizontal, Vertical, and Full Evacuation Protocols
- NFPA 99 Health Care Facilities Code: Risk-Based Approach to Medical Gas, Electrical, and Fire Systems
- Healthcare Facilities Prepare for Emergency Disruptions and Outages — the foundation page for the operations cluster
- Coordinating Operations Between Clinical and Facility Teams — the standing structures that make coordination real

Trends Shaping Healthcare Facility Operations in 2026

Source: https://healthcarefacilityhub.org/trends-shaping-healthcare-facility-operations-2026/ Published: October 5, 2026

2026 healthcare facility trends: solar, predictive maintenance, and microgrid resilience

What trends are shaping healthcare facility operations in 2026?

Five trends are reshaping healthcare facility operations in 2026: **(1) decarbonization pressure** — hospitals face emissions targets and energy-cost volatility; **(2) AI-assisted maintenance** — predictive analytics moving from pilot to production on critical equipment; **(3) workforce shortage** — the facilities skilled-trades gap keeps widening, pushing automation and outsourcing; **(4) resilience planning** — climate-driven storms, heat, and grid instability making redundancy a board-level topic; and **(5) the 2026 code cycle** — FGI's renamed Codes, evolving ASHRAE standards, and pending CMS updates changing what "compliant" means.

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What each trend demands

- **Decarbonization:** energy audits, electrification planning, and efficiency retrofits competing for capital against clinical projects.
- **Predictive maintenance:** sensor data on chillers, air handlers, and generators catching failures before they become outages.
- **Workforce:** cross-training, apprenticeship pipelines, and managed-service contracts filling the trades gap.
- **Resilience:** microgrids, flood hardening, and extended fuel/water autonomy moving from nice-to-have to required.
- **Codes:** FGI Codes (2026), ASHRAE 170-2021 enforcement spreading, and the proposed CMS life-safety updates.

The 2026 facilities leader is an energy manager, a data analyst, and a recruiter.

See FGI 2022 vs. 2026 and the facility management guide.

FAQ

What is the biggest trend in healthcare facilities for 2026?

Decarbonization and energy-cost pressure — efficiency and electrification competing for capital.

Is AI used in hospital facility management?

Increasingly — predictive maintenance analytics on critical equipment is moving into production.

What code changes matter in 2026?

FGI's renamed Codes, spreading ASHRAE 170-2021 enforcement, and proposed CMS life-safety updates.

Related reading

- AI in Healthcare Facility Operations: Predictive Maintenance, Energy Optimization, and Automated Compliance Documentation
- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- Healthcare Facility Assessment: The Complete Professional Guide (2026)

Healthcare Facilities Prepare for Emergency Disruptions and Outages

Source: https://healthcarefacilityhub.org/healthcare-facilities-prepare-emergency-disruptions-outages/
Published: October 5, 2026

Hospital emergency preparedness: backup generator, emergency operations center, and storm readiness

How do healthcare facilities prepare for emergency disruptions and outages?

Healthcare facilities prepare for disruptions through **all-hazards emergency planning**: a written Emergency Operations Plan covering power loss, water disruption, HVAC failure, IT outages, and supply chain breaks — each with **redundant systems** (emergency generators, medical gas reserves, water storage), **defined downtime procedures** for clinical operations, and **regular exercises** testing the plan. CMS requires this under the Emergency Preparedness Rule (42 CFR 482.15): a risk assessment, policies and procedures, a communication plan, and training/testing — reviewed at least every two years.

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The preparation layers

- **Power:** emergency generators tested monthly under load, fuel for 96+ hours, prioritized circuits for life safety, critical, and equipment branches.
- **Water:** storage or contingency supply for potable and clinical needs; dialysis and sterile processing have their own continuity plans.
- **Medical gases:** reserve manifolds and vendor emergency delivery agreements.
- **IT/downtime:** paper downtime procedures for orders, MAR, and documentation — rehearsed, not just written.
- **Staffing:** call-back rosters, ride-out teams for storms, fatigue management for extended events.

Exercises that actually teach

Tabletop exercises find plan gaps cheaply; **functional exercises** (actually switching to generator power, running downtime procedures on a unit) find the gaps tabletops miss. After every exercise and every real event: a formal after-action review with assigned corrective actions and deadlines.

The plan is paper. The exercise is the preparation.

See the CMS Emergency Preparedness Rule and the facility management guide.

FAQ

The facility readiness checklist, by disruption class

Preparation is audited one disruption class at a time, because each class fails differently and is restored differently:

- **Power:** emergency generators sized for the essential electrical system, fuel on site for the facility's planned runtime, transfer switches tested under load, and a load-shed list agreed with clinical leadership before the event — not during it.
- **Water:** a water interruption plan covering potable supply, sterile processing, dialysis, and cooling; backflow and Legionella risks are assessed before systems are returned to normal use, not after.
- **HVAC:** which air handlers serve isolation rooms, operating rooms, and sterile storage; what happens to pressure relationships on partial failure; and which spaces close first when capacity drops.
- **IT and communications:** downtime procedures for the work-order system, building automation, and clinical systems, printed and held at the facility desk — a plan that only exists on the network fails with the network.

Each class gets a named owner, a first-hour playbook, and an exercise on the calendar. The Emergency Operations Plan ties them together under the CMS emergency preparedness rule's all-hazards framework — see the CMS emergency preparedness rule requirements for the regulatory structure this checklist sits inside.

What does CMS require for emergency preparedness?

A risk assessment, policies and procedures, a communication plan, and training/testing — reviewed at least every two years, with two exercises annually.

How long should hospital generators run?

Plan fuel for 96+ hours; test monthly under load per code requirements.

What are downtime procedures?

Paper-based clinical workflows (orders, medication administration, documentation) used when IT systems fail — they must be rehearsed, not just written.

What is the first facility task when a utility outage hits a hospital?

Stabilize life-safety and clinical-critical systems first: confirm emergency power transferred, check isolation-room and OR pressure relationships, secure water-dependent processes (sterile processing, dialysis), then work the class playbook while documenting conditions for the after-action review.

Related reading

- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach
- Healthcare Emergency Preparedness: The Complete Professional Guide (2026)

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers

Aspergillus: Why It’s a Risk During Hospital Construction

Source: https://healthcarefacilityhub.org/aspergillus-risk-hospital-construction/ Published: October 5, 2026

What is aspergillus and why is it a risk during hospital construction?

Harmless dust to you. Lethal to the patient down the hall.

Aspergillus is a ubiquitous mold — its spores are everywhere in soil, dust, and building materials, harmless to healthy people. During hospital construction, **demolition and renovation aerosolize massive quantities of spores**. For **immunocompromised patients** — bone marrow transplant, solid organ transplant, prolonged neutropenia — inhaled spores can cause **invasive aspergillosis**, a deep lung (and sometimes disseminated) infection with **high mortality**. It is the defining infection risk of hospital construction, and the reason ICRA precautions exist.

Take this to the job site.

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Why construction makes it dangerous

- **Spore reservoirs:** settled dust in ceiling plenums, old ductwork, wall cavities, and soil hold enormous spore loads, undisturbed for years.
- **Aerosolization:** demolition, drilling, and even vibration release spores into the air in concentrations far above background.
- **Transport:** without containment and negative pressure, spores ride air currents into occupied patient areas — including floors above and below via shafts and plenums.
- **Susceptible hosts:** a spore dose that’s trivial for a healthy worker can be lethal for a neutropenic patient.

Prevention and vigilance

Prevention is the ICRA package: **sealed barriers, negative pressure, HEPA filtration, HVAC isolation** — plus relocating the highest-risk patients. Vigilance is clinical: during and after construction near vulnerable units, treat **persistent fever unresponsive to antibiotics in neutropenic patients** as possible invasive aspergillosis until proven otherwise, and investigate any cluster immediately. Post-construction surveillance should continue for weeks, since cases can present after exposure.

Harmless dust to you. Lethal to the patient down the hall.

See how construction spreads infections and protecting immunocompromised patients.

FAQ

Which patients are at risk — and the controls that match the risk

The risk is not evenly distributed across the hospital, and neither should the controls be. The patients in danger from construction-released Aspergillus spores are those whose immune systems cannot clear inhaled conidia:

- **Highest risk:** hematopoietic stem-cell transplant patients, patients with prolonged neutropenia from chemotherapy, and solid-organ transplant patients on intensive immunosuppression.
- **Elevated risk:** patients on high-dose corticosteroids or biologic immunosuppressants, patients with advanced hematologic malignancy, and critically ill patients with prolonged ICU stays.
- **General population:** healthy staff, visitors, and most inpatients clear inhaled spores without illness — which is why construction dust is a targeted infection-control problem, not a general air-quality complaint.

Controls scale with the ICRA classification: sealed rigid barriers, negative pressure with HEPA-filtered exhaust, HVAC isolation of the work zone, dedicated worker routes and debris removal in sealed containers, and — for the highest-risk units — relocating patients rather than relying on barriers alone (see protecting immunocompromised patients during renovation). Infection prevention sign-off on the containment setup, before work starts and on rounds during it, is what turns this list from intent into protection. The mechanism these controls interrupt is traced in how construction projects spread infections in hospitals.

What is Aspergillus?

A ubiquitous mold whose spores are present in soil, dust, and building materials — harmless to healthy people.

Why is Aspergillus dangerous during hospital construction?

Demolition aerosolizes large spore quantities; immunocompromised patients who inhale them can develop invasive aspergillosis, which has high mortality.

How is construction-related aspergillosis prevented?

ICRA containment (sealed barriers, negative pressure, HEPA filtration, HVAC isolation), patient relocation, and clinical vigilance for post-exposure cases.

Which hospital patients are most at risk from Aspergillus during construction?

Stem-cell and solid-organ transplant patients, patients with prolonged neutropenia, and other heavily immunosuppressed patients. Healthy people clear the spores; these patients can develop invasive aspergillosis, which carries high mortality.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- NFPA 99 Health Care Facilities Code: Risk-Based Approach to Medical Gas, Electrical, and Fire Systems
- Who Should Be on the ICRA Team for a Hospital Construction Project

Water System Risks During Healthcare Construction

Source: https://healthcarefacilityhub.org/water-system-risks-healthcare-construction/ Published: October 5, 2026

What water system risks occur during healthcare construction?

Stagnant water is an incubator. Moving water is a defense.

Construction creates **Legionella amplification risks** through water stagnation (shutdowns, capped lines, low-use areas), **dead legs** (abandoned piping left in place), **temperature loss** (hot water dropping into the 77–113°F growth range), **disinfectant residual decay** in aged water, and **disturbance of biofilm** that releases bacteria when flow resumes. CDC guidance: store hot water above **140°F**, keep circulation at or above **120°F**, keep cold water below the growth range, **flush dead legs and low-flow runs at least weekly**, and maintain detectable disinfectant residual throughout.

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Related: ASHRAE 188 water management plan requirements — the Legionella standard CMS surveyors ask about.

The risk list

- **Stagnation:** shut down or rarely used lines age the water, deplete disinfectant, and warm into the growth range.
- **Dead legs:** capped or abandoned piping harbors biofilm; must be removed, not just capped.
- **Temperature excursions:** construction disrupts recirculation; tepid water (77–113°F) is the danger zone.
- **Biofilm disturbance:** vibration and pressure transients shear biofilm, seeding the system on restart.
- **New piping:** must be disinfected and flushed before connection to the potable system.

The water management response

Fold construction into the facility's **water management program** (ASHRAE 188): map every affected line, schedule weekly flushing of dead legs and infrequently used fixtures, verify temperatures and disinfectant residual at sentinel points, remove dead legs rather than capping them, and **flush and verify before returning lines to service**. Consider Legionella testing in consultation with the water management team when risk is elevated.

Stagnant water is an incubator. Moving water is a defense.

See how construction spreads infections and the ICRA matrix.

FAQ

Why does construction increase Legionella risk?

Shutdowns and low flow cause stagnation, water age, temperature loss into the growth range, and disinfectant decay — ideal amplification conditions.

What temperatures control Legionella?

Store hot water above 140°F, circulate at or above 120°F, keep cold water below 77°F.

How often should dead legs be flushed during construction?

At least weekly, per CDC guidance — and dead legs should be removed, not just capped.

Related reading

- Dialysis Water Quality: AAMI Standards, RO System Design, and Microbiological Monitoring
- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Preventing Legionella During Hospital Renovation — the renovation-specific Legionella prevention sequence

How Construction Projects Spread Infections in Hospitals

Source: https://healthcarefacilityhub.org/how-construction-spreads-infections-hospitals/ Published: October 5, 2026

How do construction projects spread infections in hospitals?

Air, water, pressure, movement — control all four or control none.

Construction spreads infections through **four pathways**: **(1) airborne dust carrying Aspergillus spores** released by demolition and renovation, inhaled by immunocompromised patients; **(2) water system disruption** — stagnation, pressure loss, and dead legs that let **Legionella** amplify; **(3) HVAC disruption** — altered pressure relationships that move contaminants between zones, and vibration that dislodges accumulated spores from old ductwork; and **(4) traffic** — workers, equipment, and waste moving pathogens through the facility on clothing, shoes, and carts.

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The four pathways

- **Airborne dust and spores:** demolition aerosolizes Aspergillus and other molds ubiquitous in soil and building materials. Healthy lungs clear them; neutropenic patients can develop invasive, often fatal aspergillosis.
- **Water:** shutdowns, low flow, and tepid stagnant water in dead legs create Legionella amplification sites. When water service resumes, contaminated aerosols reach showers, faucets, and ice machines.

- **HVAC disruption:** construction can reverse pressure relationships, pushing dirty air into clean areas; vibration shakes loose decades of accumulated dust and spores from duct interiors.
- **Movement:** every worker, cart, and waste container crossing the barrier is a potential vector — hence anterooms, coveralls, shoe covers, and covered waste transport.

Why it matters

These aren't theoretical risks — **construction-associated aspergillosis outbreaks are well documented**, with high mortality in the affected patient groups. Every ICRA precaution maps to one of these four pathways: barriers and negative pressure for air, flushing and temperature control for water, HVAC isolation for pressure relationships, anterooms and hygiene for movement.

Air, water, pressure, movement — control all four or control none.

See Aspergillus in hospital construction and water system risks.

FAQ

The control stack that interrupts each pathway

Each transmission pathway has a matched control, and the ICRA process exists to pair them before work begins:

- **Dust and debris pathway ->** sealed containment barriers, negative air pressure with HEPA filtration, sticky mats and HEPA vacuuming at the barrier line, debris removed in covered containers on a dedicated route.
- **Water pathway ->** the water management program: flushing regimes after shutdowns, disinfection where indicated, and point-of-use controls for the highest-risk units — detailed for Legionella in preventing Legionella during hospital renovation.
- **Traffic and material movement ->** separated worker and material routes, elevator control, and scheduling dusty work when adjacent areas are least occupied.
- **Vibration and ceiling-space disturbance ->** above-ceiling work permits, containment for plenum access, and coordination with the unit below before tiles come down.

The pathways interact: a barrier breach during a water shutdown, beside a transplant unit, is how single-control failures become exposures. That is why monitoring — pressure logs, barrier inspections, and clinical surveillance for clusters — is part of the stack, not paperwork after it. The planning framework that assembles the stack is the ICRA process itself.

How does construction cause infections in hospitals?

Through airborne dust carrying Aspergillus spores, water system disruption amplifying Legionella, HVAC pressure disruption, and pathogen movement on workers and equipment.

What is the deadliest construction-related infection?

Invasive aspergillosis in immunocompromised patients — carried by construction dust, with high mortality.

Can construction affect hospital water safety?

Yes — shutdowns and stagnation let Legionella amplify; resumption of service can deliver contaminated aerosols to patients.

What are the main ways construction spreads infections in hospitals?

Four pathways: airborne dust and spores escaping the work zone, water-system disturbance (stagnation, dead legs, pressure events) that grows Legionella and other waterborne organisms, contaminated traffic and material routes, and vibration or ceiling-space work that drops settled dust into occupied areas.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Hospital Evacuation Planning: Horizontal, Vertical, and Full Evacuation Protocols
- NFPA 99 Health Care Facilities Code: Risk-Based Approach to Medical Gas, Electrical, and Fire Systems

Communicating Construction Risks to Clinical Staff

Source: https://healthcarefacilityhub.org/communicate-construction-risks-clinical-staff/ Published: October 5, 2026

How do you communicate construction risks to clinical staff?

Tell them what to watch for, and who to call. That's the whole plan.

Communicate construction risks to clinical staff through **pre-construction briefings** on affected units, **clear signage** at work zones, **regular updates** as the project progresses, and a **defined escalation chain** for reporting breaches (dust in corridors, odd smells, water discoloration). The message must be **clinical, not technical**: nurses need to know *what to watch for in their patients* and *who to call* — not the manometer set point.

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The communication plan

- **Before work starts:** unit-based briefings — what's happening, how long, what protections are in place, what changes for the unit.
- **What to watch for:** dust migration, unusual odors, water issues, and in patients — persistent fever unresponsive to antibiotics (possible aspergillosis) during nearby construction.
- **Who to call:** a single named contact and backup for reporting concerns, with guaranteed response — not a general work-order queue.
- **Ongoing:** brief updates at project milestones; immediate notification of any breach, pressure loss, or water event.
- **Signage:** at every work zone boundary — what the area is, who's authorized, and the reporting contact.

What not to do

Don’t bury the risk in a facilities memo nobody reads. Don’t use jargon (“we’re maintaining -0.01 inches water column”) with clinical staff — translate it (“we’re keeping construction air from reaching your unit, and here’s how you’ll know if that changes”). And never let staff learn about construction from the jackhammer.

Tell them what to watch for, and who to call. That’s the whole plan.

See the IP’s role and protecting immunocompromised patients.

FAQ

How should hospitals tell staff about construction risks?

Pre-construction unit briefings, clear work-zone signage, regular milestone updates, immediate breach notification, and a single named reporting contact.

What should clinical staff watch for during construction?

Dust migration, odors, water issues — and in patients, persistent antibiotic-unresponsive fever near construction (possible aspergillosis).

Who do staff call about a construction concern?

A single named contact (and backup) with guaranteed response — defined in the communication plan before work starts.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Water System Risks During Healthcare Construction
- Hospital Evacuation Planning: Horizontal, Vertical, and Full Evacuation Protocols

The Infection Preventionist’s Role on a Construction Project

Source: https://healthcarefacilityhub.org/infection-preventionist-role-construction-project/ Published: October 5, 2026

What is the infection preventionist’s role on a construction project?

The IP speaks for the patients who can’t speak for the building.

The infection preventionist (IP) is the **clinical authority** on the ICRA team: they **assess patient risk**, **determine the Class of Precautions**, **approve the infection control permit** before work begins, **verify barriers and controls** are in place, **monitor compliance** through the project, **educate clinical staff** on construction risks, and conduct **surveillance for healthcare-associated infections** (especially aspergillosis and Legionella) during and after construction. No one else on the team carries the patient-risk lens — that’s the IP’s job.

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This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Across the project lifecycle

- **Planning:** risk assessment, class determination, permit conditions, relocation recommendations.
- **Pre-construction:** walkthrough verification — barriers complete, HVAC isolated, negative pressure holding. No verification, no work.
- **Active construction:** routine inspections, monitoring data review, breach response, staff education.
- **Closeout:** terminal cleaning verification, air and water system recommissioning checks, post-project surveillance for delayed infections.

Authority matters

The IP must have **stop-work authority** for infection control breaches — a breached barrier or lost negative pressure with vulnerable patients nearby can't wait for the next committee meeting. That authority should be written into the ICRA permit, not assumed.

The IP speaks for the patients who can't speak for the building.

See the ICRA team and how to perform an ICRA.

FAQ

What does the infection preventionist do during construction?

Assesses patient risk, sets the precaution class, approves the permit, verifies controls, monitors compliance, educates staff, and surveils for construction-related infections.

Can the IP stop construction?

They should have written stop-work authority for infection control breaches in the ICRA permit.

Does the IP stay involved after construction ends?

Yes — terminal cleaning verification and post-project infection surveillance are part of the role.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- Who Should Be on the ICRA Team for a Hospital Construction Project

Should Patients Be Relocated During Major Hospital Renovation?

Source: https://healthcarefacilityhub.org/should-patients-be-relocated-during-hospital-renovation/ Published: October 5, 2026

Decide before demolition, not during it — with pre-set triggers for escalation.

Sometimes — and the decision belongs in the ICRA, made before construction starts. Relocation is strongly recommended for the **highest-risk patients** (bone marrow transplant, solid organ transplant, prolonged neutropenia) when major demolition or construction occurs nearby. For lower-risk populations, well-executed ICRA precautions — containment, negative pressure, HVAC isolation — can make staying safe. The deciding factors: **patient vulnerability, construction intensity, proximity, and whether the precautions can truly be maintained** for the project's duration.

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When relocation is the right call

- Major demolition (Type D activity) adjacent to BMT, transplant, or neutropenic units
- Environmental hazards uncovered: mold, sewage, asbestos disturbance
- HVAC systems serving the unit must be shut down or heavily disrupted
- The facility can't credibly maintain Class IV/V precautions for the full duration
- A prior aspergillosis case linked to construction on the campus

When staying works

Lower-acuity units at greater distance, with verified barriers, continuous negative pressure, isolated HVAC, and active surveillance — staying is reasonable and often necessary (you can't relocate an entire ICU). The key word is **verified**: precautions on paper don't protect anyone.

Make it a plan, not a reaction

Relocation decisions made mid-project — after dust is in the air — are the worst kind. The ICRA team identifies relocation candidates during assessment, designates receiving units, and sets **triggers for escalation** (e.g., barrier failure, positive air sampling, a clinical case) that convert "stay" to "move" automatically.

Decide before demolition, not during it.

See protecting immunocompromised patients and how to perform an ICRA.

FAQ

Protecting immunocompromised patients who stay in place

Relocation is the strongest control, but it is not always possible — the unit may be the only one equipped for the patient's care, or the census may leave nowhere safer to go. When immunocompromised patients stay in place during nearby renovation, protection becomes a layered, unit-level program:

- **Air handling:** verify the unit's own pressure relationships and filtration are performing as designed before work starts; where the design allows, keep protective-environment rooms positive to the corridor and confirm it daily while construction runs.
- **Barrier discipline at the unit line:** the construction containment is the first wall; the unit adds its own — closed doors, sealed penetrations, and no shared routes for workers, materials, or waste anywhere near the unit entrance.
- **Cleaning:** increased environmental cleaning frequency on the unit with attention to horizontal surfaces where spores settle, using HEPA-filtered vacuums rather than dry dusting that re-aerosolizes them.
- **Patient movement:** route immunocompromised patients away from the construction zone for imaging and procedures; where a route must pass the work, mask the patient for transport, as many programs do for their highest-risk patients.
- **Communication and surveillance:** clinical teams on the unit know the construction schedule, the symptoms that trigger work-up (persistent fever unresponsive to antibiotics), and the direct line to infection prevention — the same clinical-vigilance pattern described in protecting immunocompromised patients during renovation.

The decision — relocate, or protect in place with this stack — belongs to infection prevention with the clinical team, is driven by the ICRA classification and the patients actually on the unit, and is revisited whenever the construction phase changes.

Do patients need to leave during hospital renovation?

The highest-risk patients (transplant, neutropenic) should be relocated from near major construction; others can stay under verified ICRA precautions.

Who decides on patient relocation?

The ICRA team — infection preventionist, nursing leadership, and facilities — during the pre-construction assessment.

What triggers an emergency relocation mid-project?

Barrier failure, positive air sampling for Aspergillus, a linked clinical case, or loss of HVAC protection — set these triggers in advance.

How do you protect immunocompromised patients who cannot be relocated during renovation?

Layer unit-level controls: verify the unit's pressure relationships and filtration, enforce barrier discipline and separated routes at the unit line, increase HEPA-based cleaning, route patients away from the work zone (masked for transport when needed), and keep clinical surveillance tight with a direct line to infection prevention.

Related reading

- How do FGI Guidelines affect hospital renovation projects?
- Protecting Immunocompromised Patients During Hospital Renovation
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers

Protecting Immunocompromised Patients During Hospital Renovation

Source: https://healthcarefacilityhub.org/protect-immunocompromised-patients-during-renovation/ Published: October 5, 2026

How do you protect immunocompromised patients during renovation?

The sickest patients get the strongest walls — relocate when feasible, maximize precautions when not.

Protecting immunocompromised patients during renovation means **layering controls around the highest-risk people**: identify them first (bone marrow transplant, solid organ transplant, neutropenic oncology, high-dose steroid patients), then apply the strictest ICRA precautions nearest them — **relocate them away from the work zone when possible**, seal and negatively pressurize the construction area, isolate HVAC, enforce anteroom discipline, and heighten clinical surveillance for **aspergillosis and Legionella** for the project's duration. The ICRA class follows the patient, not the project.

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The protection layers

- **Identify and map:** list every immunocompromised population and its location relative to the work zone — including above, below, and adjacent.
- **Relocate when feasible:** BMT and transplant units are the strongest relocation candidates; if relocation isn't possible, maximize distance and barriers.
- **Maximum containment:** Class IV/V precautions for work near these units — critical barriers, negative pressure, HEPA exhaust, anteroom.
- **Air and water surveillance:** watch for invasive aspergillosis cases; monitor water systems for Legionella where plumbing is disrupted.
- **Staff education:** nurses and physicians on affected units must know the signs of aspergillosis and the reporting chain.

Clinical vigilance

Invasive aspergillosis presents as **persistent fever unresponsive to antibiotics** in neutropenic patients — during construction near high-risk units, the threshold for antifungal workup should drop. The infection preventionist and the clinical team agree on this trigger **before** demolition starts.

The sickest patients get the strongest walls.

See why Aspergillus threatens construction zones and patient relocation decisions.

FAQ

Which patients are most at risk during hospital renovation?

Bone marrow transplant, solid organ transplant, neutropenic oncology, and high-dose corticosteroid patients — those vulnerable to invasive aspergillosis.

Should immunocompromised patients be moved during construction?

When feasible, yes — relocation is the strongest protection. When not feasible, apply maximum ICRA precautions and clinical surveillance.

What infection should clinicians watch for during renovation?

Invasive aspergillosis — persistent fever unresponsive to antibiotics in neutropenic patients near construction.

Related reading

- Should Patients Be Relocated During Major Hospital Renovation?
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Hospital Evacuation Planning: Horizontal, Vertical, and Full Evacuation Protocols

How ASHRAE 170 Interacts with FGI Guidelines

Source: https://healthcarefacilityhub.org/ashrae-170-fgi-guidelines-interaction/ Published: October 5, 2026

How does ASHRAE 170 interact with FGI Guidelines?

FGI draws the room. ASHRAE 170 moves the air.

ASHRAE 170 and the FGI Guidelines are **companion documents by design**: 170 originated in an agreement between ASHRAE and FGI that ventilation requirements belonged in an ASHRAE standard, and the FGI Guidelines **reference Standard 170 for ventilation** rather than duplicating it. FGI sets the **program, space, and planning requirements** (what rooms, how big, adjacencies); 170 sets the **ventilation engineering** (ACH, pressure, filtration, temperature, humidity) for those spaces. The 2021 edition restructured 170 into **hospital, outpatient, and residential sections** mirroring FGI's own three documents.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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On this page: How they divide the work · The 2026 rename · Practical takeaway · FAQ

How they divide the work

- **FGI decides:** which spaces a facility needs, minimum sizes and clearances, room relationships and adjacencies.
- **ASHRAE 170 decides:** how each of those spaces is ventilated — air changes, pressure relationships, filtration, temperature, humidity.

- **Neither duplicates the other:** FGI points to 170 for ventilation numbers; 170 points to FGI space definitions (its tables cite FGI section numbers).

The 2026 rename

With FGI's 2026 documents renamed from "Guidelines" to **FGI Codes**, the relationship continues — the Codes still reference ASHRAE 170 for ventilation. When your state adopts an FGI edition into code, it effectively adopts the referenced 170 requirements with it. Always confirm **which editions** of each document your AHJ enforces — a 2026 FGI Code paired with an older adopted 170 is a common real-world combination.

Practical takeaway

Design teams need **both documents open**: FGI for the room, 170 for the air. A design that satisfies FGI's space requirements but misses 170's ventilation table — or vice versa — fails review.

FGI draws the room. 170 moves the air.

See what the FGI Guidelines are and recent ASHRAE 170 changes.

FAQ

Does FGI include ventilation requirements?

FGI references ASHRAE 170 for ventilation rather than duplicating it — the two are companion documents.

Which comes first, FGI or ASHRAE 170?

They work together: FGI defines the spaces, 170 defines their ventilation. Design teams need both.

Do the 2026 FGI Codes still use ASHRAE 170?

Yes — the renamed FGI Codes continue to reference Standard 170 for ventilation requirements.

Related reading

- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes
- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- Humidity Control in Hospitals Under ASHRAE 170
- What Is ASHRAE Standard 170? — the definitional page for the standard this interaction builds on

ASHRAE 170 Requirements for Airborne Infection Isolation Rooms

Source: https://healthcarefacilityhub.org/ashrae-170-airborne-infection-isolation-rooms/ Published: October 5, 2026

What are ASHRAE 170 requirements for airborne infection isolation rooms?

Negative protects others; positive protects the patient. Never confuse them.

Airborne infection isolation (AII) rooms require **negative pressure at a minimum of -0.01 water column (2.5 Pa)** relative to the corridor or anteroom, **12 total air changes per hour** for new/renovated rooms (6 for

existing), **exhaust directly outdoors** (the 2021 edition allows discharge to general exhaust under specified conditions), and **documented pressure monitoring**, ideally with a permanently installed visual monitor. Supply and exhaust must be arranged so clean air flows from the corridor-side toward the patient and out the exhaust — never short-circuiting.

Take this to the job site.

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On this page: The AII package · AII vs. protective environment (PE) · Monitoring in operation — and the failure points surveyors find · FAQ **Go deeper:** ASHE ventilation guidance for healthcare facilities (PDF)

The AII package

- **Pressure:** negative, minimum -0.01 w.c. to corridor/anteroom; anterooms (where provided) at neutral or negative with their own 10 ACH.
- **Air changes:** 12 ACH new/renovated, 6 ACH existing; minimum 2 outdoor ACH typical.
- **Exhaust:** directly outdoors, away from intakes and occupied areas (25+ ft separation); 170-2021 permits general-exhaust discharge under conditions.
- **Monitoring:** permanent visual monitoring of pressure differential; alarms where required.
- **Envelope:** well-sealed — windows, doors, intake/exhaust penetrations constructed to hold the differential; self-closing doors.
- **Recirculation:** no recirculation by room units; HEPA filtration required if air must be recirculated.

AII vs. protective environment (PE)

Don’t confuse them: **AII rooms are negative** (protect others from the patient — TB, measles, COVID); **PE rooms are positive** (protect the patient from the environment — transplant, neutropenic). Combination AII/PE rooms exist with anterooms managing the pressure flip — among the most demanding designs in the standard.

Isolation room specifications, source by source

AII vs. PE in one line each. An airborne infection isolation (AII) room runs at negative pressure so air flows in and stays in; ASHE says AII rooms “are designed to prevent the spread of droplet nuclei expelled by a patient with disease” (ASHE 2021 ventilation guidance, p. 11). A protective environment (PE) room runs at positive pressure to keep contaminants away from an immunocompromised patient; CDC calls for positive room air pressure in relation to the corridor for PE rooms.

Pressure differential: 0.01 in. w.c. (2.5 Pa). CDC calls for AII rooms to maintain continuous negative air pressure of 2.5 Pa (0.01-inch water gauge) relative to the corridor, and for PE rooms to hold at least 2.5 Pa (0.01-inch water gauge) positive. ASHE gives the AII figure as at least -0.01 in. of water (-2.5 Pa) for newly constructed rooms, or -0.001 in. of water (-0.25 Pa) for rooms constructed before 2005 (ASHE, p. 11).

Air changes: 12 ACH new or renovated, 6 ACH existing AII. CDC says to provide at least 12 ACH for new and renovated AII rooms and at least 6 ACH for existing AII rooms, and to ventilate PE rooms to at least 12 ACH. ASHE states the AII split by building age: 12 ACH for newly constructed rooms, or 6 ACH for rooms constructed before 2005 (ASHE, p. 11).

PE supply air is HEPA-filtered. For PE rooms, CDC says to install central or point-of-use HEPA filters for supply (incoming) air, and to locate supply and exhaust grilles so clean, filtered air enters on one side of the room, flows across the patient's bed and exits on the opposite side.

AII exhaust goes outdoors, or through HEPA if it must recirculate. CDC says to direct AII exhaust air to the outside, away from air-intake and populated areas; if that is not practical, room air can be recirculated after passing through a HEPA filter. CDC also says to locate exhaust outlets more than 25 ft from air-intake systems. ASHE adds that AII exhaust should sit at least 10 feet off rooftop level and 25 feet from outside air intakes to meet ASHRAE/ASHE Standard 170-2017 (ASHE, p. 17).

Pressure monitoring for AII rooms. CDC's wording is to monitor air pressure periodically, preferably daily, using audible manometers or smoke tubes at the door for existing AII rooms, or a permanently installed visual monitoring mechanism, and to document the results. For PE rooms, CDC calls for daily airflow monitoring with permanently installed visual means in new or renovated construction.

Where the design values live in ASHRAE 170. The standard's inpatient ventilation values sit in Table 7-1, which ASHRAE's own published Addendum u to Standard 170-2021 titles "Design Parameters—Inpatient Spaces." HFH does not reproduce rows from the paywalled standard. Check your licensed edition, the one your AHJ enforces, and see our ASHRAE 170 healthcare HVAC design guide for how to read the table.

Negative protects others. Positive protects the patient. Never confuse them.

See negative pressure in construction and OR ventilation.

FAQ

Monitoring in operation — and the failure points surveyors find

An AII room that was compliant at commissioning drifts. The operating discipline that keeps the ASHRAE 170 requirement set true between surveys:

- **Continuous or daily-verified pressure monitoring** with a permanently installed visual indicator where required, and an alarm or documented check when the differential is lost. A room that cannot prove it held negative pressure cannot claim it did.
- **Door discipline:** the requirement set assumes doors closed. Propped AII doors are both an infection-control and a survey finding, and they defeat the exhaust-driven design.
- **Common failure points:** exhaust fan or damper failures discovered late; supply/exhaust balance changed by unrelated HVAC work elsewhere in the system; filters loaded beyond their pressure-drop design; anterooms converted to storage, breaking the pressure cascade; and rooms quietly returned to general use while still signed as isolation.
- **Verification after change:** any HVAC modification touching the zone triggers re-testing and balancing of the affected AII rooms — the workflow in healthcare HVAC commissioning, testing, and balancing.

AII rooms differ from protective environment (PE) rooms in direction, not degree: AII is negative to protect everyone else from the patient; PE is positive to protect the patient from everyone else. Confusing the two — in signage, in switching a room's mode, or in a survey interview — is a classic finding. The room-by-room numbers for both sit in the ASHRAE 170 room-by-room benchmarks. FGI's design-side requirements for the same rooms are covered from the FGI Guidelines hub.

What are the most common ASHRAE 170 failures in AII rooms?

Lost pressure differential discovered late (no working monitor or unchecked alarms), propped doors defeating the design, balance changes from unrelated HVAC work never re-verified, anterooms used as storage, and confusion between negative-pressure AII rooms and positive-pressure protective environment rooms.

What pressure must an isolation room maintain?

Negative, minimum -0.01 inches water column (2.5 Pa) relative to the corridor or anteroom.

How many air changes does an AII room need?

12 total ACH for new/renovated rooms; 6 ACH for existing.

What is the difference between AII and PE rooms?

AII rooms are negative pressure (protect others from the patient); PE rooms are positive pressure (protect the immunocompromised patient from the environment).

Related reading

- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes
- Ventilation Requirements: Procedure Rooms vs. Operating Rooms (ASHRAE 170)
- Humidity Control in Hospitals Under ASHRAE 170

Filtration Levels for Surgical Suites Under ASHRAE 170

Source: https://healthcarefacilityhub.org/ashrae-170-filtration-surgical-suites/ Published: October 5, 2026

What filtration level does ASHRAE 170 require for surgical suites?

MERV-16 final filtration for ORs — and the rating is only as good as the seal.

ASHRAE 170-2021 requires **MERV-16** final filtration for **operating rooms** (Class B/C surgery), with **MERV-14** for **procedure rooms** and trauma rooms. Systems use **two filter banks in series**: a prefilter (typically MERV-7/8) upstream of coils and the final filter bank downstream. Earlier editions specified MERV-14 for ORs — **confirm which edition your AHJ enforces** before designing or replacing.

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On this page: The filtration chain · Maintenance is the requirement too · FAQ

The filtration chain

- **Filter Bank 1 (prefilter):** MERV-7 or higher, upstream of heating/cooling coils — protects the coils.
- **Filter Bank 2 (final):** MERV-16 for ORs, MERV-14 for procedure rooms — downstream of coils and supply fan, the patient-protection layer.
- **Seal the edges:** filter bypass around poorly seated filters defeats the rating — gasket and seal filter racks.
- **HEPA** is not generally required by 170 for ORs (MERV-16 suffices), though some facilities specify it; protective environment (PE) rooms for transplant/burn patients have their own HEPA requirements.

Maintenance is the requirement too

The standard's filtration levels assume **maintained filters**: pressure drop monitored, changeout on schedule or differential pressure, not on the calendar alone. A loaded MERV-16 performing at MERV-8 pressure drop is still filtering — but verify airflow is maintained, since loaded filters reduce ACH.

The rating is only as good as the seal around the filter.

See OR vs. procedure room ventilation and HEPA filtration in construction.

FAQ

What MERV rating do operating rooms require?

MERV-16 final filtration under ASHRAE 170-2021 (MERV-14 under earlier editions — verify your adopted edition).

Do operating rooms require HEPA filters?

Not generally under ASHRAE 170 — MERV-16 final filtration is the requirement; some facilities specify HEPA voluntarily.

Why two filter banks?

The prefilter protects coils; the final bank downstream of coils and fan protects patients. Both must be sealed against bypass.

Related reading

- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes
- Humidity Control in Hospitals Under ASHRAE 170
- How ASHRAE 170 Interacts with FGI Guidelines

What Changed in Recent Editions of ASHRAE 170

Source: https://healthcarefacilityhub.org/ashrae-170-recent-edition-changes/ Published: October 5, 2026

What changed in recent editions of ASHRAE 170?

170-2025 is the current edition. 170-2021 brought new filtration tables, outpatient ventilation and unoccupied turndown.

The current edition is **ANSI/ASHRAE/ASHE Standard 170-2025**, and the 2026 FGI Codes incorporate it, including all issued addenda (HFM Magazine). The previous edition, **ASHRAE 170-2021**, incorporated 17 addenda to the 2017 edition (ASHRAE). Its major changes: **revised air filtration requirements** (including new filtration columns in the ventilation tables), a **new outpatient ventilation table**, **unoccupied turndown** provisions, expanded guidance allowing **AII exhaust to discharge to general exhaust** under conditions, clarified **Class 1/2/3 imaging** in coordination with FGI, a revised **"invasive procedure" definition**, improved **behavioral and mental health** guidance, and expanded **intake/exhaust separation distances**. The 2017 edition's headline change was lowering the **OR humidity minimum from 30% to 20%**.

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On this page: 2025 edition highlights · 2021 edition highlights (previous edition) · What to watch · FAQ

2025 edition highlights

ASHE, which publishes the standard with ASHRAE, lists these significant changes in the 2025 edition:

- **Natural ventilation:** new requirements for its optional use.
- **Outdoor air:** total outdoor air calculated at the system level for systems serving both Standard 170 and Standard 62.1 spaces.
- **Imaging:** updated requirements for Class 2 and Class 3 imaging rooms and associated non-imaging spaces, plus a nuclear medicine clarification.
- **Outpatient turndown:** clarified unoccupied turndown requirements in outpatient spaces.
- **Construction:** reorganized and updated requirements for ventilation during construction.
- **FGI coordination:** new space types to coordinate with FGI 2026 space types, clarified bronchoscopy requirements, and additional behavioral health space types.

2021 edition highlights (previous edition)

- **Filtration:** extensive revisions; ventilation tables now prescribe filter efficiency per space (e.g., MERV-16 for ORs) plus unoccupied turndown allowances.
- **Outpatient table:** new dedicated ventilation table for non-acute outpatient spaces.
- **AII exhaust:** airborne infection isolation exhaust may discharge to general exhaust under specified conditions (previously effectively outdoors-only).

- **FGI coordination:** three-section structure (hospital, outpatient, residential) aligned with FGI publications; imaging classes clarified.
- **Behavioral health:** improved ventilation guidance for mental health spaces.
- **Anesthetic gases:** improved guidance on space ventilation where anesthetic gases are used.

What to watch

ASHRAE 170 is on **continuous maintenance** — addenda publish between editions, and the next full edition will incorporate them. Design to the edition your AHJ adopts, and track addenda if your project spans multiple years. ASHE notes that AHJs have adopted and are enforcing different editions of Standard 170, so the edition that applies to your building may still be 2021 or earlier. For how 170 fits into pressure, air change and design requirements, see our ASHRAE 170 healthcare HVAC design guide.

2025 is current, but your AHJ may still enforce 2021 or earlier. 2017's humidity change is still the one everyone talks about.

See how ASHRAE 170 interacts with FGI and humidity control.

FAQ

What is the current edition of ASHRAE 170?

ANSI/ASHRAE/ASHE Standard 170-2025. The 2026 FGI Codes incorporate it. The previous edition, 170-2021, incorporated 17 addenda to the 2017 edition. Confirm with your AHJ which edition applies to your building.

What was the biggest change in ASHRAE 170-2017?

Lowering the operating room humidity minimum from 30% to 20% relative humidity.

What did 170-2021 change about filtration?

Extensive revisions — the ventilation tables now prescribe filter efficiency per space type and add unoccupied turndown provisions.

Related reading

- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes
- ASHRAE 170 Edition Tracker: Which Version Applies to Your Facility (2008–2025)
- Humidity Control in Hospitals Under ASHRAE 170

Humidity Control in Hospitals Under ASHRAE 170

Source: https://healthcarefacilityhub.org/ashrae-170-humidity-control-hospitals/ Published: October 5, 2026

How does ASHRAE 170 address humidity control in hospitals?

ORs at 20–60% RH — the 2017 change from 30% saved billions in humidification.

ASHRAE 170 sets **relative humidity ranges per space type**: operating rooms, procedure rooms, and trauma rooms at **20–60% RH**; most other clinical spaces capped at **60% maximum** (some at 65%). The critical history: the **2017 edition lowered the OR minimum from 30% to 20%** — a major change driven by evidence that low humidity doesn't increase surgical site infections, saving enormous humidification energy and cost.

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On this page: Key humidity requirements (170-2021) · Why humidity matters both ways · Operational notes · FAQ

Key humidity requirements (170-2021)

- **Operating rooms, procedure rooms, trauma rooms, C-section delivery:** 20–60% RH.
- **Patient rooms, ICUs, recovery, ED treatment:** maximum 60% RH (no minimum).
- **Waiting areas, some support spaces:** maximum 60–65% RH.

Why humidity matters both ways

Too high (above 60%): mold and microbial growth in ductwork and building materials, condensation on cool surfaces. **Too low**: static electricity (a concern around flammable anesthetics historically), staff and patient comfort, dry mucous membranes. The 20% minimum reflects the finding that the infection risk of lower humidity was overstated — but facilities in dry climates still humidify for comfort and equipment.

Operational notes

Humidity is controlled by the HVAC system, not room devices — **portable humidifiers in clinical spaces are an infection risk** and generally prohibited. Monitor and trend RH in ORs and other controlled spaces; excursions outside the range are survey-notable.

Twenty percent changed everything — billions in humidification, reconsidered.

See OR vs. procedure room ventilation and recent ASHRAE 170 changes. For the edition question — which one your AHJ actually enforces — see the ASHRAE 170 edition tracker.

FAQ

What humidity does ASHRAE 170 require for operating rooms?

20–60% relative humidity (the minimum was lowered from 30% in the 2017 edition).

Why was the OR humidity minimum lowered?

Evidence showed low humidity doesn't increase surgical site infections — the change saves major humidification energy and cost.

Can I use portable humidifiers in patient areas?

No — they're an infection risk; humidity must be controlled by the HVAC system.

Related reading

- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes
- How ASHRAE 170 Interacts with FGI Guidelines
- ASHRAE 170 Requirements for Airborne Infection Isolation Rooms

Ventilation Requirements: Procedure Rooms vs. Operating Rooms (ASHRAE 170)

Source: https://healthcarefacilityhub.org/ashrae-170-ventilation-procedure-rooms-vs-operating-rooms/
Published: October 5, 2026

What are the ventilation requirements for procedure rooms vs operating rooms?

ORs: 20 ACH and MERV-16. Procedure rooms: 15 ACH and MERV-14. The OR gets the most air in the building.

Under ASHRAE 170-2021, **operating rooms** require **positive pressure, 20 total air changes per hour (4 outdoor ACH), MERV-16 filtration, 20–60% relative humidity, and 68–75°F**. **Procedure rooms** require **positive pressure, 15 total ACH (3 outdoor ACH), MERV-14 filtration, 20–60% RH, and 70–75°F**. The operating room is the more stringently ventilated space — more air changes, finer filtration — reflecting the open surgical wound and the sterile field.

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This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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On this page: Side by side (ASHRAE 170-2021) · Design details that matter · FAQ

Side by side (ASHRAE 170-2021)

Parameter	Operating room	Procedure room
Pressure	Positive	Positive
Total ACH	20	15
Outdoor ACH	4	3
Filtration	MERV-16	MERV-14
Humidity	20–60%	20–60%
Temperature	68–75°F	70–75°F

Design details that matter

Operating rooms also require a **primary diffuser array** over the surgical table (extending 12 inches beyond the table footprint on each side), unidirectional downward airflow at 25–35 cfm/sq ft, and low sidewall return grilles. Both rooms prohibit recirculation by room units. Always verify against the edition your AHJ has adopted — filtration levels in particular changed between editions.

The OR gets the most air in the building — by design.

See filtration for surgical suites and humidity control.

FAQ

How many air changes does an operating room need?

20 total ACH with at least 4 outdoor ACH, positive pressure, per ASHRAE 170-2021.

How many air changes does a procedure room need?

15 total ACH with at least 3 outdoor ACH, positive pressure.

Why do ORs need more ventilation than procedure rooms?

The open surgical wound and sterile field demand finer filtration and higher dilution — 20 ACH and MERV-16 versus 15 ACH and MERV-14.

Related reading

- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes
- ASHRAE 170 Requirements for Airborne Infection Isolation Rooms
- Humidity Control in Hospitals Under ASHRAE 170

Most Common NFPA 101 Deficiencies in Hospitals

Source: https://healthcarefacilityhub.org/common-nfpa-101-deficiencies-hospitals/ Published: October 5, 2026

What are the most common NFPA 101 deficiencies in hospitals?

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Surveyors don’t find new problems — they find the same ones, again.

The most-cited NFPA 101 deficiencies in hospitals cluster around a short list: **unprotected penetrations in fire/smoke barriers**, **corridor doors that don’t close and latch**, **sprinkler and fire alarm**

testing/maintenance gaps, **corridor width obstructions and storage**, **emergency generator testing documentation**, and **fire drill deficiencies** (frequency, conditions, documentation). These are the K-tags surveyors write most — and nearly all of them are maintenance and discipline failures, not design problems.

For the full picture of how NFPA 101 applies to your buildings, from occupancy chapters to K-tags and waivers, see our complete guide to the NFPA 101 Life Safety Code for healthcare facilities.

On this page: The repeat offenders · Why the same deficiencies repeat · FAQ

The repeat offenders

- **Barrier penetrations:** pipes, cables, and ducts punched through rated barriers without UL-listed firestop — the single most common finding.
- **Doors:** corridor and smoke-barrier doors propped open, failing to close/latch, missing or painted-over labels, gaps exceeding tolerance.
- **Sprinklers/alarms:** missed quarterly/annual testing, painted or loaded sprinkler heads, obstructed coverage, alarm panel troubles ignored.
- **Corridors:** equipment and storage reducing clear width below minimums; combustible storage in corridors.
- **Generators:** monthly load testing not performed or not documented to the required standard.
- **Fire drills:** not quarterly on every shift, not under varying conditions, coded announcements misused, poor documentation (K-712).
- **Electrical:** extension cords as permanent wiring, missing outlet covers, panel access blocked.

Why the same deficiencies repeat

Almost none of these are capital problems — they're **rounds, training, and work-order** problems. Penetrations happen every time IT runs a cable; doors get propped by staff who don't know why they matter; testing gets deferred. The facilities that stay clean run **continuous surveillance**: barrier rounds, door checks, and a testing calendar that doesn't depend on anyone's memory.

Surveyors don't find new problems. They find the same ones, again.

See NFPA 101 for healthcare and Joint Commission's most common findings.

FAQ

What is the most common NFPA 101 deficiency?

Unprotected penetrations in fire and smoke barriers — holes punched for pipes/cables without proper firestopping.

Are corridor doors a common citation?

Yes — propped doors, doors that don't close and latch, and damaged or missing labels are perennial findings.

How do hospitals prevent repeat deficiencies?

Continuous surveillance: barrier rounds, door checks, a testing calendar, and staff training on why each element matters.

Related reading

- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- Corridor Width Requirements in Healthcare Under NFPA 101
- NFPA 101 Life Safety Code for Healthcare Occupancies
- NFPA 241 in Healthcare Construction — the construction-phase standard behind many of these deficiencies

Which NFPA 101 Edition Does CMS Enforce?

Source: https://healthcarefacilityhub.org/which-nfpa-101-edition-does-cms-enforce/ Published: October 5, 2026

Which edition of NFPA 101 does CMS currently enforce?

Take this to the job site.

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CMS enforces the 2012 editions — a 2026 proposal would update provisions, but it isn't final.

CMS currently enforces the **2012 editions of NFPA 101 (Life Safety Code) and NFPA 99 (Health Care Facilities Code)**, adopted in the 2016 final rule (81 FR 63860). A **proposed rule floated in 2026** would update fire safety provisions — more homelike environments, corridor equipment allowances, revised furnishing rules — but it remains a proposal, not a final rule. Until CMS finalizes an update, **2012 is the enforceable edition** for Medicare/Medicaid-participating facilities.

Once you know the edition, our NFPA 101 Life Safety Code guide for healthcare facilities explains how CMS, Joint Commission, and state agencies enforce it.

On this page: The current state · What this means for your facility · FAQ

The current state

- **Enforced now:** NFPA 101-2012 and NFPA 99-2012, with CMS-specific modifications (e.g., stricter corridor projection limits, roller latch prohibitions, 4-hour sprinkler-impairment fire watch vs. 10 hours in the base code).
- **Proposed (2026):** updates encouraging homelike environments — corridor storage of lifts, fixed corridor furniture as resting points, open cooking facilities for small service areas, flame-retardant-treated combustible decor, and locking arrangements for wandering-risk units. Still based on the 2012 codes with modifications.

- **Not yet final:** proposals don't change survey expectations. Build and maintain to 2012 until a final rule says otherwise.

What this means for your facility

Design new construction and renovations to **NFPA 101-2012 as modified by CMS**, and watch the proposed rule — if finalized, it will ease several long-standing pain points (corridor use, furnishings, decor). But don't build to a proposal; surveyors enforce the current final rule.

2012 is the law. The proposal is the weather forecast.

See NFPA 101 for healthcare occupancies and CMS life safety surveys.

FAQ

Which NFPA 101 edition does CMS enforce?

The 2012 edition (with NFPA 99-2012), adopted in the 2016 final rule.

Is CMS updating to a newer edition?

A proposed rule in 2026 would revise fire safety provisions but retains the 2012 editions as the base. It is not final.

Do CMS modifications differ from base NFPA 101-2012?

Yes — e.g., stricter corridor projection limits, roller latch prohibitions, and a 4-hour (not 10-hour) sprinkler impairment threshold for fire watch.

Related reading

- How does CMS enforce NFPA 101 compliance?
- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- Corridor Width Requirements in Healthcare Under NFPA 101
- Defend-in-Place Strategy for Healthcare Facilities — the strategy the CMS-enforced edition of the code is built around

Defend-in-Place Strategy in Healthcare Facilities

Source: https://healthcarefacilityhub.org/defend-in-place-strategy-healthcare-facilities/ Published: October 5, 2026

What is the defend-in-place strategy in healthcare facilities?

Defend-in-place: the patients stay, the building does the protecting.

Defend-in-place is the fire safety strategy for healthcare occupancies: instead of evacuating patients — most of whom can't walk, and some of whom can't survive being moved — the building is designed to **protect them where they are**. Fire-rated and smoke-resistive construction, automatic sprinklers, smoke compartments, and trained staff contain the fire and its products while patients **relocate horizontally** past a smoke barrier to an adjacent compartment, rather than down stairs and out of the building.

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How it works

- **Compartmentation:** each floor divided into at least two smoke compartments by smoke barriers; fire areas further subdivided by fire barriers.
- **Horizontal relocation:** on alarm, staff move patients through smoke-barrier doors into the adjacent compartment — no stairs, no elevators, no outdoors.
- **Suppression and detection:** sprinklers control the fire; detection and alarm alert staff early.
- **Staff action:** the strategy depends on trained staff executing the fire plan — closing doors, relocating patients, and accounting for everyone.

What defend-in-place demands of the building

Every element must work: **smoke barriers intact and sealed** (penetrations firestopped), **corridor doors that close and latch**, **corridors clear** for bed movement, sprinklers and alarms maintained and tested. A propped-open smoke-barrier door or a missing ceiling tile defeats the strategy — which is why surveyors focus so relentlessly on barriers, doors, and penetrations.

The patients stay. The building does the moving.

See NFPA 101 for healthcare and common NFPA 101 deficiencies.

FAQ

What is defend-in-place?

The healthcare fire strategy of protecting patients where they are — via compartmentation, sprinklers, and horizontal relocation past smoke barriers — instead of full evacuation.

Why don’t hospitals just evacuate?

Most patients can’t self-evacuate, and moving critical patients (ventilated, surgical, neonatal) can be more dangerous than the fire. The code is engineered around that reality.

What defeats defend-in-place?

Propped smoke-barrier doors, unsealed penetrations, blocked corridors, impaired sprinklers — anything that lets fire or smoke move faster than staff can relocate patients.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- What are the FGI Guidelines for healthcare facilities?

- Hospital Evacuation Planning: Horizontal, Vertical, and Full Evacuation Protocols
- NFPA 101 Life Safety Code for Healthcare Facilities: The Complete Guide — the code framework the defend-in-place strategy operates under
- NFPA 101 Corridor Width Requirements for Healthcare Facilities — the corridor dimension rules that make defend-in-place movement work

Corridor Width Requirements in Healthcare Under NFPA 101

Source: https://healthcarefacilityhub.org/nfpa-101-corridor-width-healthcare/ Published: October 5, 2026

What are the corridor width requirements in healthcare under NFPA 101?

Eight feet clear in new healthcare occupancies — the corridor is the horizontal evacuation route.

NFPA 101 requires corridors in **new healthcare occupancies** to be at least **8 feet (96 inches) in clear, unobstructed width** — wide enough to move patients on beds and transport equipment during an emergency. **Existing** healthcare occupancies require **6 feet** minimum. Corridors in adjunct areas not used for housing, treating, or moving inpatients may be as narrow as **44 inches**.

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On this page: The numbers · Why it matters for surveys · FAQ

The numbers

- **New healthcare occupancy:** 8 ft clear and unobstructed.
- **Existing healthcare occupancy:** 6 ft minimum.
- **Adjunct areas** (not for inpatient housing/treatment/use): 44 in. minimum.

What’s allowed in the corridor

The 8-foot corridor isn’t empty space — the code permits **projections and equipment** within limits: noncontinuous projections up to 6 inches from the wall (with conditions), wheeled equipment and carts provided they don’t reduce clear width below 5 feet (60 in.) with a fire plan addressing relocation, and fixed furniture secured to floor or wall that doesn’t reduce width below 6 feet, all on one side, in groups under 50 sq ft separated by 10 feet. (Note: CMS’s adoption has historically been stricter on projections than the base code — confirm against the CMS-modified requirements.)

Why it matters for surveys

Corridor width and corridor clutter are **perennial survey findings** — equipment, storage, and furniture creeping into the required clear width. The corridor is the horizontal evacuation route for defend-in-place;

anything that narrows it below the minimum is a deficiency.

Eight feet new, six feet existing — measured clear, not hopeful.

See defend-in-place and common NFPA 101 deficiencies.

FAQ

How wide must hospital corridors be?

8 feet clear in new healthcare occupancies; 6 feet minimum in existing; 44 inches in adjunct areas not used for inpatients.

Can equipment be stored in hospital corridors?

Wheeled equipment may be in 8-ft corridors if clear width stays at least 5 feet and the fire plan addresses relocation during emergencies.

Can furniture go in corridors?

Fixed furniture is permitted if secured, on one side only, in groups under 50 sq ft separated by 10 ft, and clear width stays at least 6 feet.

Related reading

- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- NFPA 101 Life Safety Code for Healthcare Occupancies
- NFPA 101: Healthcare vs. Ambulatory Healthcare Occupancy
- Which NFPA 101 Edition Does CMS Enforce? — the enforced edition behind the corridor requirements here

NFPA 101: Healthcare vs. Ambulatory Healthcare Occupancy

Source: https://healthcarefacilityhub.org/nfpa-101-healthcare-vs-ambulatory-healthcare-occupancy/
Published: October 5, 2026

How does NFPA 101 define healthcare vs ambulatory healthcare occupancy?

Healthcare, ambulatory healthcare, or business occupancy — the classification drives everything.

Healthcare occupancy (NFPA 101 Chapters 18/19) is a building or portion used for medical or surgical care of **four or more persons who are mostly incapable of self-preservation** — because of age, disability, or security — and who **sleep in the facility** (hospitals, nursing homes). **Ambulatory healthcare occupancy** (Chapters 20/21) serves **four or more outpatients simultaneously who may be rendered incapable of self-preservation** — typically by anesthesia or sedation — but who **do not stay overnight** (surgery centers, large clinics). Fewer than four outpatients at a time? That's a **business occupancy**, with far less stringent requirements.

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On this page: Side by side · Why the distinction matters · FAQ

Side by side

- **Healthcare occupancy:** 4+ inpatients, incapable of self-preservation, sleeping accommodations. Ch. 18 (new) / 19 (existing).
- **Ambulatory healthcare occupancy:** 4+ outpatients at once, potentially incapacitated (anesthesia), no overnight stay. Ch. 20 (new) / 21 (existing).
- **Business occupancy:** fewer than 4 outpatients simultaneously — e.g., a small doctor's office or standalone MRI. Standard commercial requirements apply.

Why the distinction matters

The occupancy classification drives **everything**: corridor widths (8 ft in healthcare), smoke compartmentation, sprinkler requirements, and CMS survey scope. Misclassifying an ambulatory surgery center as a business occupancy — or vice versa — means building to the wrong code chapter. When the classification is uncertain, the AHJ decides.

Four patients, sleeping or sedated — that's the line.

See NFPA 101 for healthcare occupancies and which edition CMS enforces.

FAQ

What is a healthcare occupancy under NFPA 101?

A facility caring for 4+ persons mostly incapable of self-preservation who sleep in the building — hospitals, nursing homes (Ch. 18/19).

What is an ambulatory healthcare occupancy?

A facility treating 4+ outpatients simultaneously who may be rendered incapable (e.g., anesthesia) with no overnight stay — surgery centers, large clinics (Ch. 20/21).

Is a small doctor's office a healthcare occupancy?

Generally no — fewer than four outpatients at a time classifies as business occupancy.

Related reading

- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- Corridor Width Requirements in Healthcare Under NFPA 101
- NFPA 101 Life Safety Code for Healthcare Occupancies
- Common NFPA 101 Deficiencies in Hospitals — the deficiency patterns in both occupancy types

NFPA 241 and Healthcare Construction

Source: https://healthcarefacilityhub.org/nfpa-241-healthcare-construction/ Published: October 5, 2026

What is NFPA 241 and how does it relate to healthcare construction?

NFPA 241 governs fire safety during construction — the fire-side companion to the ICRA.

NFPA 241, Safeguarding Construction, Alteration, and Demolition Operations, is the standard for fire safety **during** construction — temporary wiring, hot work, combustible storage, fire protection impairments, and the temporary barriers and separations that protect occupied areas while work is underway. In healthcare construction, NFPA 241 is the fire-side companion to the ICRA: **ICRA protects patients from dust and infection; NFPA 241 protects them from fire during the project.**

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On this page: What NFPA 241 requires · The healthcare intersection · FAQ

What NFPA 241 requires

- **Temporary barriers:** construction separations between work zones and occupied areas — where the project is a higher hazard than the occupied building, 1-hour fire resistance with 45-minute opening protection.
- **Hot work controls:** permits, fire watch, and combustible control for welding, cutting, and burning.
- **Impairment management:** procedures when sprinklers, alarms, or detection are impaired — including fire watch when sprinklers are out over 10 cumulative hours in 24 (alarm impairments: 4 hours).
- **Housekeeping:** control of combustible debris and storage in and around the construction area.
- **Access for firefighting:** maintaining fire department access and standpipe/hydrant availability.

The healthcare intersection

NFPA 241 shows up by reference across the healthcare compliance world: **ICRA Class IV requires "critical barriers meeting NFPA 241,"** Joint Commission ILSM measures require smoketight noncombustible temporary partitions, and CMS K-tags cite construction-related fire deficiencies. One construction project, three overlapping standards — coordinate them in a single plan, not three binders.

ICRA guards the air. NFPA 241 guards the fire.

See fire ratings for temporary barriers and Class IV barriers.

FAQ

What does NFPA 241 cover?

Fire safety during construction, alteration, and demolition — temporary barriers, hot work, impairments, housekeeping, and firefighter access.

How does NFPA 241 relate to ICRA?

They're companions: ICRA controls infection risk from construction; NFPA 241 controls fire risk. ICRA Class IV explicitly requires critical barriers meeting NFPA 241.

Does NFPA 241 require fire watch?

It provides the framework for impairment management, including fire watch when fire protection systems are impaired beyond allowable durations.

Related reading

- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- NFPA 99 Health Care Facilities Code: Risk-Based Approach to Medical Gas, Electrical, and Fire Systems
- NFPA 101 Life Safety Code for Healthcare Facilities: The Complete Guide — the life safety framework NFPA 241 construction protection plugs into
- Common NFPA 101 Deficiencies in Hospitals — the deficiency patterns construction-phase protection is judged against

NFPA 101 Life Safety Code for Healthcare Occupancies

Source: https://healthcarefacilityhub.org/nfpa-101-life-safety-code-healthcare-occupancies/ Published: October 5, 2026

What is NFPA 101 Life Safety Code for healthcare occupancies?

NFPA 101 for healthcare: smoke compartments, 8-foot corridors, sprinklers, and multiple exits — built around defend-in-place.

NFPA 101, the Life Safety Code, is the National Fire Protection Association's model code for protecting building occupants from fire, smoke, and toxic fumes. For **healthcare occupancies** (Chapters 18 for new, 19 for existing), it sets requirements for compartmentation, egress, fire protection systems, and interior finishes — all built around one reality: **hospital patients mostly can't evacuate themselves**, so the code emphasizes defending them in place rather than moving them.

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On this page: What it requires of healthcare occupancies · Who enforces it · FAQ **Go deeper:** NFPA 101 for healthcare: the complete guide

What it requires of healthcare occupancies

- **Smoke compartments:** each floor divided into at least two smoke compartments so patients can be moved horizontally past a smoke barrier instead of down stairs.
- **Corridor widths:** 8 ft clear in new healthcare occupancies (6 ft in existing) to move beds and equipment.
- **Fire protection:** automatic sprinklers, fire alarm and detection, with specific provisions for healthcare.
- **Egress:** multiple remote exits; a single enclosed exit stair is never permitted in a healthcare occupancy.
- **Interior finishes:** flame-spread and smoke-developed limits appropriate to the occupancy.

Who enforces it

NFPA 101 is a **model code** — it has force when adopted. For Medicare/Medicaid-participating facilities, **CMS enforces the 2012 edition** (adopted 2016), and The Joint Commission surveys to it as well. States and local AHJs may adopt different editions, so always confirm which edition your authority enforces.

The code assumes patients can't run — so the building does the protecting.

See which NFPA 101 edition CMS enforces and the defend-in-place strategy.

FAQ

What is NFPA 101?

The National Fire Protection Association's Life Safety Code — the model code for protecting building occupants from fire and smoke.

Which NFPA 101 chapters cover hospitals?

Chapter 18 (new healthcare occupancies) and Chapter 19 (existing healthcare occupancies).

Is NFPA 101 law?

It's a model code — it becomes enforceable when adopted by an authority like CMS, a state, or a local AHJ.

Related reading

- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- NFPA 101 Life Safety Code for Healthcare Facilities: The Complete Professional Guide (2026)
- Corridor Width Requirements in Healthcare Under NFPA 101

ICRA: Which One Are You Looking For?

Source: https://healthcarefacilityhub.org/what-does-icra-stand-for/ Published: October 5, 2026

Three different worlds share one acronym — pick your door.

ICRA means three completely different things depending on who you ask — and if you landed here from a search, there's a good chance you wanted one of the other two. No wrong answers here; just pick your door.

Take this to the job site.

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On this page: 1. Infection Control Risk Assessment (this site) · 2. ICRA Limited (India's credit rating agency) · 3. IEEE ICRA (the robotics conference) · FAQ

1. Infection Control Risk Assessment (this site)

In healthcare construction, ICRA is the **Infection Control Risk Assessment** — the process hospitals use to protect patients from construction dust, mold, and airborne pathogens during renovation. It classifies work (Type A–D) and patient risk to determine precautions (Class I–V).

Start with our ICRA matrix and barriers guide ->

2. ICRA Limited (India's credit rating agency)

ICRA Limited — the Investment Information and Credit Rating Agency of India — is one of India's major credit rating agencies, established in 1991 and majority-owned by Moody's. It rates corporate debt, bank loans, mutual funds, and infrastructure projects, and its shares trade on the BSE and NSE. If you were looking for bond ratings, credit research, or the ICRA stock price, this is your ICRA.

Official site: www.icra.in

3. IEEE ICRA (the robotics conference)

ICRA is also the **IEEE International Conference on Robotics and Automation** — one of the world's premier robotics research conferences, running annually since 1984. If you were looking for paper submissions, proceedings, or conference dates, this is your ICRA.

Official site: www.ieee-icra.org

Healthcare construction is what we do here.

If the hospital-construction ICRA is the one you wanted, our ICRA matrix guide and step-by-step ICRA walkthrough are the place to start.

FAQ

What does ICRA stand for?

Three things: (1) Infection Control Risk Assessment — the hospital construction safety process; (2) ICRA Limited — India's credit rating agency (Investment Information and Credit Rating Agency of India), majority-owned by Moody's; (3) the IEEE International Conference on Robotics and Automation.

Is ICRA Limited related to hospital construction?

No. ICRA Limited is a financial services company that rates creditworthiness. Same acronym, completely different world.

Where do I find the robotics ICRA?

At ieee-icra.org — the IEEE International Conference on Robotics and Automation, held annually since 1984.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- Healthcare Construction Containment Guide: ICRA Barriers, Negative Pressure, and Daily Checks

How to Perform an Infection Control Risk Assessment Before a Hospital Renovation

Source: https://healthcarefacilityhub.org/how-perform-infection-control-risk-assessment-renovation/
Published: October 5, 2026

How do I perform an infection control risk assessment before a hospital renovation?

Seven steps from team assembly to decommissioning — the definitive ICRA procedure.

Perform an ICRA in **seven steps**: **(1)** assemble the multidisciplinary team, **(2)** define the construction activity type (A–D), **(3)** assess the patient risk group and surrounding areas, **(4)** use the matrix to determine the Class of Precautions (I–V), **(5)** specify the minimum controls for that class in an ICRA permit, **(6)** verify barriers and controls are in place before work starts, and **(7)** monitor daily, document everything, and decommission by inspection. The assessment happens **before design is finalized** — it shapes the construction documents, not the other way around.

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Try it: Use the interactive ICRA Class Finder — answer 3 questions and get your precaution class instantly.

Step 1 — Assemble the team

Infection preventionist, facilities/engineering, project manager, nursing rep from affected units, safety officer, contractor superintendent. The ICRA is a team product.

Step 2 — Classify the activity

Type A (non-invasive) through Type D (major demolition/construction). Be honest about dust, duration, and disruption — underestimating the activity type is the most common ICRA failure.

Step 3 — Assess patient risk

Classify the work area and **surrounding areas** (above, below, lateral): Low, Medium, High, or Highest risk. Note environmental hazards — sewage, mold, asbestos, gray/black water automatically escalate the class.

Step 4 — Determine the class

Match activity × risk group in the ASHE ICRA 2.0 matrix to get Class I–V. When in doubt between two classes, take the higher one.

Step 5 — Write the permit

Specify the class's minimum precautions as enforceable requirements: barrier type and locations, HVAC isolation points, negative pressure targets, monitoring frequency, waste routes, and the responsible parties. For Class III (Type C) and all Class IV/V, the **infection control permit must be approved before construction begins**.

Step 6 — Verify before work starts

Walk the site: barriers complete and sealed, HVAC isolated, NAMs running with verified pressure, anteroom stocked, manometers logging. **No verification, no work.**

Step 7 — Monitor, document, decommission

Daily inspections and continuous pressure logging for higher classes; log every reading and excursion with corrective actions. At closeout: HEPA-vacuum, wet mop with disinfectant, remove barriers carefully — only after **inspection by Safety and Epidemiology**.

The ICRA isn't paperwork — it's the construction plan for patient safety.

See the ASHE ICRA 2.0 matrix and the ICRA matrix pillar page.

FAQ

When should the ICRA be performed?

Before design is finalized — the assessment shapes the construction documents.

What is the most common ICRA mistake?

Underestimating the construction activity type, which drops the project into a lower class with inadequate precautions.

Who approves the ICRA?

The infection preventionist (with facilities/engineering); a formal infection control permit is required for Class III (Type C) and all Class IV/V work.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- Infection Control in Healthcare Facilities: The Complete Professional Guide (2026)

- Aspergillus Risk During Hospital Construction — why the ICRA exists: the spore risk the assessment controls
- ICRA Class IV–V Requirements — the precaution classes the assessment in this page assigns
- ICRA vs ILSM: What's the Difference? — the boundary between this assessment and interim life safety measures

The ASHE ICRA 2.0 Matrix: How to Use It

Source: https://healthcarefacilityhub.org/ashe-icra-2-0-matrix-how-to-use/ Published: October 5, 2026

What is the ASHE ICRA 2.0 matrix and how do I use it?

Activity type × patient risk group = Class of Precautions. The ASHE ICRA 2.0 matrix does the math.

The **ASHE ICRA 2.0 matrix** (American Society for Health Care Engineering, ©2022) is the industry-standard tool for determining the **Class of Precautions (I–V)** a construction project requires. You use it in three steps: **(1)** classify the construction activity (Type A–D), **(2)** classify the patient risk group (Low, Medium, High, Highest), **(3)** match them in the matrix to find the class — then apply that class's minimum precautions. An **infection control permit** is required for Class III (Type C) and all Class IV/V work.

Take this to the job site.

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Try it: Use the interactive ICRA Class Finder — answer 3 questions and get your precaution class instantly.

On this page: Step 1 — Construction activity type · Step 2 — Patient risk group · Step 3 — The matrix · FAQ
Go deeper: The full ICRA guide: meaning, matrix, and classes

Step 1 — Construction activity type

- **Type A:** non-invasive (inspections, painting without sanding)
- **Type B:** small-scale, short duration
- **Type C:** large-scale, longer duration
- **Type D:** major demolition and construction

Step 2 — Patient risk group

- **Low:** non-patient care areas (offices, public areas)
- **Medium:** patient care support areas
- **High:** patient care areas
- **Highest:** invasive, sterile, or highly compromised care (ORs, ICUs, oncology, transplant)

Step 3 — The matrix

Risk group	Type A	Type B	Type C	Type D
Low	I	II	II	III*
Medium	I	II	III*	IV
High	I	III	IV	V
Highest	III	IV	V	V

**Class III areas that cannot be sealed and completely isolated should be elevated to include Class IV negative-air exhaust requirements. Environmental hazards (sewage, mold, asbestos, gray/black water) require Class IV for low/medium groups and Class V for high/highest.*

What's new in 2.0

ICRA 2.0 added the **Class V** tier, expanded the patient risk groups to four, and formalized the permit triggers and environmental-hazard escalations. If your facility still uses the original four-class ICRA, the 2.0 matrix is the current ASHE standard to migrate to.

Activity × risk group = class. The matrix does the math.

See the ICRA matrix pillar page and how to perform an ICRA.

FAQ

What are the ICRA 2.0 construction activity types?

Type A (non-invasive), Type B (small-scale short duration), Type C (large-scale longer duration), Type D (major demolition/construction).

What are the ICRA 2.0 patient risk groups?

Low (non-patient care), Medium (patient care support), High (patient care), Highest (invasive/sterile/highly compromised).

When is an infection control permit required?

For Class III (Type C) and all Class IV and V work.

Related reading

- Healthcare Facility & Safety Alerts: CMS EP Rules, TJC Environment of Care & ICRA 2.0 Directives — Tuesday, August 25, 2026
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- ICRA Class III Barrier Requirements — the Class III precautions the matrix assigns, in detail

ICRA Class IV and Class V Requirements

Source: https://healthcarefacilityhub.org/icra-class-iv-v-requirements/ Published: October 5, 2026

What are the requirements for ICRA Class IV and V projects?

Class IV/V: NFPA 241 critical barriers, continuous negative pressure, anteroom, permit — maximum oversight for maximum risk.

Class IV requires NFPA 241 **critical barriers** to the ceiling or deck above, sealed UL-firestopped penetrations, **continuous negative pressure** with HEPA exhaust outdoors, **isolated HVAC**, a **required anteroom**, worker decontamination, and an **infection control permit** before work begins. **Class V** — the highest level, added in ICRA 2.0 — applies to major demolition/construction in **high and highest-risk patient areas** and to environmental hazards (sewage, mold, asbestos, gray/black water) in those areas, layering maximum precautions on top of the Class IV package.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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On this page: Class IV requirements · When Class V applies · Approval and oversight · FAQ

Class IV requirements

- Critical barriers per NFPA 241, full height to ceiling or deck above; no open plenum bypass
- All penetrations sealed; UL-listed firestop where the barrier is rated
- Entire workspace continuously negatively pressurized (-0.01 w.c. is a widely used facility target, not an ICRA 2.0 or CDC requirement) via HEPA exhaust
- Exhaust directed outdoors; indoor discharge HEPA-filtered at 99.97%
- Supply and return diffusers removed or isolated
- Anteroom required; workers HEPA-vacuumed or change coveralls
- Projects over two weeks require hard barriers
- Infection control permit and approval before construction

When Class V applies

Per the ICRA 2.0 matrix: **Type D (major demolition/construction)** in **high-risk** areas, **Type C or D** in the **highest-risk** group (ORs, ICUs, oncology, transplant, sterile areas) — and environmental hazard conditions (sewage, mold, asbestos, gray/black water) in high/highest-risk areas. Class V takes the Class IV containment package and adds the facility's maximum precautions: heightened monitoring, stricter access control, and elevated approval.

Approval and oversight

Infection control permit and approval are required for **all Class IV and V** work. Barriers are not removed until the completed project is **inspected by Safety and Epidemiology and thoroughly cleaned** — HEPA vacuum,

wet mop with disinfectant, careful barrier removal to minimize debris spread.

Class IV is maximum containment. Class V is maximum containment, maximum oversight.

See the ASHE ICRA 2.0 matrix and Class IV barriers in detail.

FAQ

What is the difference between Class IV and Class V?

Class IV is the full containment package (critical barriers, negative pressure, anteroom, permit). Class V applies it to the highest-risk scenarios — major work in high/highest-risk patient areas and environmental hazards — with maximum precautions and oversight.

Do Class IV/V projects need a permit?

Yes — infection control permit and approval are required before construction begins for all Class IV and V work.

Can Class V barriers be plastic?

Only for work under two weeks; longer Class IV/V projects require hard barriers.

Related reading

- ICRA Class III Barrier Requirements
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Mil Polyethylene Requirements for ICRA Containment Barriers

How Often Should ICRA Monitoring Be Done During Healthcare Construction

Source: https://healthcarefacilityhub.org/how-often-icra-monitoring-healthcare-construction/ Published: October 5, 2026

How often should ICRA monitoring be done during healthcare construction?

Daily walkthroughs for Class III and above — continuous pressure logging for Class IV/V.

ICRA monitoring is **daily at minimum** during active construction for Class III and above: barrier integrity, pressure differential readings, and housekeeping checked every workday and documented. Class IV/V projects add **continuous manometer monitoring with data logging and alarming**. Lower classes (I/II) are verified on completion of the task. The frequency scales with the class — and any excursion (lost pressure, breached barrier) triggers immediate corrective action, not a note for tomorrow.

Take this to the job site.

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On this page: Monitoring by class · What gets checked · Documentation · FAQ

Monitoring by class

- **Class I/II:** verify controls on task completion — ceiling tiles replaced, area cleaned, dust contained.
- **Class III:** daily walkthrough — barriers intact and sealed, negative pressure holding, dust mats serviceable, waste contained, adjacent areas clean.
- **Class IV/V:** daily documented inspections **plus** continuous differential-pressure monitoring with logging and alarms; anteroom discipline observed.

What gets checked

Barrier seals (top, bottom, penetrations), manometer readings against the facility's pressure target (-0.01 w.c. is a common practice, not an ICRA 2.0 or CDC requirement), NAM operation and exhaust routing, door discipline (no propping), dust migration into adjacent occupied areas, sticky mat condition, and waste container handling. Adjacent patient areas get a visual check for tracked dust — the earliest warning sign of containment failure.

Documentation

Log readings and inspection results **daily**; record excursions with the corrective action taken and re-verification. This log is what surveyors and the infection preventionist review — a monitoring program with no written record is indistinguishable from no monitoring program.

Daily eyes, continuous gauges, written everything.

See monitoring pressure differentials and the ICRA team.

FAQ

How often must ICRA barriers be inspected?

Daily during active construction for Class III and above, with continuous pressure logging for Class IV/V.

What happens when monitoring finds a problem?

Immediate corrective action — restore pressure, reseal the barrier — documented with re-verification. Excursions aren't carried to the next day.

Must monitoring be documented?

Yes. Daily logs of readings and inspections are the evidence surveyors expect.

Related reading

- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Healthcare Construction Containment Guide: ICRA Barriers, Negative Pressure, and Daily Checks
- ASHE ICRA 2.0 Matrix: How to Use It — the matrix whose precautions the monitoring on this page verifies

ICRA Class III Barrier Requirements

Source: https://healthcarefacilityhub.org/icra-class-iii-barrier-requirements/ Published: October 5, 2026

What barriers are required for ICRA Class III construction?

Class III containment: critical barriers before work begins, HVAC isolation, sealed penetrations, and negative air where assessed.

Class III construction requires **critical barriers completed before work begins** — sealed plastic or hard-wall partitions that fully isolate the work area — plus **HVAC isolation**, **sealed penetrations**, **negative air pressure with HEPA filtration** where the assessment calls for it, contained waste transport, and an **infection control permit** issued before construction starts. Barriers stay up until the project is **inspected by Safety and Epidemiology and thoroughly cleaned**.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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On this page: The Class III barrier package · Where Class III sits in the matrix · Closeout · FAQ

The Class III barrier package

- **Critical barriers** (plastic or hard) built to prevent dust release, completed before construction begins.
- **HVAC isolation:** isolate the system in the work area; seal supply and return diffusers to prevent duct contamination and positive pressurization.
- **Sealed penetrations:** holes, pipes, conduits sealed appropriately (UL-listed firestop where the barrier is rated).
- **Negative pressure:** maintain with HEPA-equipped air filtration units where required by the assessment (note: Class III areas that can’t be fully sealed should be elevated to Class IV negative-air requirements).
- **Waste containment:** construction waste contained before and during transport in tightly covered containers.
- **Dust mats** at entrance/exit, replaced as needed.

Where Class III sits in the matrix

Class III applies to **Type C (large-scale, longer duration)** work in **medium-risk** areas, **Type B** work in **high-risk** areas, **Type D** work in **low-risk** areas, and **Type A** work in the **highest-risk** group. An infection control permit and approval are required for Class III (Type C) and all Class IV/V work.

Closeout

After work: remove barrier materials carefully to minimize spreading debris, HEPA-vacuum, wet mop with disinfectant, remove HVAC isolation — and only after inspection and cleaning. The barriers come down last,

not first.

Barriers first up, last down.

See Class IV and V requirements and soft vs. hard barriers.

FAQ

Can Class III barriers be plastic sheeting?

Yes — plastic or hard barriers are acceptable, provided they're completed before work begins and sealed against dust release. Projects over two weeks require hard barriers.

Does Class III require negative pressure?

Where the assessment requires it — and Class III areas that can't be fully sealed should be elevated to Class IV negative-air requirements.

When can Class III barriers come down?

Only after the project is inspected by Safety and Epidemiology departments and thoroughly cleaned.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- ICRA Class IV and Class V Requirements
- Mil Polyethylene Requirements for ICRA Containment Barriers
- How Often ICRA Monitoring Happens During Healthcare Construction — the monitoring rhythm for the Class III precautions here

Who Should Be on the ICRA Team for a Hospital Construction Project

Source: https://healthcarefacilityhub.org/who-should-be-on-icra-team-hospital-construction/ Published: October 5, 2026

Who needs to be on the ICRA team for a hospital construction project?

The ICRA team: infection prevention, engineering, construction, nursing, safety, and the contractor — at the table before design is finalized.

An ICRA team must be **multidisciplinary**: at minimum, an **infection preventionist**, **facilities/plant engineering** leadership, the **construction project manager**, a **nursing or clinical representative** from affected units, the **safety officer**, and the **contractor's superintendent**. Environmental services (EVS) and administration join for larger projects. No single discipline can do an ICRA alone — infection prevention understands the patient risk, engineering understands the building systems, and the contractor understands the work.

Take this to the job site.

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On this page: Core members and their roles · When the team convenes · FAQ

Core members and their roles

- **Infection preventionist:** assesses patient risk, determines the class of precautions, approves the ICRA permit. The clinical authority on the team.
- **Facilities/engineering:** owns HVAC isolation, pressure relationships, utility shutdowns, and ILSM coordination.
- **Project/construction manager:** defines scope, schedule, and activity type; implements the barriers and controls.
- **Nursing/clinical rep:** speaks for the affected patient population — acuity, immunocompromise, and whether patients should be relocated.
- **Safety officer:** fire/life safety, ILSM measures, hot work, egress.
- **Contractor superintendent:** executes the precautions daily and owns worker compliance.
- **EVS (as needed):** terminal cleaning protocols before barrier removal and after project completion.

When the team convenes

The team meets **before design is finalized** — not the week construction starts. The ICRA assessment shapes the construction documents (barrier locations, HVAC isolation points, phasing), and retrofitting precautions after bid is expensive. The team reconvenes when scope changes, when monitoring finds problems, and for the pre-demolition verification that barriers and controls are in place.

The ICRA is a team product, not a form one person fills out.

See how to perform an ICRA before a renovation and the ASHE ICRA 2.0 matrix.

FAQ

Who leads the ICRA team?

Typically the infection preventionist (clinical risk authority) working jointly with facilities/engineering — neither leads alone.

Does the contractor sit on the ICRA team?

Yes — the contractor’s superintendent or project manager must be at the table; they’re the ones who build and maintain the controls.

When should the ICRA team first meet?

Before design is finalized, so the assessment shapes the construction documents rather than chasing them.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers

- How Often Should ICRA Monitoring Be Done During Healthcare Construction
- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA

Class IV Construction Barriers in Healthcare

Source: https://healthcarefacilityhub.org/class-iv-construction-barrier-healthcare/ Published: October 5, 2026

What is a Class IV construction barrier in healthcare?

Class IV containment: hard barrier to the deck, anteroom, HEPA exhaust, and continuous negative pressure.

A **Class IV construction barrier** is the highest level of ICRA containment — **critical barriers meeting NFPA 241** that completely isolate major demolition/construction work from occupied areas. Barriers must extend **to the ceiling, or to the deck above where ceiling tile is removed**; all penetrations sealed with UL-listed firestop meeting the appropriate fire rating; the entire work zone under **continuous negative pressure** with HEPA-filtered exhaust; and an **anteroom** required for worker/material transition.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Class IV barrier requirements

- **Critical barriers per NFPA 241** — full-height, sealed, dust-tight; plastic or hard construction completed without dust release.
- **Extend to structure** — to the ceiling, or to the deck above when tiles are removed; no open plenum bypass.
- **Sealed penetrations** — every hole, pipe, conduit, and puncture sealed; UL-listed firestop where the barrier is rated.
- **Negative pressure throughout** — entire workspace negatively pressurized via HEPA exhaust; airflow cascades from entry -> anteroom -> work area.
- **HEPA exhaust outdoors** — directed outside; if 25+ feet from entrances/intakes/windows, HEPA filtration of exhaust may not be required; indoor discharge must be HEPA-filtered at 99.97%.
- **HVAC isolated** — supply and return diffusers removed or isolated to prevent duct contamination and positive pressurization.
- **Anteroom** — required; workers HEPA-vacuumed or change coveralls passing through.

Class IV in the ICRA matrix

Class IV applies to **major demolition and construction** (Type D activity) in **medium to high-risk patient areas** — and to any lower activity level the assessment elevates based on adjacent population. It’s the containment level for work near oncology, transplant, ICU, and OR areas. The ICRA permit for Class IV work

is typically the most scrutinized document on the project.

Duration rule

Class IV projects lasting **more than two weeks require hard (solid) barriers** — plastic sheeting alone doesn't qualify, regardless of mil rating. Plan the barrier type at ICRA permitting, not at week three.

Class IV is the maximum — build it like it.

See the ICRA Class I–V matrix and soft vs. hard barriers.

FAQ

What makes a barrier "Class IV"?

NFPA 241 critical barriers, full height to ceiling/deck, sealed UL-firestopped penetrations, continuous negative pressure with HEPA exhaust, isolated HVAC, and an anteroom — for major construction near medium/high-risk patient areas.

Can Class IV barriers be plastic sheeting?

Only for projects under two weeks. Longer Class IV work requires hard barriers.

Does Class IV always require an anteroom?

Yes — worker and material transition through an anteroom with HEPA vacuuming or coverall changes is a Class IV requirement.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- ICRA Class III Barrier Requirements
- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers

Fire Rating Requirements for Temporary Construction Barriers in Hospitals

Source: https://healthcarefacilityhub.org/fire-rating-temporary-construction-barriers-hospitals/ Published: October 5, 2026

What fire rating do temporary construction barriers need in hospitals?

A rated temporary barrier: sealed floor to ceiling, firestopped penetrations, protected openings.

Temporary construction barriers in hospitals must be **smoketight and built of noncombustible or limited-combustible materials** as the baseline (the ILSM requirement) — and where the project presents a **higher hazard than the occupied portion of the building**, NFPA 241 requires barriers with a **1-hour fire resistance rating and 45-minute fire protection rating at openings**. Separately, any penetration of an existing rated assembly must be **firestopped to the assembly's rating** with UL-listed materials.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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The three tiers

- **Baseline (all projects):** smoketight, noncombustible or limited-combustible partitions that won't contribute to fire development or spread. 6-mil fire-retardant poly qualifies for short-duration, low-hazard use.
- **Higher-hazard projects (NFPA 241):** 1-hour fire resistance rating for the barrier, 45-minute protection at doors/openings. This is the hard-barrier tier — stud and drywall, properly constructed.
- **Penetrations of rated assemblies:** sealed with UL-listed firestop systems matching the penetrated assembly's rating. A 2-hour barrier with an unsealed pipe penetration is a 0-hour barrier.

Where the rating comes from

The rating requirement isn't arbitrary — it's driven by the **ICRA assessment and the ILSM assessment together**. The ICRA side asks about infection risk and duration; the ILSM/fire side asks about the hazard the project introduces relative to the occupied building. A welding-heavy project next to an occupied oncology unit is the textbook case for rated barriers.

Common failures

- Poly barriers used where the hazard assessment called for rated construction
- Rated barriers with unsealed penetrations (cables, pipes, ducts punched through with no firestop)
- Doors in rated barriers without the required 45-minute protection rating
- Barrier rating documented nowhere — the ICRA/ILSM record doesn't state what rating was required or provided

Smoketight is the floor. Rated is the call.

See soft vs. hard barriers and ILSM requirements during construction.

FAQ

What is the minimum fire rating for temporary construction barriers?

Baseline: smoketight, noncombustible/limited-combustible. Higher-hazard projects: 1-hour fire resistance with 45-minute opening protection per NFPA 241.

Do penetrations through barriers need firestopping?

Yes — sealed with UL-listed firestop to the penetrated assembly's rating.

Who determines whether a rated barrier is needed?

The ICRA and ILSM assessments together, based on project hazard relative to the occupied building.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- Healthcare Construction Containment Guide: ICRA Barriers, Negative Pressure, and Daily Checks

Mil Polyethylene Requirements for ICRA Containment Barriers

Source: https://healthcarefacilityhub.org/mil-polyethylene-icra-containment-barriers/ Published: October 5, 2026

What mil polyethylene is required for ICRA containment barriers?

Fire-retardant 6-mil polyethylene, sealed top to bottom with a full-length zipper entry.

ICRA containment barriers commonly use **fire-retardant polyethylene sheeting at least 6 mil thick** (0.006 inches), a widely used practice rather than an ICRA 2.0 or CDC requirement. The sheeting must be **completely sealed from top to bottom**, continuously supported where sagging can occur (e.g., at ceilings), with entry/exit points double-layered — overlapping plastic with a weighted flap at least 2 feet wide at the bottom, or a full-length zipper door sealed at the bottom during work. Waste bags used in containment must also be 6-mil.

Take this to the job site.

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On this page: The specification · Procurement tip · FAQ

The specification

- **Thickness:** 6 mil (0.006) is common practice, not an ICRA 2.0 or CDC requirement. Thinner sheeting tears, sags, and won’t hold a seal.
- **Fire retardant:** all polyethylene sheeting must be flame/fire retardant — non-FR poly is a fuel load and an ILSM problem.
- **Sealing:** sealed top to bottom with tape that won’t leave residue; supported continuously to prevent sagging gaps.
- **Access:** double-layer overlap with weighted 2-ft flap, or full-length zipper with bottom seal.
- **Waste:** 6-mil bags for contained waste transport.

When poly isn’t enough

Plastic barriers — even 6-mil FR — **may not be used** for Class III or Class IV projects lasting more than two weeks, or anywhere hot work (torch cutting, welding, burning) occurs. Those situations require hard barriers. Poly is also inappropriate above ceilings as the sole barrier on long projects; the ceiling plenum isolation needs

fire-rated 6-mil poly or hard barriers per the containment worksheet.

Procurement tip

Specify **“fire-retardant 6-mil polyethylene, NFPA 701 or equivalent flame-retardant rated”** in the ICRA permit and the construction documents — and verify the delivered rolls are labeled FR. Unlabeled poly on site is assumed non-FR until proven otherwise.

Six mil, fire-retardant, sealed top to bottom — no substitutes.

See soft vs. hard containment barriers and the ICRA matrix and barriers guide.

FAQ

What thickness of poly is required for ICRA barriers?

6 mil (0.006 inches) is common practice rather than an ICRA 2.0 or CDC requirement; fire-retardant, sealed top to bottom.

Does the polyethylene have to be fire retardant?

Yes — all sheeting must be flame/fire retardant. Non-FR poly is a fuel load.

Can 6-mil poly be used for a month-long Class IV project?

No — Class III/IV projects over two weeks require solid (hard) barriers.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Healthcare Construction Containment Guide: ICRA Barriers, Negative Pressure, and Daily Checks
- Soft vs. Hard Containment Barriers in Healthcare

Building an Anteroom for Healthcare Construction

Source: https://healthcarefacilityhub.org/build-anteroom-healthcare-construction/ Published: October 5, 2026

How do you build an anteroom for healthcare construction?

The anteroom airlock creates a pressure cascade — corridor to anteroom to work zone — and a decontamination point for workers.

A construction **anteroom** is a small transitional room between the occupied corridor and the work zone — built from the same barrier materials (sealed poly or hard walls), with **two doors that are never open at the same time**, that creates a **pressure cascade**: corridor -> anteroom -> work zone, each step lower in pressure. It’s where workers decontaminate (HEPA vacuuming, coverall/shoe-cover changes) and where the manometer lives.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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On this page: Construction details · The pressure cascade · Anteroom discipline · FAQ

Construction details

- **Walls:** sealed barrier (poly or hard) floor to ceiling, all penetrations sealed.
- **Doors:** two — one to the corridor, one to the work zone. Self-closing preferred; the cardinal rule is they're **never open simultaneously**.
- **Size:** large enough for a worker with equipment to stand, turn, and be HEPA-vacuumed — typically 4×4 to 6×6 feet minimum, bigger for material transfer.
- **Contents:** HEPA vacuum, sticky/walk-off mats (minimum 24×36), coverall and shoe-cover storage and disposal, hand hygiene supplies.
- **Monitoring:** manometer with data logging measuring the work-zone-to-anteroom and anteroom-to-corridor differentials.

The pressure cascade

Air must flow **from the corridor, through the anteroom, into the work zone** — never the reverse. The anteroom sits at intermediate pressure: lower than the corridor, higher than the work zone. When the work-zone door opens, anteroom air flows in; when the corridor door opens, corridor air flows into the anteroom. Contaminated air never gets a path outward.

Anteroom discipline

The anteroom only works if used correctly: workers **HEPA-vacuum** clothing (or remove coveralls) before exiting to the corridor; materials are wiped down passing through; doors are never propped or held open together. Train every worker on day one — the anteroom is the most behavior-dependent part of the whole containment system.

The anteroom is an airlock for dust.

See negative air pressure and monitoring pressure differentials.

FAQ

What is a construction anteroom in healthcare?

A sealed transitional room between the occupied corridor and the work zone with two doors, creating a pressure cascade and providing a decontamination point for workers and materials.

Can both anteroom doors be open at once?

Never. Simultaneous open doors destroy the pressure cascade and the containment.

What goes inside the anteroom?

HEPA vacuum, walk-off mats, coverall/shoe-cover storage and disposal, hand hygiene supplies, and the monitoring manometer.

Related reading

- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Healthcare Construction Containment Guide: ICRA Barriers, Negative Pressure, and Daily Checks

Negative Air Pressure in Hospital Construction

Source: https://healthcarefacilityhub.org/negative-air-pressure-hospital-construction/ Published: October 5, 2026

What is negative air pressure and why is it used in hospital construction?

Negative pressure keeps air flowing inward — dust and spores stay in the work zone, away from patients.

Negative air pressure means the air pressure inside the construction zone is lower than in surrounding areas — so air always flows **into** the work zone, never out of it. In hospital construction, it's the primary engineering control that keeps **dust, mold spores, and Aspergillus** generated by demolition and construction from migrating into occupied patient areas, where they can cause deadly infections in immunocompromised patients.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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On this page: How it's created · The cascade principle · What the pressure differential numbers mean · FAQ

How it's created

A sealed containment (barrier) plus a **HEPA-filtered negative air machine** exhausting more air than enters. The pressure difference — commonly targeted at **-0.01 water column**, a widely used facility target rather than an ICRA 2.0 or CDC requirement — is small but decisive: every gap, crack, and door undercut becomes an inward airflow path. Contaminants ride the air, and the air only moves one way.

The cascade principle

With an anteroom, the pressure **cascades**: clean corridor (highest pressure) -> anteroom (intermediate) -> construction zone (lowest). Each step inward is a pressure drop, so opening the work-zone door pulls anteroom air in — not work-zone air out. The entire construction area must remain negatively pressurized for the whole project.

Why it matters clinically

Construction dust isn't just dirt — it's a **vehicle for Aspergillus spores**, which are harmless to healthy people but can cause invasive aspergillosis in neutropenic, transplant, and oncology patients, with high mortality. Negative pressure is one of the few controls that works continuously, passively, and independently of worker behavior. Barriers get breached; doors get propped; but as long as the pressure holds, the air still flows the right way.

Pressure is the control that works while nobody's watching.

See HEPA negative air machines and monitoring pressure differentials.

FAQ

What the pressure differential numbers mean

The definition becomes operational through three numbers and one behavior:

- **The differential:** a widely used facility target is 0.01 inches of water column (2.5 Pa) of work zone relative to adjacent occupied space — negative enough that airflow direction is unambiguous at every gap, without making doors hard to open or whistle. It is common practice, applied through the project's ICRA requirements — not a figure to cite as a universal code minimum.
- **Air changes:** the negative air machine must move enough air to hold the differential against the zone's leakage; sizing follows zone volume and barrier condition, which is why HEPA-filtered negative air machines are selected by capacity, not by habit.
- **Monitoring:** the differential is verified continuously or on a documented rhythm with a manometer at the barrier — the practice detailed in monitoring pressure differentials. An unmonitored negative-pressure claim is an assumption.
- **Failure looks like:** differential at or near zero, doors that drift open instead of pulling closed, dust visible outside the barrier, or a machine alarming or off. Any of them stops dusty work until the pressure is restored and the adjacent area is checked and cleaned as the ICRA requires.

Negative air is one layer of the containment system specified in the healthcare construction containment guide — barriers keep dust in a place; negative pressure decides which way the air, and everything floating in it, moves through that place.

What is negative air pressure in hospital construction, in plain terms?

The work zone is kept at lower air pressure than the areas around it, so air always flows into the zone — carrying dust and spores away from patients, never toward them. It is created with sealed barriers plus a HEPA-filtered negative air machine, held at a target differential around 0.01 water column, and verified by monitoring.

What is negative air pressure in simple terms?

Lower air pressure inside the work zone than outside it, so air always flows inward — carrying dust and spores away from patients, never toward them.

Why is negative pressure critical in hospital construction?

Construction releases Aspergillus spores that can cause fatal infections in immunocompromised patients. Negative pressure keeps contaminated air inside the work zone continuously.

How negative should the pressure be?

A widely used facility target is -0.01 inches of water column (2.5 Pa) relative to adjacent spaces (common practice, not an ICRA 2.0 or CDC requirement), maintained for the entire project.

Related reading

- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes
- Monitoring Pressure Differentials During Hospital Construction
- HEPA-Filtered Negative Air Machines in Hospitals

Monitoring Pressure Differentials During Hospital Construction

Source: https://healthcarefacilityhub.org/monitor-pressure-differentials-hospital-construction/ Published: October 5, 2026

How do you monitor pressure differentials during hospital construction?

A data-logging manometer in the anteroom proves the containment held negative pressure (-0.01 water column is a widely used facility target, not an ICRA 2.0 or CDC requirement) for the whole project.

Pressure differentials are monitored with **manometers** — differential pressure gauges measuring the work zone against adjacent spaces in **inches of water column (" w.c.)** — with **-0.01 w.c.** (2.5 Pa) negative in the construction zone as a widely used facility target, not an ICRA 2.0 or CDC requirement. Best practice is **continuous monitoring with data logging and alarming**: a manometer with recording capability in each anteroom, alarm set points typically programmed at -0.01, -0.02, or -0.03 w.c. per the ICRA plan.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

Download the field sheet (PDF)

Email it to me instead

On this page: The monitoring setup · Simple verification methods · What the record must show · FAQ

The monitoring setup

- **Placement:** manometers in each anteroom, measuring the differential between the work area and adjacent spaces identified on the infection control schematic.
- **Target:** a widely used facility target is -0.01 w.c. negative in the work zone relative to surroundings (common practice, not an ICRA 2.0 or CDC requirement); many programs alarm at -0.01/-0.02/-0.03 w.c. per their ICRA selection.

- **Logging:** data-logging or printing capability — the record proves continuous negative pressure, not just a spot check at setup.
- **Alarming:** audible/visual alarm on pressure loss, so a failed NAM or breached barrier gets immediate response instead of discovery at the next walkthrough.

Simple verification methods

Gauges aren't the only tool. **Smoke tubes, flutter strips, and ball-in-tube indicators** at doors give instant visual confirmation of airflow direction — air should visibly flow into the containment. These are excellent for quick checks by anyone on site, but they don't replace the logged manometer record.

What the record must show

Surveyors and infection preventionists look for **continuity**: negative differential maintained for the entire work period, with any excursions documented along with the corrective action. A manometer installed but never read is decoration. Assign someone to check readings on a defined frequency, log them, and escalate losses immediately.

If it isn't logged, it wasn't monitored.

See negative air pressure in hospital construction and how to build a construction anteroom.

FAQ

What pressure differential should construction containment maintain?

A widely used facility target is -0.01 inches of water column (2.5 Pa) negative relative to adjacent spaces (common practice, not an ICRA 2.0 or CDC requirement), with alarm set points commonly at -0.01/-0.02/-0.03 w.c.

Where do manometers go?

In each anteroom, measuring between the work area and adjacent spaces on the infection control schematic — with data logging.

Can I verify airflow without a gauge?

Smoke tubes, flutter strips, and ball-in-tube indicators give instant directional confirmation, but they don't replace the logged manometer record.

Related reading

- Negative Air Pressure in Hospital Construction
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes

HEPA-Filtered Negative Air Machines in Hospitals

Source: https://healthcarefacilityhub.org/hepa-negative-air-machine-hospitals/ Published: October 5, 2026

What is a HEPA-filtered negative air machine used for in hospitals?

A HEPA-filtered negative air machine creates the negative pressure that keeps construction contaminants inside the work zone.

A **HEPA-filtered negative air machine (NAM)** is a portable air filtration unit that draws contaminated air through a HEPA filter (99.97% efficient at 0.3 microns) and exhausts it — creating **negative pressure** inside a construction containment zone so dust and pathogens can't escape into occupied areas. It's the engine of ICRA containment: the barrier holds the dust in, the NAM makes sure the air only flows one direction — inward.

Take this to the job site.

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On this page: The three jobs it does · Where the exhaust goes · Testing and compliance · FAQ

The three jobs it does

- **Creates negative pressure.** By exhausting more air than enters, the NAM keeps the work zone negative relative to adjacent spaces; -0.01 water column is a widely used facility target, not an ICRA 2.0 or CDC requirement. Air flows into the containment, never out.
- **Filters the air.** HEPA filtration captures 99.97% of particles at 0.3 microns — the dust, mold spores, and Aspergillus that threaten immunocompromised patients.
- **Provides air changes.** Continuous filtration dilutes airborne contaminants inside the work zone, protecting workers and reducing the dust load that escapes at shift changes.

Where the exhaust goes

Best practice: **exhaust directly outdoors**, at least 25 feet from entrances, air intakes, and windows — in which case HEPA filtration of the exhaust may not be required. If exhaust is discharged **indoors**, it must be HEPA-filtered, with filtration verified by particulate measurement at no less than 99.97% efficiency before work starts — and the system must not alter airflow or pressure relationships in other areas.

Testing and compliance

HEPA equipment must be integrity-tested before use — typically DOP (dispersed oil particulate) challenge testing by a certified independent contractor — with a legible label showing test date, testing party, and expiration. Tests are generally valid for six months provided the unit stays in the same building with the same filters, unmoved and unmodified.

The barrier contains. The NAM directs.

See negative air pressure in hospital construction and the ICRA matrix and barriers guide.

FAQ

What does HEPA stand for and what does it capture?

High-Efficiency Particulate Air — 99.97% of particles at 0.3 microns, including construction dust, mold spores, and Aspergillus.

Must negative air exhaust go outdoors?

Best practice is direct outdoor exhaust (25+ feet from intakes/entrances/windows). Indoor discharge must be HEPA-filtered with verified 99.97% efficiency.

How often must NAM HEPA filters be tested?

Integrity-tested before use (DOP challenge), typically valid six months if the unit stays in place with the same filters.

Related reading

- Negative Air Pressure in Hospital Construction
- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes
- Medical Gas Systems: NFPA 99, Bulk Oxygen, Vacuum, and Medical Air Compliance

Soft vs. Hard Containment Barriers in Healthcare

Source: https://healthcarefacilityhub.org/soft-vs-hard-containment-barriers-healthcare/ Published: October 5, 2026

What is the difference between soft and hard containment barriers?

Soft vs. hard containment barriers: 6-mil fire-retardant polyethylene sheeting (left) versus a sealed hard-wall partition (right).

Soft barriers are polyethylene sheeting (fire-retardant, 6-mil) hung and sealed to contain dust — fast to install, suitable for short-duration, lower-risk work. **Hard barriers** are rigid walls (metal studs with drywall, plywood, or modular panel systems) sealed floor to ceiling — required for Class III/IV projects lasting more than two weeks, for hot work areas, and anywhere the barrier must also meet fire-rating requirements. The ICRA class and project duration decide; preference doesn’t.

Take this to the job site.

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Soft barriers: when and how

- **Material:** fire-retardant polyethylene, 6-mil thickness, completely sealed top to bottom, continuously supported where sagging can occur.

- **Entry/exit:** double-layered overlapping plastic with a weighted flap at least 2 feet wide at the bottom, or a full-length zipper door sealed at the bottom during work.
- **Limits:** not for Class III/IV projects over two weeks; never where torch cutting, welding, or burning occurs.
- **Best for:** short-duration work (days, not weeks), low-to-moderate dust, areas where speed of setup matters.

Hard barriers: when and how

- **Construction:** metal studs secured to floor, ceiling, and sides; drywall or plywood; door in frame with no gaps (sealed with tape as needed).
- **Required for:** Class III/IV work exceeding two weeks; high-traffic areas; hot work zones; projects where the barrier needs a fire rating.
- **Fire rating:** where the project is a higher hazard than the occupied building, NFPA 241 calls for 1-hour fire resistance with 45-minute protection at openings.
- **Best for:** long-duration projects, high-risk patient areas adjacent, and anywhere durability matters.

The decision rule

Duration over two weeks, hot work, or fire-rating needs -> hard barrier. Short, low-risk work -> soft barrier is acceptable. When in doubt, the ICRA permit and the infection preventionist make the call — and “we’ve always used poly” is not a justification for a six-week Class IV project.

The barrier type follows the ICRA class — not the budget.

See the ICRA Class I–V matrix and barriers guide and what a Class IV barrier requires.

FAQ

Can plastic sheeting be used for long construction projects?

Not for Class III/IV projects lasting more than two weeks — those require solid (hard) barriers.

Can soft barriers be used near hot work?

No. Plastic barriers may not be used where torch cutting, welding, or burning occurs.

Who decides between soft and hard barriers?

The ICRA process — the infection preventionist and facilities/safety team, based on the ICRA class, duration, and adjacent patient risk.

Related reading

- Mil Polyethylene Requirements for ICRA Containment Barriers
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers

Do states adopt FGI Guidelines into building code?

Source: https://healthcarefacilityhub.org/do-states-adopt-fgi-guidelines-building-code/ Published: October 5, 2026

Forty-three states. One phone call to confirm yours.

Yes — 42 states have adopted the FGI Guidelines (now FGI Codes) into their regulatory frameworks for healthcare facility construction, typically by **reference**: the state's health facility licensing regulations incorporate a specific FGI edition, making its minimum requirements enforceable as code for new construction and major renovations. This is the primary way FGI — a voluntary consensus standard — becomes law.

Take this to the job site.

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On this page: How adoption works · Building code vs. health facility regulations · What to verify for your project · FAQ

How adoption works

- **Adoption by reference.** The state regulation names the FGI document and edition year (e.g., "the 2022 edition of the FGI Guidelines for Design and Construction of Hospitals"). Everything in that edition becomes enforceable.
- **With amendments.** Some states adopt FGI with state-specific modifications — additions, deletions, or substitutions. The adopted-plus-amended version is what the plan reviewer enforces.
- **Through the health department, not the building code.** FGI adoption usually lives in **health facility licensing regulations** (department of health), running parallel to the state's building code (IBC-based). A project must satisfy both — they don't override each other.
- **On the state's timeline.** States adopt new FGI editions through their own rulemaking, often years after FGI publishes. The 2026 Codes will phase into state regulations gradually.

Building code vs. health facility regulations

This distinction matters: the **building code** (IBC and its referenced standards) governs structural, fire, and general life safety. The **health facility regulations** incorporating FGI govern healthcare-specific planning and design — room sizes, clearances, clinical adjacencies, handwashing, ventilation via ASHRAE 170. Your project needs plan review clearance under both, often from different agencies.

What to verify for your project

- Has the state adopted FGI? (Probably — 42 have.)
- **Which edition and which document?** (Hospital? Outpatient? Residential?)
- Any state amendments modifying FGI requirements?
- Which agency does plan review — and what's their submittal process?

Forty-three states. One phone call to confirm yours.

See which edition your state enforces and the FGI 2026 compliance guide.

FAQ

How many states adopt the FGI Guidelines?

42 states have adopted FGI documents for regulating healthcare facility new construction and major renovations.

Is FGI part of the building code?

Usually not directly — it's typically adopted through health facility licensing regulations, running parallel to the IBC-based building code. Projects must satisfy both.

What happens when FGI publishes a new edition?

Nothing changes legally until each state adopts it through rulemaking — a process that typically takes years and varies by state.

Related reading

- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- What are the FGI Guidelines for healthcare facilities?
- How do I access the FGI Guidelines for a design project?

The state-by-state record: for who adopted, which edition each state enforces, and the regulation behind each row, see the Hub's FGI state adoption tracker — all 50 states + DC, verified at regulation level.

How does FGI address hand hygiene station placement?

Source: https://healthcarefacilityhub.org/fgi-hand-hygiene-station-placement/ Published: October 5, 2026

The best sink is the one staff actually pass.

FGI requires a **handwashing station in the patient room** — in addition to the sink in the toilet room — a requirement in place since the 2001 edition. The intent is positional: the station goes **near the room entrance** so healthcare personnel have unobstructed access on the way in, making hand hygiene the path of least resistance. The 2022 Guidelines further specify sink size, depth, and proximity to patient care areas and entrances, alongside accessible alcohol-based hand rub dispensers throughout the facility.

Take this to the job site.

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On this page: The placement logic · Exam and treatment rooms · 2026 developments · FAQ

The placement logic

- **At the entrance, not the back wall.** Staff should pass the sink entering the room — visible placement also lets patients see hand hygiene happen, which research links to better compliance.
- **Unobstructed access.** No equipment, furniture, or casework blocking the approach. A sink behind the door swing might as well not exist.
- **Separate from the toilet room sink.** The toilet room fixture serves a different purpose; FGI wants a dedicated clinical handwashing station in the room itself.
- **ABHR as complement, not substitute.** Alcohol-based hand rub dispensers go at entries and throughout — but they supplement the sink, they don't replace the FGI sink requirement.

Exam and treatment rooms

Outpatient exam rooms must contain a handwashing station as part of the room's required contents. Procedure and treatment rooms carry the same expectation, scaled to the room's function. When in doubt, the question is: can the clinician clean their hands **without leaving the care zone**?

2026 developments

The 2026 FGI Code's expanded Common Elements include handwashing station provisions tied to the new individuals-of-size requirements (accessible placement, clearances), continuing the trajectory of treating hand hygiene infrastructure as a core design element rather than an afterthought.

The best sink is the one staff actually pass.

See the infection control guide and the FGI 2026 compliance guide.

FAQ

Does FGI require a sink in every patient room?

Yes — a handwashing station in the patient room, in addition to the toilet room sink, required since the 2001 edition.

Where should the handwashing station be located?

Near the room entrance with unobstructed access — positioned so staff pass it entering, and patients can see hand hygiene performed.

Can hand sanitizer dispensers replace the sink?

No. ABHR dispensers are expected throughout the facility as a complement, but they don't satisfy the FGI handwashing station requirement.

Related reading

- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- What are the FGI Guidelines for healthcare facilities?
- What are FGI minimum clearances around patient beds?

Which edition of the FGI Guidelines does my state enforce?

Source: https://healthcarefacilityhub.org/which-fgi-edition-state-enforces/ Published: October 5, 2026

The AHJ's answer beats every website — including this one.

Your state enforces the **specific FGI edition it has adopted into regulation** — not the newest edition. With 42 states adopting FGI for new construction and major renovations, the odds are high your project falls under FGI, but the edition varies: many states are on 2018 or 2022, and 2026 adoptions will roll out over the next few years. **The authority having jurisdiction (AHJ) — usually the state health department's plan review office — is the definitive source.**

Take this to the job site.

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On this page: States with documented FGI adoption (examples) · The edition-lag trap · FAQ

How to find your state's edition

- **Check the state health department / licensing agency website** — look for "plan review," "construction standards," or "physical environment" regulations referencing a specific FGI edition year.
- **Read the actual regulation** — the adoption is usually a single line referencing "the edition of the FGI Guidelines for Design and Construction of [Hospitals/Outpatient/Residential]." Note whether it says the edition "as amended" or a fixed year.
- **Call the plan reviewer** — when the website is ambiguous (and it often is), a five-minute call beats a five-month redesign.
- **Check for local amendments** — some jurisdictions adopt FGI with state-specific modifications that change individual requirements.

States with documented FGI adoption (examples)

FGI adoption is widespread. The following states are widely documented as referencing FGI Guidelines in their facility construction regulations — **always verify the current edition with the AHJ**, as adoptions update:

- **Texas** — references FGI in hospital licensing standards
- **Florida** — Agency for Health Care Administration references FGI
- **New York** — Department of Health references FGI for facility construction
- **California** — OSHPD/HCAI framework aligns with FGI-based requirements
- **Illinois, Pennsylvania, Ohio, Georgia, North Carolina, Virginia** — documented FGI references in health facility regulations
- **Washington, Oregon, Colorado, Arizona** — western states with FGI-based plan review

This is not exhaustive — 42 states have adopted FGI in some form. If your state isn't listed, assume FGI applies until the AHJ tells you otherwise.

The edition-lag trap

The dangerous moment is the **transition window**: FGI publishes 2026, your state still enforces 2018, and your design team works from the newest book. Design to the enforced edition — and track the state's adoption rulemaking so you know what's coming.

The AHJ's answer beats every website — including this one.

See how states adopt FGI into code and the FGI 2026 compliance guide.

FAQ

How to confirm your state's enforced edition, step by step

- **Identify the adopting authority:** in most states FGI enters through health-facility licensure rules, the state building code, or both — the mechanism is mapped in how states adopt FGI into building code.
- **Read the adoption language, not the summary:** states adopt a named edition, sometimes with amendments, and sometimes reference "the current edition" dynamically. The difference decides whether a project permitted this year answers to the 2018, 2022, or 2026 text.
- **Check the project's trigger date:** adoption applies by permit or design-start date in most frameworks — a project designed under one edition is usually completed under it.
- **Ask the AHJ in writing** where any ambiguity remains, and keep the answer with the project documents. On survey, that correspondence is evidence; a memory of a phone call is not.

Edition differences are not cosmetic — FGI 2022 vs 2026 differences shows the scale of what changes between cycles — so this confirmation belongs at project kickoff, not at permit submission.

How many states have adopted the FGI Guidelines?

42 states have adopted FGI documents for regulating new construction and major renovations of healthcare facilities.

Does my state use the latest FGI edition?

Not necessarily — states adopt specific editions and update on their own rulemaking timelines. Verify with the AHJ.

What if my state hasn't adopted FGI?

Accreditors (Joint Commission, DNV) may still require the current FGI edition for accredited facilities, and the AHJ may apply its own standards. Check both.

Which edition of the FGI Guidelines does my state enforce?

The one named in your state's licensure rules or building code adoption — which may lag the current edition or amend it. Confirm the adoption language and your project's trigger date with the authority having jurisdiction, in writing, at project kickoff.

Related reading

- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- What are the FGI Guidelines for healthcare facilities?
- What are FGI minimum clearances around patient beds?

State by state: the Hub's FGI state adoption tracker lists every state's status, the edition it actually enforces, and the adopting regulation behind the row — verified at regulation level, with disagreements between sources printed rather than smoothed over.

What is the difference between FGI 2022 and FGI 2026?

Source: https://healthcarefacilityhub.org/fgi-2022-vs-2026-differences/ Published: October 5, 2026

The biggest FGI restructure ever — plan for it.

The 2026 edition is the most structural revision in FGI's history: the documents were renamed from **"Guidelines" to "FGI Codes"** containing **only enforceable minimum requirements**, with all advisory material moved to the new digital **FGI Handbooks**. Beyond the restructure, 2026 adds new facility-type chapters, new clinical requirements (including the first minimum standards for medical/psychiatry units), revised room sizes and clearances, and new planning requirements for procedure and operating rooms.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

Download the field sheet (PDF)

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On this page: The structural changes · Notable content changes · What it means for your project · FAQ

The structural changes

- **Guidelines -> Codes.** Minimum requirements only; cleaner enforceability. Advisory content (former appendices) expanded into the Handbooks.
- **FGI Handbooks.** Digital subscription; include full Code text plus guidance, diagrams, checklists, best practices — maintained continuously between four-year Code cycles.
- **FGI OneSource.** New digital platform for all FGI publications and technical resources.

Notable content changes

- **New chapters:** short-term outpatient care facilities; residential behavioral and mental health treatment facilities.
- **Medical/psychiatry units (MPUs):** first minimum requirements for these units in any FGI edition.
- **Room sizes and clearances:** revised, with bed clearances consolidated into Common Elements (36 side, 36/48 foot).
- **Procedure and operating rooms:** revised planning requirements.

- **Clinical space programming:** new requirements for determining the number and types of exam, procedure, operating, and imaging rooms.
- **Water age:** new requirements to minimize water age (Legionella risk).
- **Rehab:** updated room sizes and clearances for rehabilitation hospitals.
- **Residential:** new minimum single-occupancy percentages for most residential facility types.
- **Rural emergency hospitals:** revised design considerations for the new REH provider type.
- **ED signage:** new requirements for emergency entrance and directional signage.

What it means for your project

If your state adopts 2026, you're designing to a reorganized, more enforceable document — and the advisory guidance you used to find in appendices now lives behind a Handbook subscription. Budget for the subscription; the guidance didn't disappear, it moved.

The biggest FGI restructure ever — plan for it.

See the FGI 2026 compliance guide and which edition your state enforces.

FAQ

When was the 2026 FGI edition published?

FGI launched the 2026 FGI Codes and Handbooks on August 31, 2026, with the digital FGI OneSource platform.

Is the 2026 edition still called the "Guidelines"?

No — renamed the "FGI Codes" (minimum requirements only). Advisory material moved to the FGI Handbooks.

What's the single biggest content addition in 2026?

The first minimum requirements for medical/psychiatry units (MPUs), plus new chapters for short-term outpatient care and residential behavioral health facilities.

Related reading

- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- Healthcare Regulatory Convergence in 2026: CMS, Joint Commission, NFPA, FGI, and the ESG Overlay
- What are the FGI Guidelines for healthcare facilities?

Where can I find the FGI Guidelines for outpatient facilities?

Source: https://healthcarefacilityhub.org/fgi-guidelines-outpatient-facilities-where-find/ Published: October 5, 2026

Match the document to the licensure, not the procedure.

The outpatient requirements live in the **FGI Code for Planning and Design of Outpatient Facilities** (formerly *Guidelines for Design and Construction of Outpatient Facilities*) — available through **FGI OneSource**, in

print, or in digital format, with expanded guidance in the companion **FGI Handbook for Outpatient Facilities** (digital subscription). It's one of FGI's three facility-type documents, covering clinics, ambulatory surgery centers, imaging centers, and other outpatient settings.

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On this page: What's in the outpatient document · Outpatient vs. hospital document: which applies? · Edition caution · FAQ

What's in the outpatient document

- **General and specialty clinics** — exam rooms (80 sq ft minimum clear floor area), treatment rooms, procedure rooms
- **Ambulatory surgery** — operating rooms, pre/post-op, sterile processing scaled to the setting
- **Imaging** — modality-specific room requirements, shielding coordination
- **Common elements** — handwashing, waiting areas, support spaces, building systems
- **New in 2026** — a chapter on short-term outpatient care facilities, plus revised planning requirements for procedure rooms

Outpatient vs. hospital document: which applies?

The dividing line is the **facility type and licensure**, not the procedure being performed. A procedure room in a hospital follows the Hospital Code; the same procedure in a freestanding clinic follows the Outpatient Code. Hospital-based outpatient departments can be the gray zone — the AHJ determines which document governs, so ask early.

Edition caution

The 2026 Outpatient Code introduced structural changes (new chapters, revised procedure-room planning). If your state still enforces 2018 or 2022, design to that edition — and note where the 2026 changes will likely land when the state updates, so the design doesn't need rework mid-adoption.

Match the document to the licensure, not the procedure.

See the FGI 2026 compliance guide and FGI exam room size requirements.

FAQ

Which FGI documents cover outpatient settings

Outpatient care is not one FGI document but a family, organized by facility type — the practical map:

- **Hospitals volume** also carries the outpatient spaces inside hospitals (clinics, imaging, emergency) — an outpatient project inside a hospital is usually designed under the hospital volume's outpatient chapters.
- **Outpatient facilities volume** covers freestanding settings: ambulatory surgery, imaging, clinics, urgent care, and similar — each with its own space and systems requirements, generally lighter than inpatient requirements but specific about procedure rooms, recovery, and infection control.
- **Residential health, care, and support volume** covers the long-term and residential end, relevant where an outpatient program shares a campus or a license with residential care.

Two cautions decide most outpatient FGI questions: the edition your state has adopted for that facility type (adoption is not uniform across volumes), and the licensure category of the specific facility — the same procedure room can sit under different requirements depending on how the facility is licensed. Start from the FGI Guidelines hub, then confirm edition and category before designing to any number.

What is the FGI outpatient facilities document called now?

The FGI Code for Planning and Design of Outpatient Facilities (renamed from "Guidelines" in the 2026 edition).

Does the outpatient document cover ambulatory surgery centers?

Yes — ambulatory surgery, imaging, clinics, and other outpatient settings, with requirements scaled to the setting.

Where do I buy the outpatient document?

Through FGI OneSource, in print, or digital — plus the Handbook subscription for expanded guidance.

Where do I find the FGI Guidelines for outpatient facilities?

In the outpatient facilities volume for freestanding settings (ambulatory surgery, imaging, clinics), and in the hospital volume's outpatient chapters for spaces inside hospitals. Confirm the edition your state adopted for that facility type and the facility's licensure category — both change which requirements apply.

Related reading

- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- What are the FGI Guidelines for healthcare facilities?
- How do I access the FGI Guidelines for a design project?

How do I access the FGI Guidelines for a design project?

Source: https://healthcarefacilityhub.org/how-access-fgi-guidelines-design-project/ Published: October 5, 2026

Buy the edition your AHJ enforces — not just the newest one.

Access the FGI documents through **FGI OneSource**, the Facility Guidelines Institute's digital platform launched with the 2026 edition — or purchase the **2026 FGI Codes** in print or digital formats. The companion **FGI Handbooks for Planning and Design** (the former appendix/advisory material, expanded) are available by digital subscription only — and the Handbook subscription includes the complete Code text, so subscribers

don’t need to buy the Code separately.

Take this to the job site.

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Your access options

- **FGI OneSource** — the digital platform for FGI publications and technical resources; the primary access point going forward.
- **2026 FGI Codes (print or digital)** — the enforceable minimum requirements, one volume per facility type. Buy the volume matching your project.
- **FGI Handbooks (digital subscription)** — Code text plus expanded guidance, diagrams, graphics, checklists, and planning resources. Maintained continuously between the four-year Code cycles.

Which volume do you need?

Match the document to the project: **Hospitals** for inpatient work, **Outpatient Facilities** for clinics and ambulatory settings, **Residential Health, Care, and Support Facilities** for nursing and residential care. Mixed-use projects may need more than one — and the AHJ decides which applies where they overlap.

Before you buy: check the adopted edition

The 2026 Codes are current, but your state enforces a **specific edition** — and many states are still on 2018 or 2022. Buying the 2026 Code when your AHJ enforces 2018 means designing to requirements the inspector won’t apply (and missing ones they will). Confirm the adopted edition first; buy the matching volume.

Buy the edition your AHJ enforces — not just the newest one.

See which edition your state enforces and the FGI 2026 compliance guide.

FAQ

Official access routes — and what not to rely on

FGI content sits behind the publisher’s own channels, and the edition matters, so access is a small discipline of its own:

- **The publisher’s platform:** the Facility Guidelines Institute sells and licenses the Guidelines (now the FGI Codes) directly, in digital and print forms, by edition and by facility type. A licensed digital copy is the citable source for a design project — it is what the authority having jurisdiction will check against.
- **Read-only and public-review access:** FGI has historically offered limited read access and public review of draft material during revision cycles; useful for tracking where the next edition is heading — the changes are summarized in FGI 2022 vs 2026 differences — but a draft is never the enforceable text.

- **Your state's adoption:** before buying, confirm which edition your state enforces — which FGI edition a state enforces and how states adopt FGI into building code. Owning the wrong edition is worse than owning none, because it answers confidently and incorrectly.
- **What not to rely on:** pirated PDFs of unknown edition, summary blogs (including, for citable purposes, this site), and a neighboring state's edition. Summaries orient; the licensed text governs.

What is FGI OneSource?

The Facility Guidelines Institute's digital platform for accessing FGI publications and technical resources, launched with the 2026 edition.

Are the FGI Handbooks required?

No — the Codes contain the enforceable minimums. The Handbooks are supplemental guidance (subscription), useful for design teams but not the compliance baseline.

Can I access FGI documents for free?

FGI is a published, copyrighted standard — access is through purchase or subscription. Some public comment drafts were freely available during the revision cycle, but the published Codes and Handbooks are paid.

How do I access the FGI Guidelines for a design project?

Through the Facility Guidelines Institute's own licensing (digital or print, by edition and facility type) — after confirming which edition your state actually enforces. Use summaries and draft-review material for orientation only; the licensed text of the adopted edition is the citable source.

Related reading

- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- What are the FGI Guidelines for healthcare facilities?
- How ASHRAE 170 Interacts with FGI Guidelines

What are the FGI Guidelines for healthcare facilities?

Source: https://healthcarefacilityhub.org/what-are-fgi-guidelines-healthcare-facilities/ Published: October 5, 2026

Start with the edition your state enforces.

The **FGI Guidelines** — now the **FGI Codes** as of the 2026 edition — are the consensus-based minimum requirements for planning and designing hospitals, outpatient facilities, and residential care settings in the United States, published by the **Facility Guidelines Institute** every four years. They cover program, space, infection prevention, architectural details, and building systems — and **43 states** have adopted them for regulating new construction and major renovations.

Take this to the job site.

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On this page: The three documents · Guidelines vs. Codes: the 2026 rename · Are they mandatory? · FAQ

The three documents

- **FGI Code for Planning and Design of Hospitals** — inpatient hospitals, including specialty units.
- **FGI Code for Planning and Design of Outpatient Facilities** — clinics, ambulatory surgery, imaging, and other outpatient settings.
- **FGI Code for Planning and Design of Residential Health, Care, and Support Facilities** — nursing homes, assisted living, hospice, and related residential settings.

Guidelines vs. Codes: the 2026 rename

The 2026 edition renamed the documents from "Guidelines" to **"FGI Codes"** — and the rename means something: the Codes now contain **only minimum requirements**. All the explanatory and advisory material that used to live in appendices moved to the new **FGI Handbooks for Planning and Design** (digital, subscription), which include the full Code text plus guidance, diagrams, checklists, and best practices. Minimum requirements vs. helpful guidance are now physically separated — which also makes the Codes more enforceable.

Are they mandatory?

FGI itself is a voluntary consensus standard — it becomes mandatory when **adopted by a state or local jurisdiction** (43 states have), or when required by an accreditor (Joint Commission, DNV) or payer. In practice, for most U.S. hospital projects, the adopted FGI edition functions as code.

Start with the edition your state enforces.

See the FGI 2026 compliance guide, which edition your state enforces, and how states adopt FGI into code.

FAQ

How FGI relates to the other standards a project must satisfy

FGI does not act alone on a healthcare project. The working relationships:

- **ASHRAE 170** supplies the ventilation numbers — air changes, pressure relationships, filtration — for the rooms FGI defines. The interaction is treated in depth in ASHRAE 170 × FGI Guidelines interaction, and the isolation-room requirement set in ASHRAE 170 requirements for AII rooms.
- **NFPA 101** governs life safety — egress, barriers, and the defend-in-place strategy — in the spaces FGI lays out.
- **The CMS Conditions of Participation** make the physical environment a federal participation requirement, which is why FGI-based design decisions surface again at survey time.

Who uses the Guidelines: design teams as the program and space standard for new construction and major renovation; facility teams as the reference when a renovation triggers compliance review — see how FGI

Guidelines affect hospital renovation projects; and surveyors and authorities having jurisdiction, in states that have adopted an edition into licensure or building code — which edition governs a given project is answered in which FGI edition a state enforces. Access routes for a live project are in how to access the FGI Guidelines for a design project.

What does FGI stand for?

Facility Guidelines Institute — the publisher of the consensus-based planning and design requirements for U.S. healthcare facilities.

Are the FGI Guidelines mandatory?

They become mandatory when adopted by a state/local jurisdiction (43 states have) or required by accreditors like The Joint Commission and DNV.

What's the difference between the FGI Codes and the FGI Handbooks?

The Codes (2026+) contain only enforceable minimum requirements. The Handbooks (digital subscription) contain the Code text plus explanatory guidance, diagrams, checklists, and best practices.

What are the FGI Guidelines for healthcare facilities?

The FGI Guidelines (FGI Codes from the 2026 edition) are the consensus minimum requirements for planning, designing, and constructing hospitals, outpatient facilities, and residential care settings in the US — covering program, space, infection prevention, architectural details, and building systems — published by the Facility Guidelines Institute on a four-year cycle and adopted by most states for licensure or code purposes.

Related reading

- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- How do I access the FGI Guidelines for a design project?
- How ASHRAE 170 Interacts with FGI Guidelines

What are FGI minimum clearances around patient beds?

Source: https://healthcarefacilityhub.org/fgi-minimum-clearances-patient-beds/ Published: October 5, 2026

What are FGI minimum clearances around patient beds?

Draw it right, then verify it built right.

The long-standing FGI minimum for a medical/surgical patient room is **3 feet (36 inches) of clearance between the sides and foot of the bed and any wall or other fixed obstruction**. That is the wording of the 2018 FGI Guidelines for Design and Construction of Hospitals, as quoted in a Nevada Division of Public and Behavioral Health variance packet. We could not confirm the bed-clearance values in the **2026 FGI Code for Hospitals** from a public source, so confirm them in the 2026 FGI Hospital Code (available through FGI OneSource) or in whichever edition your authority having jurisdiction has adopted. The purpose is clinical, not just geometric: space for staff to work both sides of the bed, for lifts and equipment, and for emergency access.

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On this page: The clearance requirements · Why clearances fail in practice · Individuals of size · FAQ

The clearance requirements

- **Side of bed:** minimum 3 feet (36) between each side of the bed and any wall or fixed obstruction, per the 2018 FGI Hospital Guidelines wording for medical/surgical rooms.
- **Foot of bed:** minimum 3 feet (36) under the same 2018 wording. Shared rooms have historically needed more space at the foot so beds and equipment can pass; confirm the multiple-patient-room value in your adopted edition.
- **Circulation:** public coverage of the 2026 *Residential* Code says its clearance requirements were centralized, including a 36-inch clear path from the door to the bed, window, and bathroom (EFA Magazine). We have not confirmed a matching circulation requirement in the 2026 Hospital Code.
- **Family zone:** earlier editions specified minimum clear floor area per family member (e.g., 30 sq ft) — check the adopted edition's current language.

Why clearances fail in practice

Clearances are drawn correctly and built incorrectly: a casework unit added during construction, a headwall configuration that eats 6 inches, a lift stored "temporarily" in the clearance zone. The fix is **field verification** — measure the built clearances before the room is accepted, not just the plan dimensions. Surveyors and AHJ inspectors measure what's there, not what was drawn.

Individuals of size

FGI's 2026 launch announcement lists revisions for **individuals of size** in the 2026 Residential Code, and EFA Magazine reports those requirements were substantially expanded to cover room dimensions, fixtures, and structural considerations. If your hospital project serves bariatric populations, check the 2026 FGI Hospital Code for room-size and clearance provisions tied to patient lifts, because they can change the clearance math significantly.

Draw it right, then verify it built right.

See the FGI 2026 compliance guide and the outpatient facilities document.

FAQ

What is the minimum clearance on each side of a hospital bed?

Under the 2018 FGI Hospital Guidelines, 3 feet (36 inches) between each side of the bed and any wall or fixed obstruction in a medical/surgical room. Confirm the value in the 2026 FGI Hospital Code or your adopted edition.

How much clearance is needed at the foot of the bed?

The 2018 FGI Hospital Guidelines set 3 feet (36 inches) at the foot of the bed in a medical/surgical room. Shared rooms have historically needed more; confirm the multiple-patient-room value in your adopted edition.

Did the 2026 FGI change bed clearance requirements?

We could not confirm that from a public source. Public coverage of the 2026 Residential Code says its clearance requirements were centralized, including a 36-inch clear path from the door to the bed, window, and bathroom, and that individuals-of-size requirements were expanded. For hospitals, confirm bed clearances in the 2026 FGI Hospital Code itself.

Related reading

- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- What are the FGI Guidelines for healthcare facilities?
- What does FGI say about exam room size requirements?

How do FGI Guidelines affect hospital renovation projects?

Source: https://healthcarefacilityhub.org/fgi-guidelines-hospital-renovation-projects/ Published: October 5, 2026

Renovation triggers three programs at once.

Where a state or local jurisdiction has adopted the FGI Guidelines, they **must be followed for major renovation projects** — not just new construction. That means altered, renovated, or repurposed space gets designed to the adopted edition's requirements for that space type. Both The Joint Commission and DNV also expect accredited facilities to follow either the state-adopted edition or the most current FGI edition when planning new, altered, or renovated space.

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On this page: What "major renovation" triggers · The phasing problem · Practical implications for project planning · FAQ

What "major renovation" triggers

The trigger isn't cosmetic refresh — it's work that **changes the function, configuration, or systems** of a space: converting semi-private rooms to private, reconfiguring a unit, replacing HVAC serving clinical areas, or altering procedure rooms. When the trigger is hit, the renovated space must meet current FGI requirements for room sizes, clearances, handwashing, ventilation (via ASHRAE 170 as referenced), and other applicable provisions — even if the rest of the building predates them.

The phasing problem

Renovations in operating hospitals happen in phases, and FGI's 2026 cycle specifically addressed **phasing during renovations** — recognizing that a unit under phased construction has unique compliance questions about which requirements apply when, and how partially complete work interacts with occupied adjacent areas. Your phasing plan should address FGI compliance phase by phase, not just at final completion.

Practical implications for project planning

- **Budget impact:** bringing altered space to current FGI standards (larger rooms, added handwashing stations, upgraded ventilation) can significantly exceed the "refresh" budget — scope it early.
- **ICRA + ILSM coordination:** renovation triggers infection control (ICRA) and life safety (ILSM) programs alongside FGI design compliance. Plan all three together.
- **Edition lock:** confirm which FGI edition the AHJ enforces *before* schematic design. Designing to 2026 when the state enforces 2018 (or vice versa) creates rework.

Renovation triggers three programs at once.

See ICRA and ILSM on renovation projects and the FGI 2026 compliance guide.

FAQ

Renovation risk management under FGI

FGI's effect on a renovation is mostly decided before design starts, in the risk work:

- **Scope-trigger analysis:** the central question is which parts of the adopted edition the project's scope pulls in — the renovated area itself, the systems serving it, and in some adoption frameworks the areas functionally tied to it. Getting this wrong in either direction is expensive: under-scoping draws survey and licensure findings; over-scoping consumes the budget on unaffected areas.
- **Existing-conditions documentation:** photograph and record the existing conditions the design will rely on or alter. When a surveyor later asks why a clearance or a room size is what it is, the documented pre-project condition is the answer — the dimensional stakes are illustrated in FGI minimum clearances around patient beds and FGI exam room size requirements.
- **Phasing and interim conditions:** renovations in occupied hospitals phase the work; each phase is a temporary facility that must still satisfy life safety and infection control — which is where FGI planning meets ICRA and ILSM on the same project.
- **Early AHJ conversation:** a pre-design meeting with the authority having jurisdiction on edition and scope interpretation is the cheapest risk control in the entire project.

The hub view of what the Guidelines govern is in what the FGI Guidelines are.

Do FGI Guidelines apply to renovations or only new construction?

Where adopted, they apply to major renovations — altered, renovated, or repurposed space must meet the adopted edition's requirements for that space type.

What counts as a "major renovation" under FGI?

Work changing a space's function, configuration, or systems — not cosmetic refresh. The AHJ makes the final call on where the line falls.

Do accreditors require FGI compliance on renovations?

Yes — The Joint Commission and DNV expect accredited facilities to follow the state-adopted edition or the most current FGI edition for new, altered, or renovated space.

How do the FGI Guidelines affect a hospital renovation project?

Mainly through scope: the adopted edition's requirements apply to the renovated area and the systems serving it, so a scope-trigger analysis, documentation of existing conditions, phase-by-phase compliance for interim conditions, and an early conversation with the authority having jurisdiction decide the project's FGI exposure.

Related reading

- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- What are the FGI Guidelines for healthcare facilities?
- How do I access the FGI Guidelines for a design project?

What does FGI say about exam room size requirements?

Source: https://healthcarefacilityhub.org/fgi-exam-room-size-requirements/ Published: October 5, 2026

Plan to the workflow, verify against the minimum.

FGI sets a **minimum clear floor area of 80 square feet** for exam rooms in the 2022 Guidelines for Design and Construction of Outpatient Facilities — and the room must also contain an exam light (portable or fixed), supply storage, accommodations for written or electronic documentation, space for a visitor's chair, and a handwashing station. In practice, most designers plan **around 100 square feet** as the typical exam room, which comfortably fits patient, provider, and equipment with maneuvering room.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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On this page: Minimum vs. typical: why the two numbers · What else the room must contain · FAQ

Minimum vs. typical: why the two numbers

The 80-square-foot figure is the **code minimum** — the smallest room an authority having jurisdiction will approve. The ~100-square-foot figure is the **planning norm** that accounts for real-world needs: wheelchair turning radius, a visitor chair that doesn't block the door swing, and documentation space that isn't the exam table. Designing to the minimum and then discovering the room doesn't work is an expensive lesson — plan to the workflow, verify against the minimum.

What else the room must contain

Size is only part of the requirement. FGI's exam room provisions also cover:

- **Handwashing station** in the room (in addition to any toilet room sink)
- **Privacy** — walls, doors, and layout that protect conversations and examinations
- **Cleanable surfaces** — all surfaces, equipment, and furniture easily cleanable; carpet restricted to waiting and administrative areas
- **Sharps safety** — where sharps are stored, locked cabinets; wall-mounted sharps containers at proper heights

Check your state's adopted edition

Room sizes can shift between FGI editions, and your state enforces a **specific edition** — not "the latest." Confirm which edition your AHJ has adopted before locking room sizes into a design.

Designing an outpatient project?

See the FGI Guidelines 2026 edition compliance guide and where to find the outpatient facilities document.

FAQ

What is the minimum exam room size per FGI?

80 square feet of clear floor area under the 2022 Outpatient Guidelines, with required contents (exam light, storage, documentation space, visitor chair, handwashing station).

Is 100 square feet required for exam rooms?

Not as a code minimum — it's the widely used planning norm. The enforceable minimum is 80 square feet (verify against your state's adopted edition).

Do exam room requirements differ between FGI editions?

They can. Always verify room sizes against the specific edition your authority having jurisdiction enforces.

Related reading

- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- What are the FGI Guidelines for healthcare facilities?
- What are FGI minimum clearances around patient beds?

How does CMS enforce NFPA 101 compliance?

Source: https://healthcarefacilityhub.org/cms-enforce-nfpa-101-compliance/ Published: October 5, 2026

Adopted edition = the law. Latest edition = interesting reading.

CMS enforces NFPA 101 compliance by **adopting specific editions into federal regulation** — currently the **2012 editions of NFPA 101 (Life Safety Code) and NFPA 99 (Health Care Facilities Code)**, adopted in 2016 — and then surveying hospitals against them through state agencies and deemed accrediting

organizations. Once adopted, the Code isn't a guideline or a best practice: it's the **law of Medicare participation**, cited tag by tag through the K-tag system.

Take this to the job site.

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On this page: The enforcement chain · Waivers and equivalencies · What this means practically · FAQ

The enforcement chain

- **Adoption.** CMS rulemaking adopts NFPA editions into 42 CFR. Until CMS adopts a newer edition, the 2012 editions govern — even though NFPA has published newer ones.
- **Survey.** State-agency LSC specialists (or AO surveyors for deemed facilities) inspect against the adopted Code, citing each violation as a K-tag tied to the exact section.
- **Correction.** Standard-level tags require a plan of correction; condition-level Life Safety from Fire findings trigger the enforcement track.
- **Validation.** CMS re-surveys a sample of deemed facilities to verify AOs are enforcing the Code properly.
- **Sanctions.** For uncorrected or Immediate Jeopardy findings: directed correction, payment denial, civil money penalties, up to termination of the provider agreement.

Waivers and equivalencies

CMS can grant **waivers** of specific LSC provisions where compliance would cause unreasonable hardship and the waiver doesn't adversely affect patient safety — and it recognizes **equivalencies** where an alternative approach achieves the Code's intent. Both are formal processes with documentation requirements, not informal understandings with a surveyor. If you're relying on a waiver or equivalency, the approval letter belongs in your survey file.

What this means practically

Track the **adopted** edition, not the latest NFPA edition — designing to 2024 NFPA 101 doesn't satisfy a surveyor enforcing 2012. And remember that CMS enforcement runs through documentation as much as construction: the most common K-tags are testing, drill, and inspection failures against Code-mandated frequencies.

Adopted edition = the law. Latest edition = interesting reading.

See NFPA 101 for healthcare and how CMS surveyors evaluate life safety.

FAQ

Which NFPA 101 edition does CMS currently enforce?

The 2012 edition (with NFPA 99-2012), adopted in 2016. Newer editions apply only if and when CMS adopts them.

Can CMS waive Life Safety Code requirements?

Yes — formal waivers for unreasonable hardship (not affecting patient safety) and recognized equivalencies, both requiring documentation.

Do state codes override the CMS-adopted NFPA 101?

Where state or local codes are stricter, the stricter requirement generally governs. CMS sets the federal floor.

Related reading

- Which NFPA 101 Edition Does CMS Enforce?
- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- How do CMS surveyors evaluate life safety compliance?

How do I prepare for a CMS validation survey of my facility?

Source: https://healthcarefacilityhub.org/prepare-cms-validation-survey-facility/ Published: October 5, 2026

The best validation prep is a program that never sleeps.

A **CMS validation survey** is how CMS checks the checkers: state surveyors re-survey a sample of accredited ("deemed") facilities to verify the accrediting organization did its job. You don't get to choose whether you're sampled — so preparation means **running your facility as if every survey were a CMS survey**, because for validation purposes, it is. The surveyors use the same K-tags, the same SOM guidance, and the same Life Safety Code.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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What makes validation surveys different

- **They're comparative.** CMS compares the validation findings against what your accreditor found. Disparities — serious deficiencies your AO missed — reflect on the AO's deeming authority, but the deficiencies are still yours to correct.
- **They're unannounced.** Like all CMS surveys, there's no warning and no preparation window.
- **They're thorough on life safety.** LSC specialists conduct the physical-environment portion with the full K-tag checklist.

The preparation checklist

- **Reconcile your last AO survey.** Every RFI or finding from your accreditor should be corrected with evidence on file. Validation surveyors will re-check them.
- **Audit the K-tag documentation set.** 12 months of fire alarm, sprinkler, generator, and extinguisher testing; drill logs with varying times; ILSM records for any project or deficiency.
- **Walk the building like an LSC specialist.** Barrier penetrations, door latching, corridor clearance, exit signage, storage in mechanical spaces — the greatest-hits list from the deficiencies data.
- **Verify your e-SOC / building assessment is current.** Stale Plans for Improvement are easy findings.
- **Quiz staff.** RACE/PASS, ILSM awareness in construction areas, emergency procedures — on all shifts.
- **Confirm your AEM program document exists** (if you claim AEM) with risk rationale for each frequency.

The mindset

Don't prepare for the validation survey — prepare the program, and the survey takes care of itself. Facilities that pass validation surveys are the ones whose daily, weekly, monthly, and quarterly routines never depend on knowing a survey is coming.

The best validation prep is a program that never sleeps.

See continuous compliance monitoring and the preventive maintenance documentation list.

FAQ

What is a CMS validation survey?

A re-survey of a sample of accredited (deemed) facilities by state surveyors, used by CMS to verify the accrediting organization's survey performance.

Can I be selected for a validation survey?

Yes — CMS samples deemed facilities; there's no opt-out and no advance notice.

What happens if the validation survey finds things my accreditor missed?

The deficiencies are yours to correct through the normal plan-of-correction process; the disparity also factors into CMS's oversight of the accrediting organization.

Related reading

- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach
- What happens if a hospital fails a CMS life safety survey?
- How do I prepare for a Joint Commission Environment of Care survey?
- How CMS Surveyors Evaluate Life Safety Compliance in Hospitals — the survey mechanics a validation-survey preparation has to match

What are common CMS deficiencies related to facility maintenance?

Source: https://healthcarefacilityhub.org/common-cms-deficiencies-facility-maintenance/ Published: October 5, 2026

Every item on this list is preventable with routine discipline.

The most common CMS facility-maintenance deficiencies are **documentation and testing failures, not broken equipment**: generators not inspected weekly or load-tested monthly, fire drills falling into predictable patterns, fire alarm and sprinkler testing missed or unlogged, smoke barrier penetrations left unsealed after contractor work, and exits obstructed by storage or equipment. National K-tag data puts generator inspections, exit access, smoke barriers, fire drills (K-712), and fire alarm testing at the top year after year.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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The repeat offenders

- **Generator inspections and tests** — weekly inspections and monthly 30-minute load tests missed, wrong frequency, or done but undocumented. ~11% of facilities cited nationally.
- **Exit access** — obstructed egress, exits discharging into fenced areas, storage in exit paths, camouflaged doors. ~11% cited.
- **Smoke barriers** — unsealed penetrations from contractor wiring and phone lines, missing ratings. ~11% cited.
- **Fire drills (K-712)** — predictable patterns instead of unexpected times; times not varying by at least an hour. ~10% cited.
- **Fire alarm testing and maintenance** — missed NFPA-frequency tests, missing documentation, neglected off-premises transmission testing. ~8% cited.
- **Sprinkler coverage** — missed areas (closets, storage, attics), obstructions from ductwork or storage, spacing problems. ~8% cited.
- **Corridor clutter** — wheeled equipment parked in egress corridors beyond what’s permitted; carts left unattended.
- **Fire door deficiencies** — damaged doors, non-latching hardware, wedged-open rated doors.

The pattern behind the pattern

Nearly every item on this list is a **routine that slipped** — the weekly check nobody owned, the log nobody filed, the contractor penetration nobody reinspected. CMS doesn’t expect perfection; it expects a program that catches its own misses. The facilities that avoid these citations aren’t better funded — they’re better disciplined about the unglamorous recurring tasks.

Every item on this list is preventable with routine discipline.

See what documentation CMS expects for preventive maintenance and CMS environment-of-care requirements.

FAQ

Why the same deficiencies recur — and the documentation connection

Facility deficiencies recur for operational, not technical, reasons:

- **Rounds that find but don't close:** Environment of Care rounds identify the blocked corridor, the propped door, the overdue inspection — and the item reappears next quarter because ownership and deadlines were never attached. A rounds program is judged by its closure rate.
- **Inspections performed, evidence scattered:** fire damper, extinguisher, generator, and emergency-lighting records split across vendors, binders, and inboxes cannot be produced as one story on survey day.
- **Preventive maintenance treated as optional under workload:** deferred PM is the seed bed of physical-environment findings — which is why surveyors ask for the PM documentation described in CMS preventive maintenance documentation requirements.

The dataset view agrees: deficiency analyses repeatedly show physical-environment tags among the most cited in hospitals — not because the requirements are obscure, but because the maintenance-and-evidence system behind them is where small hospitals and large ones alike run thin.

What is the most cited CMS life safety deficiency?

Generator inspections and testing consistently rank at or near the top nationally, followed by exit access, smoke barriers, and fire drills.

Are most CMS facility citations about broken equipment?

No — the majority are missed tests, missing documentation, and predictable drill patterns. The equipment usually works; the program around it doesn't.

How do I find my facility's weak spots?

Walk this list against your own building quarterly: generator logs, drill matrix, alarm/sprinkler test records, barrier penetrations, egress paths. Fix what you find before a surveyor does.

Why do CMS facility maintenance deficiencies recur in hospitals?

Because the systems behind them recur: rounds that identify findings without closing them, inspection evidence scattered across vendors and binders, and preventive maintenance deferred under workload until it surfaces as a survey finding.

Related reading

- State Health Department Surveys: Preparation, Common Deficiencies, and Corrective Action Plans
- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach
- What documentation does CMS expect for preventive maintenance?

Can CMS terminate a hospital's Medicare agreement over facility issues?

Source: https://healthcarefacilityhub.org/can-cms-terminate-medicare-agreement-facility-issues/ Published: October 5, 2026

Termination is rare because correction usually works — make sure yours does.

Yes — but termination is the last resort, not the first move. Under **42 CFR 489.53**, CMS may terminate a hospital's Medicare provider agreement for failure to meet the Conditions of Participation, including the physical environment and Life Safety from Fire conditions. Before termination, CMS must give **notice and an opportunity to correct** — the process is designed to produce correction, with a graduated set of lesser remedies tried first.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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The remedies short of termination

CMS has a full toolkit before it reaches termination:

- **Directed plans of correction** — CMS dictates what must be fixed and by when
- **Denial of payment for new admissions** — the financial pressure valve
- **Civil money penalties** — per-day fines that accumulate until correction
- **Temporary management** — CMS installs oversight when leadership can't or won't correct
- **Directed in-service training** — for systemic competency failures

How termination actually works

When lesser remedies fail — or for Immediate Jeopardy that isn't promptly removed — CMS issues notice of its intent to terminate. The notice states the reasons and the effective date, and CMS gives concurrent notice to the public. Payment remains available for up to **30 days after the effective date** for inpatient hospital services already underway (§489.55). A terminated provider can only get a new agreement when CMS finds the reason for termination has been removed, there's reasonable assurance it won't recur, and all prior responsibilities have been fulfilled.

The provider's rights

Termination isn't unilateral and final on the spot: providers may **appeal** under 42 CFR Part 498. And the classic accelerated track — 23-day termination for hospital emergency-department violations posing Immediate Jeopardy under §489.24 — shows how fast things move when patients are in immediate danger. The lesson: treat every plan of correction as binding, because CMS tracks whether you kept your promises.

Termination is rare because correction usually works — make sure yours does.

See what happens when a hospital fails a life safety survey and continuous compliance monitoring.

FAQ

Where facility and life-safety findings fit on the ladder

Facility issues reach the termination track through a specific mechanism: life-safety and physical-environment deficiencies are among the most common sources of condition-level findings and immediate-jeopardy determinations in hospitals. The pattern surveyors cite is rarely a single broken item — it is a failed system: sprinkler or alarm impairments without interim measures, egress obstructions, or a preventive-maintenance record that shows the hospital did not know its own building.

- **Deficiency cited** — standard or condition level, with a plan-of-correction deadline.
- **Immediate jeopardy** — where a life-safety failure places patients at likelihood of serious harm, the timeline compresses to days, and termination proceedings can begin while correction is still being verified.
- **Termination track** — if condition-level compliance is not achieved and verified within the regulatory timelines, CMS moves to terminate the Medicare agreement; hospitals typically also face a revisit survey to confirm correction.

The practical lesson for facility leaders: the findings that escalate are the ones where documentation shows the hospital saw the problem and did not act. What that looks like from inside a failed survey is documented in what happens if a hospital fails a CMS life safety survey.

What regulation governs CMS termination of provider agreements?

42 CFR 489.53 — Termination by CMS. Appeals go through 42 CFR Part 498.

Does CMS have to warn a hospital before terminating?

Yes — notice and opportunity to correct are required, except on the accelerated Immediate Jeopardy track where the timeline compresses.

Can a terminated hospital get Medicare back?

Only when CMS finds the cause removed, with reasonable assurance against recurrence and all prior obligations fulfilled.

Can a hospital lose its Medicare agreement over facility or life safety issues?

Yes. Life-safety and physical-environment deficiencies are a common source of condition-level findings and immediate jeopardy, which start the termination track. Escalation usually follows a failed system — impairments without interim measures, blocked egress, absent maintenance records — not a single broken item.

Related reading

- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach
- Healthcare Cybersecurity and Medical Device IoT Security: NIST Framework, FDA QMSR, and CMS Compliance in 2026
- Legionella Water Management Programs: ASHRAE 188, CDC Toolkit, and CMS Requirements

What are the CMS emergency preparedness rule requirements for hospitals?

Source: https://healthcarefacilityhub.org/cms-emergency-preparedness-rule-hospitals-requirements/
Published: October 5, 2026

The plan is only as good as its last exercise.

The CMS Emergency Preparedness Rule (final rule 81 FR 63860, September 2016; amended by the 2019 Burden Reduction Rule) requires hospitals at **42 CFR 482.15** to maintain four program elements: a **facility- and community-based emergency plan**, **policies and procedures**, a **communication plan**, and a **training and testing program**. It's a Condition of Participation — non-compliance threatens Medicare payment, not just a citation.

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This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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The four elements

- **Emergency plan.** Based on documented facility-based and community-based risk assessments using an all-hazards approach. Addresses the patient population (including at-risk individuals), services the facility can provide in an emergency, continuity of operations (delegations of authority, succession plans), and collaboration with local, tribal, regional, state, and federal emergency officials. Reviewed and updated at least every 2 years.
- **Policies and procedures.** Based on the plan, risk assessment, and communication plan. Reviewed and updated at least every 2 years. For hospitals, must address subsistence needs (food, water, medical supplies) for staff and patients whether evacuating or sheltering in place, plus emergency and standby power systems.
- **Communication plan.** Complies with federal, state, and local laws. Coordinates patient care within the facility, across providers, and with public health and emergency management. Includes contact information for staff, entities, and authorities.
- **Training and testing.** Initial and annual training so staff can demonstrate knowledge of emergency procedures. **Two exercises per year**: one full-scale community-based or facility-based functional exercise, and one additional exercise (which may be a tabletop). An actual emergency that tests the plan can substitute for an exercise.

What surveyors check

The risk assessment must be **documented and current** — a plan without a risk assessment behind it fails. Exercises need after-action reports with corrective actions tracked to completion. And the "at least every 2 years" review cycle is a floor, not a target: after any real event or exercise, the plan should be updated.

The plan is only as good as its last exercise.

See CMS environment-of-care requirements and continuous compliance monitoring.

FAQ

How surveyors test emergency preparedness

Surveyors do not grade the binder; they test whether the program is alive. Expect them to:

- Trace the risk assessment to the emergency plan to the policies — an identified hazard with no matching policy, or a policy nobody trained on, is a finding in the making.
- Interview staff at the unit level: what do you do when the power fails, when the water is shut off, when the phones go down? Answers that match the communication plan are the evidence.
- Review exercise documentation: the required testing (including a full-scale or facility-based exercise and a second exercise in the cycle), the after-action reports, and — critically — whether identified gaps were actually incorporated into plan revisions.
- Check that the program is reviewed and updated on the required cycle, and after real events, not just before surveys.

Facility-specific duties deserve their own drills: generator and utility failure, water interruption, and evacuation routes are where the facility team's part of the rule is won or lost. The same all-hazards structure underpins day-to-day readiness — see preparing facility operations for emergency disruptions and outages.

How often must hospitals conduct emergency preparedness exercises?

Two per year: one full-scale (community-based or facility-based functional) and one additional exercise such as a tabletop. A real emergency that tests the plan can count.

How often must the emergency plan be updated?

Reviewed and updated at least every 2 years (annually for long-term care facilities) — and after every real event or exercise.

Does the rule apply to systems with multiple facilities?

A separately certified facility within a health care system may participate in the system's unified emergency preparedness program, per the rule's flexibility provisions.

How do surveyors evaluate a hospital's emergency preparedness program?

By tracing risk assessment -> plan -> policies -> training -> exercises for consistency, interviewing unit staff on downtime actions, and checking that exercise findings were incorporated into plan updates.

Related reading

- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach
- Legionella Water Management Programs: ASHRAE 188, CDC Toolkit, and CMS Requirements
- Healthcare Emergency Preparedness: The Complete Professional Guide (2026)

What is the CMS requirement for fire drills in healthcare facilities?

Source: https://healthcarefacilityhub.org/cms-fire-drill-requirements-healthcare-facilities/ Published: October 5, 2026

Vary the drill, or the surveyor will cite the pattern.

CMS requires fire drills **at least quarterly on each shift**, held at unexpected times under varying conditions — enforced through the adopted NFPA 101-2012 (§§18.7.1.4–18.7.1.7 for new and 19.7.1.4–19.7.1.7 for existing health care occupancies) and surveyed under K-tag K-712. Drills must include transmission of the fire alarm signal and simulation of emergency fire conditions, and they're consistently among the top-10 national life safety citations — almost always for **predictable patterns**, not missed drills.

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The requirements in detail

- **Frequency:** at least quarterly on each shift — every shift, every quarter, no exceptions.
- **Timing:** unexpected times, varying conditions. Drills that always happen Tuesday at 10 AM fail the "unexpected" test.
- **Signal:** transmission of the fire alarm signal with simulation of emergency conditions. Between 9:00 PM and 6:00 AM, a coded announcement may substitute for audible alarms.
- **Leadership:** responsibility for planning and conducting drills assigned only to competent, qualified persons.
- **Staff knowledge:** staff must be familiar with procedures and understand that drills are part of the established routine.

Why facilities keep getting cited

K-712 citations rarely mean "no drills." They mean the drill log shows a pattern: same day, same time, same shift rotation every quarter. Surveyors check that drill times **vary by at least an hour** and span different days. The fix is a drill matrix that forces variation — and someone actually checking it before the surveyor does.

Documenting drills

Each drill record should show: date, time, shift, location/building, who conducted it, alarm transmission method, staff response observed, and a critique with any corrective actions. The critique is what separates a drill from a checkbox — surveyors read critiques to see whether the program learns.

Vary the drill, or the surveyor will cite the pattern.

See common CMS facility deficiencies and what the life safety survey checks.

FAQ

How often are fire drills required in hospitals?

At least quarterly on each shift, at unexpected times under varying conditions (NFPA 101-2012, enforced by CMS).

Can we use a coded announcement instead of the alarm?

For drills conducted between 9:00 PM and 6:00 AM, yes — a coded announcement may be used instead of audible alarms.

What is K-712?

The CMS K-tag for fire drill deficiencies — one of the most commonly cited life safety tags nationally, usually for predictable drill patterns.

Related reading

- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach
- AI Governance in Healthcare Facilities: FDA QMSR, CMS Oversight, and the Patient Safety Accountability Framework
- Legionella Water Management Programs: ASHRAE 188, CDC Toolkit, and CMS Requirements

What documentation does CMS expect for preventive maintenance?

Source: https://healthcarefacilityhub.org/cms-preventive-maintenance-documentation-requirements/
Published: October 5, 2026

The equipment is rarely the problem. The logbook is.

CMS expects **complete, dated records proving every required inspection, test, and maintenance activity actually happened at the required frequency** — for fire protection systems, emergency power, medical equipment, and building systems. The maintenance itself can follow manufacturer recommendations or a risk-based Alternative Equipment Maintenance (AEM) program, but the documentation is non-negotiable: CMS's most common life safety citations are missed tests and missing logs, not broken equipment.

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The core document set

- **Fire alarm and detection** — testing per NFPA 72 frequencies, with records of each test
- **Sprinkler and standpipe systems** — inspection, testing, and maintenance per NFPA 25, documented
- **Fire extinguishers** — monthly inspections and annual maintenance, tagged and logged
- **Emergency generators** — weekly inspections and monthly 30-minute load tests (K-tag data shows this is one of the most cited items nationally), plus annual full-load tests
- **Medical gas and vacuum systems** — inspection, testing, and maintenance records

- **Medical equipment** — maintenance per manufacturer recommendations or the facility's AEM program, with completion records
- **Fire and smoke doors, dampers** — inspection records per NFPA 80/105 frequencies
- **Emergency lighting and exit signs** — monthly and annual test records

Manufacturer recommendations vs. AEM

CMS allows two paths: maintain equipment per **manufacturer recommendations**, or operate a documented **Alternative Equipment Maintenance (AEM) program** that sets risk-based frequencies. AEM isn't "maintain less" — it's a formal program with risk assessments justifying each frequency. If you claim AEM, surveyors will ask to see the program document and the risk rationale. No program document, no AEM — you're held to manufacturer intervals.

The documentation standard

Every record needs: **what** was done, **when**, **by whom**, and **the result** (pass/fail with corrective action for failures). "PM completed" with no date is not a record. Failed tests without documented corrective action are findings. Build the log so a surveyor who's never seen your building can reconstruct the entire maintenance history.

The equipment is rarely the problem. The logbook is.

See common CMS facility deficiencies and CMS environment-of-care requirements.

FAQ

What is a CMS AEM program?

An Alternative Equipment Maintenance program — a documented, risk-based alternative to manufacturer-recommended maintenance frequencies, with risk assessments justifying each interval.

How far back should maintenance records go?

At least 12 months of continuous records. Surveyors expect to see the full testing history, not a recent sample.

Do failed tests need documentation?

Yes — the failure and the corrective action. A failed test with no follow-up is worse than a missed test; it proves you knew and didn't act.

Related reading

- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach
- Legionella Water Management Programs: ASHRAE 188, CDC Toolkit, and CMS Requirements
- AI in Healthcare Facility Operations: Predictive Maintenance, Energy Optimization, and Automated Compliance Documentation

What happens if a hospital fails a CMS life safety survey?

Source: https://healthcarefacilityhub.org/hospital-fails-cms-life-safety-survey/ Published: October 5, 2026

The enforcement track rewards fast, real correction.

If a hospital fails a CMS life safety survey, the consequences scale with severity: **standard-level deficiencies** require an acceptable plan of correction and a revisit survey; **condition-level deficiencies** (including Immediate Jeopardy) put the hospital on the enforcement track — with CMS able to impose remedies up to and including **termination of the Medicare provider agreement**. The process always gives the hospital notice and an opportunity to correct before the ultimate sanction.

Take this to the job site.

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The escalation ladder

- **Statement of deficiencies (CMS-2567).** The survey findings, delivered after the survey. The hospital submits a plan of correction with completion dates.
- **Revisit survey.** Surveyors return to verify correction. Uncorrected deficiencies escalate.
- **Condition-level citation.** The Life Safety from Fire condition is out of compliance — the enforcement track begins.
- **Remedies.** Depending on severity: directed plans of correction, denial of payment for new admissions, civil money penalties, appointment of temporary management.
- **Termination.** Under 42 CFR 489.53, CMS may terminate the provider agreement — the last resort, after notice and opportunity to correct (or immediately for Immediate Jeopardy that isn't removed).

Immediate Jeopardy changes everything

If surveyors find **Immediate Jeopardy** — a situation where patient health or safety is at immediate risk — the timeline compresses drastically. The hospital must remove the jeopardy immediately (often within 23 days for the classic termination track), and CMS can move to terminate on an accelerated schedule. Most life safety Immediate Jeopardy findings involve fire protection failures: inoperable alarm or suppression with no fire watch, blocked egress with no alternative, or similar.

Termination isn't the first move

CMS terminates provider agreements rarely — it's the nuclear option, and the process is designed to produce correction, not closure. But "rarely" is not "never," and the hospitals that get terminated are the ones that treated the earlier steps as paperwork. Every plan of correction is a promise; CMS checks whether you kept it.

The enforcement track rewards fast, real correction.

See can CMS terminate over facility issues and continuous compliance monitoring.

FAQ

What is Immediate Jeopardy in a CMS survey?

A finding that a situation poses immediate risk to patient health or safety. It triggers an accelerated correction and enforcement timeline.

How long does a hospital have to submit a plan of correction?

CMS generally requires the plan of correction within 10 calendar days of receiving the statement of deficiencies.

Can a hospital appeal a termination?

Yes — providers may appeal termination of the provider agreement under 42 CFR Part 498.

Related reading

- What does The Joint Commission look for during a life safety survey?
- How do CMS surveyors evaluate life safety compliance?
- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- The Most Common CMS Deficiencies in Hospital Facility Maintenance — the recurring deficiency families that produce failed surveys

How do CMS surveyors evaluate life safety compliance?

Source: https://healthcarefacilityhub.org/cms-surveyors-evaluate-life-safety-compliance/ Published: October 5, 2026

Know the tags before the surveyor writes them.

CMS surveyors evaluate life safety compliance against the **2012 editions of NFPA 101 (Life Safety Code) and NFPA 99 (Health Care Facilities Code)**, which CMS adopted in 2016. State-agency surveyors trained as Life Safety Code specialists walk the building with the K-tag checklist — hundreds of specific requirements covering construction, compartmentation, egress, fire protection, and building services — and every deficiency gets a K-tag citation tied to the exact Code section.

Take this to the job site.

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The K-tag system

Life safety deficiencies are cited as **K-tags** (e.g., K-712 for fire drills, K-tags in the 100s–700s for the full range). Each tag maps to a specific NFPA 101-2012 section. The surveyor documents what was observed, where, and which Code section it violates. Tags aggregate upward: enough serious tags, and the surveyor cites the **Life Safety from Fire condition** at the condition level.

What the walkthrough covers

- **Building construction and compartmentation** — smoke barriers, fire barriers, penetrations, door ratings and latching
- **Means of egress** — corridors, stairwells, exit access, emergency lighting, exit signage
- **Fire protection systems** — sprinklers, standpipes, fire alarm and detection, extinguishers — with testing and inspection records
- **Building services** — medical gas, emergency power, HVAC, elevators
- **Interior finish and furnishings** — flame-spread ratings, cubicle curtains, decorations
- **Special features** — cooking facilities, hyperbaric, laboratories

Records get surveyed too

The walkthrough is half the survey. The other half is documentation: fire drill logs (quarterly per shift, with varying times), generator inspection and load-test records, fire alarm and sprinkler testing records, and ILSM documentation for any active project or deficiency. CMS's most common life safety citations are documentation failures — missed tests, missing logs, predictable drill patterns — not exotic Code interpretations.

Know the tags before the surveyor writes them.

See NFPA 101 for healthcare and CMS environment-of-care requirements.

FAQ

The building tour and the record review — what each is for

A life safety survey has two intertwined halves. The **building tour** tests the physical plant as it actually is: egress routes and exit discharge, fire and smoke barrier integrity (including above the ceiling), door operation and latching, sprinkler and alarm condition, hazardous-area protection, and the state of construction areas and their interim measures. Surveyors open doors, look above tiles, and follow the exit path to the public way — the tour cannot be staged, because it samples whatever the building presents that day.

The **record review** tests the management system behind the plant: inspection, testing, and maintenance documentation for fire alarm, sprinkler, generators, dampers, and emergency lighting; ILSM assessments and documentation where impairments exist; and the facility's own rounds and corrective actions. Findings are cited against the Life Safety Code edition CMS enforces and the physical-environment condition — mechanics detailed in how CMS enforces NFPA 101.

Preparation that works on both halves at once — building walked the way a surveyor walks it, records assembled the way a surveyor asks for them — is laid out in preparing for a CMS validation survey.

Which edition of the Life Safety Code does CMS enforce?

The 2012 editions of NFPA 101 and NFPA 99, adopted by CMS in 2016. Newer NFPA editions don't apply for CMS purposes until CMS adopts them.

What are K-tags?

The numbered deficiency tags (K-100s through K-700s) CMS uses to cite specific Life Safety Code violations, each tied to an NFPA 101-2012 section.

Who performs CMS life safety surveys?

State survey agency Life Safety Code specialists — or accrediting-organization surveyors (Joint Commission, DNV, etc.) for deemed facilities.

How do CMS surveyors evaluate life safety compliance in hospitals?

Through a building tour that samples the plant as it is — egress, barriers (including above ceilings), doors, sprinkler and alarm systems, construction areas — paired with a record review of inspection, testing, maintenance, and ILSM documentation. Findings cite the CMS-adopted Life Safety Code and the physical-environment condition.

Related reading

- What happens if a hospital fails a CMS life safety survey?
- What does The Joint Commission look for during a life safety survey?
- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers

What are the CMS Conditions of Participation for hospitals?

Source: https://healthcarefacilityhub.org/cms-conditions-of-participation-hospitals-explained/ Published: October 5, 2026

The CoPs are the floor. Everything else builds on them.

The **Conditions of Participation (CoPs)** are the federal requirements hospitals must meet to participate in Medicare and Medicaid, codified at **42 CFR Part 482**. They cover everything from patient rights and nursing services to the physical environment — and compliance is verified by state survey agencies or CMS-approved accrediting organizations (like The Joint Commission) with deeming authority. Fail the CoPs and you risk losing Medicare payment, which for most hospitals is an existential threat.

Take this to the job site.

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The CoPs that touch facilities

- **§482.41 — Physical environment.** The hospital must be constructed, arranged, and maintained to ensure patient safety. This is the facilities CoP: life safety, emergency power, ventilation, and overall building condition.
- **§482.15 — Emergency preparedness.** The 2016 Emergency Preparedness Rule’s four elements: emergency plan, policies and procedures, communication plan, and training and testing.

- **§482.42 — Infection control.** The hospital must have an active infection control program — which includes the physical-environment controls surveyors check.

The full Part 482 spans governance, medical staff, nursing, pharmacy, radiology, lab, and more — but for facilities leaders, those three sections are the survey battleground.

How compliance is judged

Surveyors cite deficiencies at two levels: **standard-level** (a specific requirement wasn't met) and **condition-level** (the failure is so serious or systemic the entire Condition is out of compliance). Condition-level deficiencies trigger the enforcement track — plans of correction, revisit surveys, and ultimately potential termination of the provider agreement. The goal is never to argue about individual tags; it's to keep every deficiency at the standard level and corrected fast.

The CoPs are the floor. Everything else builds on them.

See CMS environment-of-care requirements for hospitals and continuous compliance monitoring for CMS survey readiness.

FAQ

The full condition map, with the facility-relevant conditions flagged

For facility leaders, the CoPs divide into the conditions they own outright, the ones they co-own, and the clinical conditions their work supports:

- **Owned:** Physical Environment (§482.41) — construction, arrangement, and maintenance for patient safety, incorporating the Life Safety Code.
- **Co-owned:** Emergency Preparedness (§482.15) with emergency management and clinical leadership; Infection Prevention and Control (§482.42) with infection prevention — construction and water management are facility-delivered parts of it.
- **Supported:** Quality Assessment and Performance Improvement (§482.21), which consumes facility data on safety and environment; Patient Rights (§482.13), which has a physical dimension in privacy, visitation space, and a safe environment.

Surveyors read the conditions as one hospital, not as departmental silos — a physical-environment failure with infection-control consequences will be cited in both lights. The Environment of Care condition in depth is CMS Conditions of Participation: Environment of Care requirements.

Where are the hospital CoPs published?

At 42 CFR Part 482, available on ecfr.gov. The State Operations Manual (SOM) Appendix A gives CMS's interpretive guidance for surveyors.

What's the difference between a standard-level and condition-level deficiency?

Standard-level means a specific requirement wasn't met. Condition-level means the failure is serious or systemic enough that the entire Condition of Participation is out of compliance — triggering the enforcement track.

Do the CoPs apply to critical access hospitals?

CAHs have their own CoPs at 42 CFR Part 485, Subpart F — similar in structure, scaled to the CAH setting.

Which Conditions of Participation matter most to hospital facility teams?

Physical Environment (§482.41) is owned outright; Emergency Preparedness (§482.15) and Infection Prevention (§482.42) are co-owned — construction controls and water management are the facility-delivered parts of infection prevention.

Related reading

- CMS Conditions of Participation: Environment of Care Requirements for Hospitals
- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach
- Healthcare Cybersecurity and Medical Device IoT Security: NIST Framework, FDA QMSR, and CMS Compliance in 2026

Do ILSM apply to small renovation projects in hospitals?

Source: https://healthcarefacilityhub.org/joint-commission-ilsm-small-renovation-projects/ Published: October 5, 2026

Size doesn't trigger ILSM. Degraded protection does.

Yes — if the project affects life safety features. ILSM has no minimum project size, no dollar threshold, and no "too small to matter" exemption. A two-day project that takes a smoke barrier offline or blocks an egress path triggers the same assessment requirement as a six-month wing renovation. The only question the standard asks is whether **fire and life safety protections are degraded**.

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On this page: Proportional response, not exemption · The practical rule · FAQ

What "small" projects trigger ILSM

- Replacing a smoke door or door hardware on a rated opening
- Above-ceiling work that penetrates a smoke or fire barrier
- Taking a sprinkler zone or detector loop offline for a tie-in
- Temporarily blocking a corridor for equipment staging
- Hot work (welding, cutting) in or near occupied areas
- Any work generating dust or debris in egress paths

Most of these are measured in **hours, not weeks** — and that's exactly why they get missed. The project is so small nobody runs the ILSM assessment, and the surveyor finds the unsealed barrier penetration during EOC rounds.

Proportional response, not exemption

"Applies" doesn't mean "all eleven measures for a four-hour job." The ILSM assessment is **case-by-case and proportional**: a half-day barrier penetration might need only a documented assessment, a fire watch during the impairment, and verification of firestop restoration — not quarterly drills and organization-wide education. Small project, small ILSM footprint — but the assessment and documentation still exist.

The practical rule

Make the ILSM assessment part of **every work order** that touches ceilings, walls, doors, corridors, or fire systems — even the "quick" ones. A one-page assessment that concludes "no ILSM required, barriers unaffected, systems remain operational" takes five minutes and is fully defensible. No assessment at all is the deficiency.

Size doesn't trigger ILSM. Degraded protection does.

See when ILSM is required during hospital construction and the ICRA/ILSM construction guide.

FAQ

Is there a minimum project size for ILSM?

No. There is no square-footage, dollar, or duration threshold in the standard.

Does a four-hour sprinkler impairment need ILSM?

It needs an assessment. At 4+ cumulative hours in 24 for alarm (10 for sprinkler), fire watch or evacuation enters the picture — so even short impairments need the documented determination.

What about after-hours maintenance work?

Same rules. Night-shift barrier work with no ILSM assessment is still a finding when the surveyor reviews the work-order history.

Related reading

- What ILSM measures does The Joint Commission expect during construction?
- What is the Joint Commission's stance on ILSM during construction?
- Joint Commission Accreditation 360: The 2026 Physical Environment Standards Explained

How do you document ILSM compliance?

Source: https://healthcarefacilityhub.org/how-document-ilsm-compliance/ Published: October 5, 2026

Documentation is the program, as far as the surveyor is concerned.

ILSM compliance is documented as a **complete, chronological record**: the initial assessment, daily inspection logs, training and drill records, temporary-system test results, and the termination sign-off. Surveyors read the

record the way an auditor reads financials — they're looking for **continuity**: no gaps, no contradictions, and evidence that every measure the assessment selected was actually implemented, every day it was supposed to be.

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The five document types

- **ILSM assessment** — the project or deficiency description, which protections are degraded, which measures apply (and which don't, with reasoning), responsible parties, signatures, date.
- **Daily inspection logs** — safety personnel inspect the site every day ILSM is in effect: egress clear, barriers intact, systems operational, housekeeping acceptable, signage posted. Each entry dated and signed.
- **Training records** — who was trained, on what, when — staff, contractors, and fire-equipment users.
- **Drill records** — additional fire drills with documented critiques and corrective actions.
- **Temporary system test records** — monthly inspection and testing of any temporary equivalent systems.
- **Termination record** — restoration verified, date, sign-off.

Sample daily ILSM inspection log structure

Each daily entry should capture, at minimum:

- **Header:** date, inspector name/signature, project or deficiency reference, ILSM assessment reference
- **Egress:** exit routes clear and unobstructed? Alternate exit signage posted and visible?
- **Barriers:** temporary partitions intact, smoketight, no unsealed penetrations?
- **Systems:** fire alarm/detection/suppression operational? Temporary equivalent systems functioning?
- **Housekeeping:** storage orderly, debris removed, combustible load minimized? Smoking prohibition observed?
- **Access:** emergency vehicle/personnel access unobstructed?
- **Findings and actions:** any deficiencies found, corrective action taken, follow-up needed

The continuity rule

The record must cover **every day** from ILSM initiation to termination. A three-day gap in daily logs during a six-week project is a finding — it reads as three days with no verification that anyone was safe. Build the log into someone's actual daily routine, not as an afterthought task.

Documentation is the program, as far as the surveyor is concerned.

See what the life safety survey checks and the documentation readiness checklist.

FAQ

How often must ILSM inspections be documented?

Daily — every day ILSM is in effect, by safety personnel, on the inspection report.

Can ILSM documentation be electronic?

Yes, provided it's complete, retrievable, and attributable (who recorded what, when). Electronic logs with timestamps work well.

What sinks ILSM documentation reviews?

Gaps in daily logs, assessments missing signatures or reasoning, training records without dates, and termination records that don't verify restoration.

Related reading

- Medical Gas Systems: NFPA 99, Bulk Oxygen, Vacuum, and Medical Air Compliance
- FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance
- Healthcare Code Compliance: The Complete Professional Guide (2026)
- How ILSM Fit Into the Hospital Fire Safety Plan — where the documentation described here lives

When are ILSM required during hospital construction?

Source: https://healthcarefacilityhub.org/when-ilsm-required-hospital-construction/ Published: October 5, 2026

The trigger is degraded protection, not project size.

ILSM is required whenever hospital construction **affects life safety features** — egress paths, fire and smoke barriers, fire alarm, detection, or suppression systems — or whenever a Life Safety Code deficiency exists that can't be corrected immediately. The trigger isn't the project's size or budget; it's **whether the building's normal fire and life safety protections are degraded**, even temporarily.

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Construction triggers

- Blocking or rerouting an approved exit or egress path
- Opening, penetrating, or modifying fire or smoke barriers
- Taking a fire alarm, detection, or suppression system (or part of one) out of service
- Work that impairs compartmentation — corridor walls, smoke doors held open, unsealed penetrations

- Major renovation of an occupied floor or unit
- Excavation or exterior work affecting emergency vehicle access
- Hot work in or adjacent to occupied areas
- Any project where dust, debris, or equipment staging degrades egress or increases fuel load

Deficiency triggers

When a Life Safety Code deficiency is identified — through EOC rounds, the building assessment, or a survey — and it can't be fixed on the spot, ILSM covers the gap until correction. The deficiency goes in the e-Statement of Conditions with a Plan for Improvement; ILSM is the compensating protection in the meantime.

The assessment decides — case by case

Not every project triggers every measure. The ILSM assessment maps the specific degradation against the standard measures and selects the ones that apply. A project that only affects one corridor's egress might need signage, daily inspections, and surveillance — not a fire watch. **The requirement is the assessment itself**: a documented, reasoned determination for every project, signed and filed. Skipping the assessment because "this one's small" is the most cited ILSM failure there is.

Small project? The assessment still applies.

See do ILSM apply to small renovation projects and the ICRA/ILSM construction guide.

FAQ

Examples that trigger ILSM — and examples that don't

The trigger test is functional: is a life safety feature impaired, out of service, or unable to do its job — now, or because of the work underway?

- **Triggers ILSM:** a sprinkler zone shut down for tie-ins; fire alarm or detection out of service in an occupied area; an exit stair or corridor segment closed by construction; fire or smoke barrier breached and not yet restored; a Life Safety Code deficiency found on rounds that cannot be corrected immediately.
- **Generally does not trigger:** work fully inside a contained area that touches no life safety system and blocks no egress; cosmetic work in an unoccupied, separated suite with detection and suppression intact; a deficiency corrected on the spot, before it can expose occupants.
- **The grey zone** — partial impairments, short-duration shutdowns, phased barrier work — is decided by the ILSM assessment, not by habit: the assessment step evaluates the impairment's scope and duration and assigns the measures in the ILSM measures The Joint Commission expects during construction.

Who makes the call matters as much as the call itself: the responsibility chain is set out in who is responsible for ILSM implementation, and the decision — either way — is documented, because on survey the undocumented "we assessed it" is indistinguishable from "we never thought about it."

Who decides whether ILSM is required for a project?

The facility's ILSM assessment process — typically the safety officer with facilities and project management — evaluates each project or deficiency case by case and documents the determination.

Does cosmetic work trigger ILSM?

Only if it affects life safety features. Repainting a corridor doesn't; replacing the corridor's smoke doors does.

What if we're unsure whether a project triggers ILSM?

Run the assessment. A documented "no ILSM required" determination with reasoning is defensible; no assessment at all is not.

When exactly are ILSM required during hospital construction?

Whenever construction or an impairment takes a life safety feature out of service or degrades it — sprinkler or alarm shutdowns, blocked egress, breached fire/smoke barriers — or a Life Safety Code deficiency exists that cannot be corrected immediately. The ILSM assessment decides borderline cases, and the decision is documented either way.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- Who Should Be on the ICRA Team for a Hospital Construction Project

How do ILSM interact with a hospital's fire safety plan?

Source: https://healthcarefacilityhub.org/ilsm-hospital-fire-safety-plan/ Published: October 5, 2026

One plan, one overlay, one story.

ILSM doesn't replace the fire safety plan — it **layers on top of it**. The fire safety plan is the permanent program: RACE (rescue, alarm, confine, extinguish/evacuate), PASS for extinguishers, alarm response procedures, evacuation routes, and the regular drill schedule. ILSM is the temporary overlay that **modifies that plan** for a specific area while protections are degraded — and every modification must be communicated to the staff who execute the plan.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

Download the field sheet (PDF)

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Where the two connect

- **Altered staff response.** The pivotal question on every ILSM assessment: does this project or deficiency change how staff perform rescue, alarm, confinement, extinguishment, or evacuation? If yes, the fire safety plan is effectively amended for that area — and staff must be trained on the amendment.
- **Drill frequency.** When staff response is altered for an extended period, the ILSM assessment triggers additional fire drills (minimum one extra per shift per quarter) in the affected area — on top of the plan's normal schedule.

- **Temporary systems.** A temporary but equivalent alarm or suppression system becomes part of the fire safety picture for the area; staff must know it exists, how it's monitored, and that it's tested monthly.
- **Fire watch.** When impairments cross the 4-hour/10-hour thresholds, the fire watch becomes the human fire-detection system for the zone — the most direct ILSM-to-fire-plan integration there is.
- **Communication.** Alternate exit signage, occupant notification of the deficiency and the measures in place — the fire safety plan only works if people know the current version.

The integration test

Ask your charge nurse in the affected area: "The alarm goes off right now — what do you do differently than last month?" If she can answer, ILSM and the fire safety plan are integrated. If she describes the standard plan with no awareness of the construction overlay, they're two documents that never met — and that's a survey finding.

One plan, one overlay, one story.

See the ICRA/ILSM construction guide and what the life safety survey checks.

FAQ

Returning to the plan as written — closing the interim period

ILSM are a bridge back to the fire safety plan, and the bridge has an end. Closing the interim period is a documented sequence, not a quiet return to normal:

- The impaired system is restored and — where the work touched it — inspected and tested, with results filed against the impairment record.
- Temporary measures are stood down in order: fire watch ended only after restoration is verified, temporary signage and equipment removed, blocked routes formally reopened.
- The ILSM documentation is closed out: dates of impairment and restoration, measures used, inspection results, and any incidents during the interim period — the record set described in how to document ILSM compliance.
- Lessons from the interim period feed the plan itself: a recurring impairment on the same system is a capital or maintenance signal, and repeated ILSM on one system is exactly what the common ILSM deficiencies are made of.

During the interim period, notification duties run as plan functions: the fire department and alarm-monitoring company know about impairments and restorations, staff in affected areas know the interim procedures, and the hospital's fire response roles operate under the interim annex — not from memory of it.

Does ILSM change evacuation routes?

It can — when construction blocks or reroutes egress, alternate routes must be designated, signed, and communicated. Staff must know the current routes, not the ones on the old evacuation map.

Do we update the written fire safety plan for each ILSM?

The ILSM assessment and its documentation serve as the project-specific amendment. The base plan stays; the ILSM record shows what changed, where, for how long, and who was told.

What happens to the fire safety plan when ILSM terminates?

The overlay lifts: temporary systems removed, normal routes and responses restored, staff informed that standard procedures are back in effect — all documented at closeout.

How do ILSM interact with a hospital's fire safety plan?

ILSM are the plan's interim annex: when a life safety feature is impaired, the interim measures temporarily replace that part of the plan, are documented inside it (impairment, measures, notifications, fire watch), and are formally closed out — restoration verified, temporary measures stood down, record completed — when the plan as written can resume.

Related reading

- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- NFPA 99 Health Care Facilities Code: Risk-Based Approach to Medical Gas, Electrical, and Fire Systems
- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA

What are common ILSM deficiencies cited by surveyors?

Source: https://healthcarefacilityhub.org/common-ilsm-deficiencies-cited-surveyors/ Published: October 5, 2026

Every deficiency on this list is a discipline failure, not a knowledge failure.

The most common ILSM deficiencies surveyors cite aren't exotic — they're **basic program failures**: no ILSM assessment performed for a project that clearly needed one, daily inspections that never happened or weren't documented, temporary barriers that aren't actually smoketight, staff in affected areas who can't describe the ILSM in effect, and missing drill or training records. The pattern is consistent: the policy exists, but the implementation doesn't.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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The repeat offenders

- **No assessment, no ILSM.** Construction affecting life safety features with no documented ILSM assessment at all. The most cited and most avoidable.
- **Missing daily inspections.** ILSM in effect but no daily inspection logs — or logs with gaps. If it wasn't documented, it didn't happen.

- **Barriers that don’t barrier.** Temporary partitions with gaps, unsealed penetrations, or combustible materials — failing the smoketight/noncombustible requirement.
- **Staff can’t explain it.** The interview test: affected-area staff unable to describe the ILSM measures, alternate exits, or what changed about their fire response.
- **Drills not increased.** Required additional fire drills per shift per quarter missing or undocumented.
- **Training gaps.** No project-specific training records, or contractors with no documented ILSM orientation.
- **Fire watch failures.** Alarm or suppression impaired beyond the 4-hour/10-hour thresholds with no fire watch posted and no evacuation — or a fire watch with no documentation of rounds.
- **Premature termination.** ILSM ended at contractor demobilization before protections were restored and verified.
- **Stale deficiency coverage.** ILSM for a Life Safety Code deficiency whose logs stopped months before the deficiency was corrected.

Why these keep happening

Almost every deficiency on this list is a **discipline failure, not a knowledge failure**. The requirements are well documented; what breaks down is the daily grind — the inspection that gets skipped on a short-staffed weekend, the log that never gets filed, the training squeezed out by census pressure. ILSM programs fail the way diets fail: not from bad information, from missed days.

Every deficiency on this list is preventable with documentation discipline.

See how to document ILSM compliance and what the life safety survey checks.

FAQ

What is the single most common ILSM citation?

Failure to perform and document an ILSM assessment for construction affecting life safety features — the program never started.

Do gaps in daily inspection logs count as deficiencies?

Yes. Undocumented inspections are treated as inspections that didn’t happen.

Can ILSM deficiencies affect accreditation?

Yes — ILSM findings are scored as RFIs on the SAFER matrix like any other, and serious or repeated failures can escalate.

Related reading

- State Health Department Surveys: Preparation, Common Deficiencies, and Corrective Action Plans
- What are common CMS deficiencies related to facility maintenance?
- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach
- How ILSM Fit Into the Hospital Fire Safety Plan — the plan integration whose absence produces these deficiencies

Who is responsible for implementing ILSM on a construction project?

Source: https://healthcarefacilityhub.org/who-responsible-ilsm-implementation-construction/ Published: October 5, 2026

Named people, not departments.

Facility leadership owns ILSM — but implementation is a team sport with named roles. The safety officer (or designated life safety lead) typically administers the program: performing the ILSM assessment, documenting daily inspections, and reporting to the safety committee. Facilities management implements the physical measures. Construction management coordinates the contractor side. Clinical leadership covers the affected patient-care areas. And administration is kept informed through safety committee reporting.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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The role breakdown

- **Safety officer / life safety lead** — conducts the ILSM assessment for each project or deficiency, determines which measures apply, performs or assigns daily inspections, maintains the documentation file.
- **Facilities management** — implements temporary equivalent systems, additional equipment, barrier work, signage; tests temporary systems monthly; restores and verifies protections at closeout.
- **Construction/project manager** — enforces contractor compliance: housekeeping, smoking prohibition, hot-work controls, egress maintenance for construction workers, daily coordination with the safety officer.
- **Infection preventionist** — runs the parallel ICRA; coordinates with the safety officer so barriers serve both programs.
- **Department managers of affected areas** — ensure their staff are trained, drills happen on their shifts, and problems get reported up.
- **Administration** — receives status through safety committee reports; provides resources when ILSM requires them (fire watch staffing, temporary systems).
- **Local fire department** — notified when ILSM is in effect, per policy.

Where responsibility fails

The classic failure mode is **diffusion**: everyone assumed the contractor handled barriers, the contractor assumed facilities did, and nobody inspected them daily. The ILSM policy must name names — not departments, people. “The safety officer” is a role; the assessment form should carry the actual name and signature of the person who completed it.

Named people, not departments.

See the Joint Commission’s stance on ILSM and how ICRA and ILSM coordinate on one project.

FAQ

Can the contractor be responsible for ILSM?

The contractor implements contractor-side measures (housekeeping, barriers they build, worker training), but the facility retains overall responsibility. You can't outsource accountability for life safety.

Who performs the daily ILSM inspections?

Safety personnel, per the ILSM policy — documented on the inspection report each day ILSM is in effect.

Does the fire department need to be notified?

Yes — the ILSM policy should require notifying the local fire department (and internal responders) when ILSM is in effect.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- Who Should Be on the ICRA Team for a Hospital Construction Project
- When Are ILSM Required During Hospital Construction? — when the responsibility described here is engaged

What training is required for staff during ILSM implementation?

Source: https://healthcarefacilityhub.org/ilsm-staff-training-requirements/ Published: October 5, 2026

Project-specific training, delivered before the ILSM goes live.

During ILSM implementation, staff in affected areas must be trained on **three things**: how to use any additional firefighting equipment placed for the project, how to compensate for impaired structural or compartmentation fire-safety features, and the building deficiencies, construction hazards, and temporary measures currently in effect. This isn't annual fire-safety refresher training — it's **project-specific**, delivered before or as the ILSM goes live, and documented by name and date.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Who gets trained on what

- **All staff in/adjacent to affected areas** — the ILSM in effect, alternate exit routes, what's changed about their fire response, and where to report problems. If staff response to rescue, alarm, confinement, extinguishment, or evacuation is altered, that change is the centerpiece of the training.

- **Staff expected to use additional equipment** — hands-on training on any extra extinguishers or suppression equipment placed under ILSM.
- **Facilities and safety personnel** — the daily inspection protocol, what triggers escalation (including the 4-hour/10-hour fire watch clocks), and documentation requirements.
- **Construction workers and contractors** — site-specific hazards, hot-work controls, egress routes for the construction area itself, and the smoking and housekeeping rules.

The drill requirement

Training is reinforced with **one additional fire drill per shift per quarter** in affected areas — on top of the normal drill schedule. When staff response to RACE is altered for an extended period, that frequency becomes the minimum; the ILSM assessment determines whether more is warranted. Every drill gets a documented critique.

What surveyors ask

Surveyors don't ask for the training roster first — they ask **random staff** in the affected area what's going on. "There's construction on this floor — what changed about your fire response?" If the answer is a blank stare, the training program failed regardless of what the sign-in sheet says. Train to the interview, not to the file.

Training is only half the people equation.

See who owns ILSM implementation and the ICRA/ILSM construction guide.

FAQ

Does ILSM training replace annual fire safety training?

No — it's additional and project-specific. Annual training continues; ILSM training covers what's different because of this project or deficiency.

Must contractors attend ILSM training?

Construction workers in the affected area must be trained on site-specific hazards, egress, hot-work controls, and the ILSM rules that apply to them. Document their attendance like staff.

How many extra fire drills does ILSM require?

A minimum of one additional drill per shift per quarter in affected areas, with documented critiques.

Related reading

- Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements, Pressure Relationships, and Air Changes
- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach
- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers

How long do ILSM stay in effect after construction ends?

Source: https://healthcarefacilityhub.org/how-long-ilsm-stay-in-effect-construction/ Published: October 5, 2026

Closeout is a life safety event, not an administrative one.

ILSM stay in effect **until the normal life safety protections are fully restored and verified** — not until the contractor packs up. “Construction ends” and “protections restored” are two different milestones, and ILSM covers the gap between them. Terminating ILSM early, before fire systems are back online and barriers are intact, is one of the most common ILSM deficiencies surveyors cite.

Take this to the job site.

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The closeout sequence

- **Physical work completes** — construction finishes in the affected area.
- **Protections are restored** — fire alarm, detection, and suppression systems returned to full operation; temporary equivalent systems removed; smoke/fire barriers repaired and verified; penetrations firestopped.
- **Restoration is verified** — systems tested, barrier integrity confirmed, egress paths confirmed clear and correctly signed.
- **ILSM is formally terminated** — the termination is documented: date, what was restored, who verified it, and sign-off by the responsible party.

Steps 2 and 3 are where organizations get impatient. The punch list isn’t the finish line — **verified restoration** is.

What about deficiencies (not construction)?

When ILSM covers a Life Safety Code deficiency rather than a project, it stays in effect until the deficiency is corrected — documented through the Plan for Improvement process. If correction runs long, the ILSM documentation must stay live the entire time: daily inspections, drill records, training logs. A deficiency corrected in month nine with ILSM logs that stop in month three is a finding.

The documentation tail

After termination, keep the full ILSM record — assessment, daily inspection logs, drill and training records, termination sign-off — with the project’s life safety file. Surveyors review past projects, and a complete closed-out record proves the program works end to end.

Closeout is a life safety event, not an administrative one.

See the ICRA/ILSM construction guide and the Joint Commission’s stance on ILSM during construction.

FAQ

Can ILSM end when the contractor demobilizes?

No — ILSM ends when life safety protections are restored and verified, and the termination is documented with sign-off. Demobilization is a construction milestone, not a life safety one.

Who signs off on ILSM termination?

The party designated in the facility's ILSM policy — typically the safety officer or facilities leadership — after verification that systems are restored and tested.

How long must ILSM records be kept?

Keep the complete record (assessment, logs, drill/training records, termination) with the project file. Surveyors review historical projects; treat ILSM records as permanent life safety documentation.

Related reading

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- When are ILSM required during hospital construction?

What are Interim Life Safety Measures (ILSM) in healthcare?

Source: https://healthcarefacilityhub.org/what-are-interim-life-safety-measures-ilsm/ Published: October 5, 2026

ILSM is the bridge between degraded protection and restored protection.

Interim Life Safety Measures (ILSM) are the documented, compensatory actions a healthcare facility takes when construction activity or a Life Safety Code deficiency temporarily degrades the building's normal fire and life safety protections. Think of ILSM as the bridge between "the building isn't fully protected right now" and "patients, staff, and visitors are still safe" — a formal set of extra precautions that stays in force until full protection is restored.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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What "interim" really means

A hospital's life safety systems — compartmentation, egress, fire alarm, detection, suppression — are designed to work as an integrated whole. When construction opens up a smoke barrier, or a deficiency takes a sprinkler zone offline, that integration breaks. ILSM compensates with human and procedural measures: more eyes (surveillance), more equipment, more training, more drills, temporary equivalent systems. They don't replace the engineered systems — they **hold the risk down** until the engineered systems are back.

The two triggers

- **Construction projects** that affect life safety features — egress paths, fire/smoke barriers, alarm, detection, or suppression systems.
- **Life Safety Code deficiencies** that can't be corrected immediately — the deficiency is documented (often in the e-Statement of Conditions) and ILSM covers the gap.

Each trigger gets a case-by-case **ILSM assessment**: which protections are degraded, which of the standard measures apply, who implements them, and how they're documented. Blanket ILSM ("we always do all of them") and missing ILSM ("we didn't think this project needed it") both fail surveys — the assessment is the evidence that someone actually thought it through.

ILSM vs. the fire safety plan vs. ICRA

Your **fire safety plan** is the permanent program — RACE/PASS, alarm response, evacuation. ILSM is the **temporary overlay** on that plan for a specific degradation. **ICRA** is the parallel program protecting against infection risk from the same construction. One project, three programs, one coordinated story — that's what surveyors expect to see.

New to the ILSM framework?

Start with the Joint Commission's stance on ILSM during construction, then read how ICRA and ILSM divide the work on one project.

FAQ

Are ILSM a Joint Commission requirement or a best practice?

A requirement — standard LS.01.02.01, with elements of performance surveyors score directly.

Do ILSM apply to the whole building or just the affected area?

The measures apply where the assessment says they apply — typically the affected area plus adjacent spaces whose egress, alarm, or compartmentation is impacted. The assessment defines the boundary.

What's the difference between ILSM and a fire watch?

A fire watch is one possible ILSM-level response — the most intensive one, used when alarm or suppression is out beyond the 4-hour/10-hour thresholds. ILSM is the full framework; fire watch is its heaviest tool.

Related reading

- ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA
- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- NFPA 101 Life Safety Code for Healthcare Occupancies

What ILSM measures does The Joint Commission expect during construction?

Source: https://healthcarefacilityhub.org/joint-commission-ilsm-measures-construction/ Published: October 5, 2026

The standard measures, mapped to what surveyors actually check.

The Joint Commission expects hospitals to implement **Interim Life Safety Measures (ILSM)** under standard LS.01.02.01 whenever construction — or a Life Safety Code deficiency — degrades the building's normal fire and life safety protections. The expected measures, spelled out in the standard's elements of performance, are: posted alternate-exit signage, daily egress-route inspections, temporary equivalent fire systems while a system is impaired, additional firefighting equipment, smoketight noncombustible temporary barriers, increased surveillance, enforced storage and debris-removal practices, training on firefighting equipment, an additional fire drill per shift per quarter, monthly testing of temporary systems, and staff training on the deficiencies, hazards, and compensating measures in place.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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On this page: The measures, mapped to what surveyors check · The two clocks that force action · FAQ

The measures, mapped to what surveyors check

- **Alternate exit signage** — everyone affected must know where the alternate exits are.
- **Daily egress inspections** — routes of egress in affected areas inspected every day, problems resolved immediately.
- **Temporary equivalent systems** — when a fire alarm, detection, or suppression system is impaired, a temporary but equivalent system goes in, and it's **inspected and tested monthly** (or once per project if the project runs under a month).
- **Additional firefighting equipment** — provided where the assessment calls for it, with staff trained in its use.
- **Smoketight, noncombustible partitions** — temporary construction barriers that won't contribute to fire development or spread.
- **Increased hazard surveillance** — documented inspections of buildings, grounds, and equipment, with attention to construction areas, storage, excavations, and field offices.
- **Storage, housekeeping, debris removal** — practices that keep flammable and combustible load at the lowest feasible level.
- **Additional fire drill** — one extra drill per shift per quarter in affected areas.
- **Training** — on firefighting equipment, on impaired structural or compartmentation features, and on the building deficiencies, construction hazards, and temporary measures in effect.

The two clocks that force action

Mirroring the 2012 Life Safety Code: a **fire alarm system out more than 4 cumulative hours in 24** triggers an ILSM assessment — evacuate the zone or post a fire watch. A **sprinkler system out more than 10**

cumulative hours in 24 means evacuate the affected areas or post a fire watch. Short repeated outages add up inside the same 24-hour window.

ILSM never runs alone — ICRA runs beside it.

See ICRA vs ILSM: how the two programs divide the work and the Joint Commission's stance on ILSM during construction.

FAQ

Which Joint Commission standard covers ILSM?

LS.01.02.01 — Interim Life Safety Measures, with elements of performance covering signage, inspections, temporary systems, equipment, barriers, surveillance, housekeeping, training, drills, and system testing.

When does a fire watch become mandatory?

When a fire alarm system is out more than 4 cumulative hours in 24, or a sprinkler system is out more than 10 cumulative hours in 24 — the affected areas are evacuated or a fire watch is posted, per the facility's ILSM policy.

How often must temporary fire systems be tested?

Monthly — or once per project if the project duration is less than one month.

Related reading

- What is the Joint Commission's stance on ILSM during construction?
- Do ILSM apply to small renovation projects in hospitals?
- Joint Commission Accreditation 360: The 2026 Physical Environment Standards Explained
- When Are ILSM Required During Hospital Construction? — the trigger test behind these measures
- ICRA vs ILSM: What's the Difference? — the boundary between the two systems, answered directly

What life safety documentation should be ready before surveyors arrive?

Source: https://healthcarefacilityhub.org/joint-commission-survey-documentation-readiness-checklist/
Published: October 5, 2026

Internal consistency across documents is what surveyors test.

Before Joint Commission surveyors arrive, have ready: a **current e-Statement of Conditions** with no stale Plans for Improvement, **12 months of fire protection testing and inspection records**, **ILSM documentation** for any active project or deficiency, fire drill records with critiques, emergency power testing logs, and staff who can explain emergency procedures. If any of these is missing, you don't have a documentation problem — you have a program problem.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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On this page: The core document set · How surveyors use your documents · The 30-day readiness sprint · FAQ

The core document set

- **e-Statement of Conditions (e-SOC)** — current building assessment, all PFIs and SPFIs up to date with realistic timeframes
- **Fire alarm, detection, and suppression testing records** — 12 months minimum, per NFPA frequencies (quarterly, semiannual, annual as applicable)
- **Sprinkler and standpipe inspection records** — including any impairments with documented ILSM
- **Fire extinguisher inspection and maintenance logs**
- **Emergency generator testing** — weekly/monthly runs plus annual load bank test documentation
- **Fire drill records** — with documented critiques and corrective actions; additional drills for ILSM areas
- **ILSM assessments and daily inspection logs** — for every active trigger
- **Medical gas system maintenance records** (where applicable)
- **Fire door and damper inspection records**
- **Staff training records** — fire safety, ILSM awareness, emergency procedures

How surveyors use your documents

Surveyors cross-reference. The drill log gets compared against the ILSM log. The e-SOC gets compared against what they see walking the building. The generator test log gets compared against the actual transfer switch. **Internal consistency is the test** — a document set that contradicts itself is worse than a thin one, because it suggests nobody's actually running the program.

The 30-day readiness sprint

If you're inside the survey window and need to get ready fast: (1) reconcile the e-SOC against a physical walkthrough; (2) pull 12 months of testing records and fill any gaps with current testing — never backdate; (3) verify every ILSM trigger has a live assessment and log; (4) run a fire drill on every shift and critique it honestly; (5) quiz random staff on RACE/PASS and ILSM awareness. Never fabricate a record — a missing log is a finding; a falsified log is a Preliminary Denial of Accreditation.

Documents prove the program. Build the program first.

Start with EOC survey preparation and what the life safety survey checks.

FAQ

How far back should life safety records go?

At least 12 months for testing, inspection, drill, and rounds documentation. Surveyors expect continuous records, not a last-minute binder.

What is the e-Statement of Conditions?

The electronic record of the building's Life Safety Code compliance assessment, including Plans for Improvement (PFI) and Survey-Related Plans for Improvement (SPFI), maintained per LS.01.01.01.

Can we backdate missing logs?

Never. Falsified documents are grounds for Preliminary Denial of Accreditation. A missing record is a correctable finding; a fabricated one is an integrity violation.

Related reading

- What is tracer methodology in a Joint Commission life safety survey?
- What does The Joint Commission look for during a life safety survey?
- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- What Is the Joint Commission SAFER Matrix? — the scoring system the documentation has to satisfy

How do I respond to a Joint Commission Requirement for Improvement?

Source: https://healthcarefacilityhub.org/joint-commission-rfi-response-evidence-standards-compliance/
Published: October 5, 2026

Ten days for clarification, sixty for Evidence of Standards Compliance.

When you receive a Requirement for Improvement (RFI), you have two paths: **submit a clarification within 10 business days** if you were actually compliant at the time of survey, or **submit an Evidence of Standards Compliance (ESC) within 60 days** of the findings report posting, documenting the corrective actions you completed. Miss the windows and the RFI stands — and unresolved RFIs can escalate to follow-up surveys or denial of accreditation.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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On this page: Path 1: Clarification (10 business days) · Path 2: Evidence of Standards Compliance (60 days) · FAQ

Path 1: Clarification (10 business days)

Clarification argues you were compliant during the survey but the surveyor didn't see the evidence. It only works if the evidence existed at the time — actions taken during or after the survey don't count. You must explain why the surveyor lacked access to the information. If accepted, the RFI is removed with no further action. If your documentation genuinely wasn't available at survey, skip clarification and go straight to the ESC — ineligible clarifications waste your 10 days.

Path 2: Evidence of Standards Compliance (60 days)

The ESC is a concise corrective-action report submitted through Joint Commission Connect. It must include:

- **What was done** — the specific corrective actions completed, with completion dates
- **Sustainment plan** — how you'll monitor ongoing compliance (no data submission required, but the plan must exist)
- **For higher-risk SAFER placements** — documented **leadership involvement** and a **preventive analysis** of underlying causes

Corrective actions can include policy revisions, building or infrastructure modifications, competency reassessment, staff re-education, or reassignment of responsibilities. If an Environment of Care or Life Safety finding can't be resolved in 60 days, submit an SPFI and Time-Limited Waiver through the e-SOC — the ESC can't be accepted until the waiver is.

What happens if you don't respond well

Accreditation decisions range from **Accredited** (all RFIs resolved via acceptable ESC) to **Accreditation with Follow-up Survey** (surveyors return within six months) to **Preliminary Denial of Accreditation** — for immediate threats to safety, falsified documents, missing licensure, or significant noncompliance. The ESC is where you prove the finding is dead and buried. Treat it as the most important document your organization writes that quarter.

Understand the score before you respond to it.

Read the SAFER matrix scoring guide to see how your RFI's placement shapes what the ESC must contain.

FAQ

How long do I have to respond to an RFI?

10 business days for a clarification, 60 days from the findings report posting for the Evidence of Standards Compliance.

What if we can't fix an EC or Life Safety finding in 60 days?

Submit an SPFI (Survey-Related Plan for Improvement) and Time-Limited Waiver through the e-SOC. The ESC can't be accepted until the waiver is accepted.

Can an RFI be removed without corrective action?

Yes — through a successful clarification, which requires proving compliance existed at the time of survey. Actions taken after the survey don't qualify.

Related reading

- How often does The Joint Commission survey accredited hospitals?
- What is tracer methodology in a Joint Commission life safety survey?
- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach

What are the Joint Commission National Patient Safety Goals related to facilities?

Source: https://healthcarefacilityhub.org/joint-commission-national-patient-safety-goals-facilities/ Published: October 5, 2026

Fourteen National Performance Goals replaced the NPSGs in 2026.

The facilities-relevant patient safety goals now live in the **National Performance Goals (NPGs)**, which replaced the National Patient Safety Goals on January 1, 2026, under Accreditation 360. For facilities leaders, the ones that matter are **NPG 5** (infection prevention and control), **NPG 8** (suicide risk reduction — the old NPSG 15, with heavy environment-of-care implications), and **NPG 11** (workplace and patient safety).

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This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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On this page: From NPSGs to NPGs: what changed · The three NPGs facilities teams own · What to do about the transition · FAQ

From NPSGs to NPGs: what changed

The Joint Commission consolidated the NPSGs into 14 National Performance Goals for hospitals. The goals didn’t vanish — they were reframed as performance outcomes. The full 2026 hospital NPG list: (1) right patient, right care, right time; (2) culture of safety; (3) emergency management; (4) health outcomes for all; (5) infection prevention and control; (6) pain management and safe prescribing; (7) safe, informed care; (8) suicide risk reduction; (9) safe transplant practices; (10) safe waived testing; (11) workplace and patient safety; (12) staffing and competence; (13) safe imaging; (14) medication management safety.

The three NPGs facilities teams own

- **NPG 5 — Infection prevention and control.** Your domain: isolation room pressure, construction ICRA, water management, sterilization environments, hand hygiene infrastructure (sink placement, sanitizer availability).
- **NPG 8 — Suicide risk reduction.** Your domain: ligature-resistant environments in behavioral health areas — anchor points, door hardware, bathroom fixtures. This is consistently among the most-cited standards; the environment is where facilities either passes or fails it.
- **NPG 11 — Workplace and patient safety.** Your domain: the physical environment’s contribution to safety for everyone in the building — slips, trips, falls; workplace violence environmental controls; safe patient handling infrastructure.

What to do about the transition

Audit every policy, training deck, and committee charter that says “NPSG” and map it to the corresponding NPG. Surveyors in 2026 expect the new language. The requirements behind the labels are continuous — but citing retired goal numbers in front of a surveyor signals a program that isn’t keeping up.

The goals changed names. The work didn’t.

See Accreditation 360 and the 2026 standards and the infection control guide (NPG 5).

FAQ

Did the NPSGs go away in 2026?

They were consolidated into 14 National Performance Goals for hospitals under Accreditation 360, effective January 1, 2026. NPSG 15 (suicide risk) content continues under NPG 8 for hospitals.

Which NPG covers ligature risks?

NPG 8 — “The hospital reduces the risk for suicide.” Environmental mitigation of anchor points and ligature risks is a core facilities responsibility under it.

How many National Performance Goals are there for hospitals?

Fourteen, covering patient identification through medication management safety.

Related reading

- What is tracer methodology in a Joint Commission life safety survey?
- What life safety documentation should be ready before surveyors arrive?
- Joint Commission Accreditation 360: The 2026 Physical Environment Standards Explained

How does The Joint Commission survey infection control in facilities?

Source: https://healthcarefacilityhub.org/joint-commission-infection-control-survey/ Published: October 5, 2026

Infection control surveys trace risks through clinical practice and the physical environment.

The Joint Commission surveys infection control by **tracing real infection risks through your facility**: isolation room practices, hand hygiene compliance, sterilization and high-level disinfection, construction-related infection risks (ICRA), and water management. Surveyors observe practice, interview staff, and review surveillance data — and under the 2026 National Performance Goals, infection prevention and control is **NPG 5**, a standalone hospital goal.

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On this page: What surveyors actually do · The facilities overlap most teams miss · High-risk areas that draw focus · FAQ

What surveyors actually do

- **Observe** hand hygiene, PPE use, and isolation precautions in real time on units — including whether staff can explain the precautions for the patient in front of them.
- **Trace** the reprocessing pathway: from dirty instrument to sterile storage, checking cleaning, high-level disinfection or sterilization, and storage practices.
- **Inspect** the physical environment's infection controls: negative-pressure room monitoring, construction barriers and ICRA compliance on active projects, water management program implementation.
- **Review** surveillance data, outbreak investigation records, and antibiotic stewardship documentation.

The facilities overlap most teams miss

Infection control surveys are not just the IP department's problem. Surveyors connect clinical practice to your systems constantly: the isolation room whose pressure monitor hasn't been calibrated, the construction zone without an ICRA permit, the eyewash station with no weekly flush log, the water management plan that exists on paper but never gets executed. **Every facilities-owned infection control touches the survey.**

High-risk areas that draw focus

- Operating rooms and sterile processing: environmental controls, traffic patterns, sterilization monitoring
- Construction and renovation zones: ICRA permits, barriers, negative air, terminal cleaning
- Water systems: Legionella water management plan per ASHRAE 188, flushing logs, temperature monitoring
- Isolation rooms: pressure relationships verified and documented, anteroom practices

Infection control is a facilities discipline too.

Read the complete infection control guide and the ICRA matrix and barriers guide.

FAQ

The infection control tracer, followed step by step

The infection control tracer is a system tracer: surveyors follow infection risk through the facility rather than auditing one department. In practice it moves through:

- **The program itself:** the infection prevention risk assessment, the plan built from it, and whether the year's goals match the risks the assessment actually named.
- **Construction and renovation areas:** surveyors walk active projects looking for the ICRA in action — permits posted, barriers sealed, negative pressure verified, dust control at the barrier line — connecting directly to the ICRA process. Construction infection control is where facility and infection-prevention survey threads cross.

- **Reprocessing and sterilization:** instrument flow from dirty to clean, storage, and the competency records behind it.
- **Unit-level practice:** hand hygiene, isolation precautions, and environmental cleaning as observed, not as written.
- **Documentation asked for:** the ICRA permits and monitoring logs, water management records, surveillance data, and committee minutes showing the program reviews its own results.

Common infection-control findings in facilities cluster where observation and documentation disagree: the barrier that is sealed on paper and open in fact, the pressure log with a gap nobody can explain. Survey mechanics for the wider visit are in tracer methodology, explained and Environment of Care survey preparation.

What is NPG 5?

National Performance Goal 5 (effective January 2026): “The hospital prioritizes infection prevention and control.” It consolidated the former NPSG infection-control requirements under Accreditation 360.

Do surveyors watch hand hygiene directly?

Yes — direct observation of hand hygiene and PPE compliance during unit visits is standard practice.

How does construction factor into the infection control survey?

Surveyors check ICRA permits, barrier integrity, negative-air operation, and terminal cleaning for active projects — and whether the infection preventionist was involved in planning.

What do Joint Commission surveyors look at for infection control in facilities?

They run a system tracer: the risk assessment and plan, active construction under ICRA (permits, barriers, pressure logs), reprocessing and sterilization, observed unit practice, and the documentation — surveillance, water management, and committee review — behind it all.

Related reading

- How often does The Joint Commission survey accredited hospitals?
- What is tracer methodology in a Joint Commission life safety survey?
- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach

How often does The Joint Commission survey accredited hospitals?

Source: https://healthcarefacilityhub.org/joint-commission-survey-frequency-how-often/ Published: October 5, 2026

How often does The Joint Commission survey accredited hospitals?

Unannounced and roughly triennial — the survey can arrive any day.

Joint Commission hospital surveys are **unannounced and occur approximately every three years** — typically within an 18-to-36-month window after the previous survey. You won’t get a date. The operating assumption is simple: be survey-ready every day, because the surveyors can walk in any day.

Take this to the job site.

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On this page: How the unannounced cycle works · What can trigger a survey outside the cycle · FAQ

How the unannounced cycle works

After your last survey and accreditation decision, the clock starts. The Joint Commission schedules the next full survey somewhere in the 18–36 month range but discloses nothing to the organization. Survey teams arrive without notice and typically spend several days on site, evaluating compliance across all applicable standards — clinical, environment of care, life safety, infection control, leadership, and medication management.

What can trigger a survey outside the cycle

The three-year rhythm isn't the only way surveyors show up:

- **Follow-up surveys** — an "Accreditation with Follow-up Survey" decision brings surveyors back within six months to verify sustained compliance.
- **For-cause surveys** — complaints, sentinel events, or CMS referrals can trigger an unannounced focused survey at any time.
- **Initial surveys** — new organizations seeking accreditation get scheduled (announced) initial surveys.

What "survey-ready every day" actually requires

It doesn't mean living in a panic. It means the systems run continuously: EOC rounds happen on schedule with findings closed on time, testing and inspection logs are current, ILSM documentation is live for any active project, and staff can answer basic safety questions on any shift — including nights and weekends, when surveyors love to arrive. The organizations that dread surveys are the ones that prepare in sprints. The ones that don't are the ones whose program never stops.

The survey is unannounced. Your preparation shouldn't be.

Start with how to prepare for the Environment of Care survey and the documentation readiness checklist.

FAQ

Will we get any warning before a Joint Commission survey?

No. Full accreditation surveys are unannounced. Only initial surveys for new organizations are scheduled.

How long does a hospital survey take?

Typically several days, depending on facility size and complexity, with a multidisciplinary surveyor team.

Does DNV survey on the same cycle?

No — DNV conducts annual surveys under its NIAHO/ISO 9001 model, a different rhythm from the Joint Commission's approximately-three-year cycle.

Related reading

- What life safety documentation should be ready before surveyors arrive?
- What is tracer methodology in a Joint Commission life safety survey?
- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach

What is the SAFER matrix used by The Joint Commission?

Source: https://healthcarefacilityhub.org/joint-commission-safer-matrix-scoring-guide/ Published: October 5, 2026

SAFER plots each finding by likelihood of harm versus scope.

The SAFER matrix — **Survey Analysis for Evaluating Risk** — is how the Joint Commission scores every Requirement for Improvement (RFI) from a survey. Each finding is plotted on a grid by two axes: **likelihood of harm** (low, moderate, high) and **scope** (limited, pattern, widespread). Where your RFI lands determines how much corrective-action evidence you must submit — and how fast.

Take this to the job site.

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On this page: How the grid works · Why placement matters: the ESC · How to read your own matrix · FAQ

How the grid works

- **Likelihood to harm** — Low: undermines safety but very unlikely to directly cause harm. Moderate: could cause harm directly or as a contributing factor. High: could directly lead to harm on its own.
- **Scope** — Limited: a unique occurrence, an outlier. Pattern: process variation affecting more than a limited number of patients. Widespread: pervasive, systemic failure potentially affecting the majority.

Risk increases from the bottom-left corner (low/limited) to the upper-right (high/widespread). A single observation can reveal a widespread problem — the classic example is a general failure to perform high-level disinfection. **Immediate Threats to Life (ITL)** are flagged within the matrix and follow the most urgent follow-up track.

Why placement matters: the ESC

Every RFI requires an **Evidence of Standards Compliance (ESC)** submission within 60 days of the findings report posting. But higher-risk placements demand more: the ESC must document **leadership involvement** (resources, oversight, accountability) and a **preventive analysis** identifying underlying causes — not just the fix for the observed instance. A low/limited finding needs corrective action; a high/widespread finding needs proof the system changed.

How to read your own matrix

When your SAFER matrix arrives with the survey findings report, triage by position, not by count. Ten low/limited RFIs are routine corrective work. Two high/pattern RFIs are a leadership problem requiring preventive analysis and sustained monitoring. Plot your internal audit findings on a blank SAFER grid quarterly — it trains your team to think in risk terms before surveyors do it for you.

An RFI is just the start — the response is the grade.

Learn how to respond to a Joint Commission RFI, including ESC timelines and clarification options.

FAQ

What a finding's placement actually obligates you to do

The matrix is not a score for its own sake — placement drives the follow-up:

- **Higher likelihood / wider scope placements** draw the heaviest corrective-action evidence: leadership involvement, root-cause-style analysis, and measures of success that must be reported and sustained, on the timelines The Joint Commission sets for Requirements for Improvement.
- **The "above the diagonal" pattern:** findings that combine serious harm potential with pattern or widespread scope are the ones that can feed into broader accreditation jeopardy — a single such finding matters more than a page of limited-scope ones.
- **What facility teams should do differently:** self-identify and fix before surveyors find. A problem the hospital found, documented, and corrected through its own rounds reads as a working safety system; the same problem found by a surveyor reads as a finding. The findings that populate the matrix most often are catalogued in the most common Joint Commission findings in hospitals.
- **Documentation readiness:** when a finding lands, the corrective evidence is assembled from the records the facility already keeps — which is why the checklist in survey documentation readiness is organized the way surveyors ask.

What does SAFER stand for?

Survey Analysis for Evaluating Risk. It replaced the old Category A/C scoring methodology in 2017.

What happens with a high/widespread SAFER placement?

The ESC must include leadership involvement and preventive analysis beyond the basic corrective action, and the finding gets the most scrutiny in follow-up.

What is an Immediate Threat to Life in the SAFER matrix?

An ITL is a finding posing immediate danger to patients, staff, or visitors. It's flagged in the matrix and follows an expedited correction and follow-up process.

How does SAFER matrix placement affect what a hospital must do after a survey?

Placement sets the weight of corrective action: higher likelihood-to-occur and wider scope require more leadership involvement, deeper analysis, and reported measures of success on set timelines. Findings above the grid's risk diagonal carry the most accreditation weight.

Related reading

- Joint Commission Accreditation 360: The 2026 Physical Environment Standards Explained
- Joint Commission Dropped the Written EOC Plans. The Work Did Not Go Away.
- How often does The Joint Commission survey accredited hospitals?

What is tracer methodology in a Joint Commission life safety survey?

Source: https://healthcarefacilityhub.org/joint-commission-tracer-methodology-explained/ Published: October 5, 2026

Tracers follow real patients and real processes across departments.

Tracer methodology is the Joint Commission's survey technique of **following real patients, real processes, and real systems** through the organization to test whether standards work in practice — not just on paper. Instead of auditing policies in a conference room, surveyors pick a patient (or a process) and trace the experience across departments, watching how handoffs, communication, and safeguards actually function.

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On this page: The three types of tracers · What this means for facilities teams · How to prepare · FAQ

The three types of tracers

- **Individual tracers** follow a specific patient's care experience through the organization. Surveyors select patients in high-risk areas or with diagnoses that allow deep evaluation of processes — then walk the patient's path: admission, unit care, diagnostics, procedures, discharge. Every handoff is a test.
- **System tracers** evaluate a system or process across the organization — how disciplines coordinate, how information flows, where the interfaces break. The classic system tracer topics include data management, infection control processes, and medication management.
- **Program-specific tracers** focus on risk points within particular care types or high-risk, high-volume populations relevant to the organization.

What this means for facilities teams

Tracers don't stay in clinical areas. An individual tracer following a surgical patient will pass through sterile processing, the OR suite (ventilation, pressure relationships), and PACU — every one of those is your equipment. A system tracer on infection control walks straight into your world: isolation room pressure monitoring, construction barriers, water management. **Facilities findings surface inside clinical tracers**, which is why your maintenance logs and monitoring records need to be as survey-ready as the nursing documentation.

How to prepare

Run your own mock tracers quarterly. Pick a high-risk patient type your facility serves, assemble a multidisciplinary team, and trace the experience honestly — including the facilities touchpoints most mock surveys skip: the pressure monitor above the isolation room door, the temperature log for the blanket warmer, the ILSM signage in the construction corridor. Document what you find and fix it; surveyors can tell the difference between a program that self-assesses and one that doesn't.

Tracers follow the patient — including through your systems.

See what Accreditation 360 expects of the physical environment and the complete infection control guide.

FAQ

How are patients selected for tracers?

Surveyors choose patients in high-risk areas or with diagnoses, ages, or service types that enable the deepest evaluation of the organization's processes — not random charts.

What's the difference between an individual tracer and a system tracer?

Individual tracers follow one patient's care journey across departments. System tracers evaluate an organization-wide process (like infection control or data management) and how departments coordinate within it.

Do tracers include the physical environment?

Yes. Tracers cross clinical and facility domains constantly — ventilation, pressure relationships, equipment, construction barriers, and emergency systems all surface inside patient and system tracers.

Related reading

- What life safety documentation should be ready before surveyors arrive?
- What does The Joint Commission look for during a life safety survey?
- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers
- How The Joint Commission Surveys Infection Control in Healthcare Facilities — the infection control tracer, followed step by step

What does The Joint Commission look for during a life safety survey?

Source: https://healthcarefacilityhub.org/joint-commission-life-safety-survey-what-they-check/ Published: October 5, 2026

Life safety surveys verify that fire protection features work as designed.

During a life safety survey, Joint Commission surveyors verify that the building's fire and life safety protections actually work as designed: **building and fire protection features are maintained, the Statement of Conditions is accurate, ILSM are in place where needed, and staff know what to do when the alarm sounds.** They inspect, they test, and they interview — paper alone doesn't pass.

Take this to the job site.

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On this page: The building assessment and Statement of Conditions · What gets inspected and tested · The interview test · FAQ

The building assessment and Statement of Conditions

Surveyors start with your building's documented life safety profile. Under LS.01.01.01, the organization must assess Life Safety Code compliance and maintain an accurate e-Statement of Conditions (e-SOC). Every Plan for Improvement (PFI) and Survey-Related Plan for Improvement (SPFI) in the e-SOC needs to be current, with realistic timeframes — an SPFI must meet the 60-day timeframe. A stale e-SOC is one of the fastest ways to start a survey badly.

What gets inspected and tested

Expect surveyors to physically verify:

- **Means of egress** — corridors, stairwells, and exit paths clear, properly lit, with compliant door hardware and latching
- **Fire and smoke barriers** — walls, doors, and dampers intact; penetrations properly firestopped
- **Fire alarm and detection** — panel status, device coverage, testing records
- **Suppression systems** — sprinklers unobstructed and inspected, standpipes and extinguishers in place and serviced
- **Emergency power** — generator testing logs, transfer switch operation
- **Medical gas and vacuum systems** — where applicable, with maintenance records

The interview test

Life safety surveyors interview facilities staff and clinical staff alike. "What do you do when the fire alarm activates?" must produce the RACE/PASS answer without hesitation. Staff in construction-adjacent areas must be able to describe the ILSM in effect. If the people can't explain it, the program doesn't exist as far as the survey is concerned.

Construction in the building

Any active construction gets its own line of questioning: ILSM assessment documentation, daily inspection logs, barrier integrity, and coordination with infection control (ICRA). Surveyors connect the life safety and infection control threads — your ICRA and ILSM programs should tell one consistent story.

Get the full 2026 picture.

Read Accreditation 360 and the 2026 physical environment standards, plus NFPA 101 for healthcare: egress, compartments, and smoke barriers.

FAQ

How is a life safety survey different from the EOC survey?

Under Accreditation 360 (effective 2026), both live in the restructured physical-environment evaluation. Life safety focuses on the building's fire protection features and Code compliance; EOC covers the broader management of safety, security, hazmat, equipment, and utilities.

What is an SPFI and its timeframe?

A Survey-Related Plan for Improvement, entered in the e-SOC when a survey-related deficiency will be corrected through a plan. It must meet the 60-day timeframe.

Can surveyors test systems themselves?

They observe, ask staff to demonstrate, and review testing records. They don't operate your fire alarm panel — but they'll ask your tech to show them it's monitored and functional.

Related reading

- What is tracer methodology in a Joint Commission life safety survey?
- What life safety documentation should be ready before surveyors arrive?
- NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers

What is the Joint Commission's stance on ILSM during construction?

Source: https://healthcarefacilityhub.org/joint-commission-ilsm-stance-construction/ Published: October 5, 2026

The 11 ILSM measures compensate for compromised life safety protections during construction.

The Joint Commission requires **Interim Life Safety Measures (ILSM)** whenever construction activity — or a Life Safety Code deficiency — compromises the building's normal fire and life safety protections. ILSM is not optional and not informal: it's a documented, enforced set of compensatory measures that stays in place until the deficiency is corrected or the construction ends.

Take this to the job site.

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On this page: When ILSM is triggered · The 11 ILSM measures · What surveyors check · FAQ

When ILSM is triggered

Two triggers: (1) any construction project that affects life safety features (egress, compartmentation, fire alarm, suppression), and (2) any identified Life Safety Code deficiency that can't be corrected immediately. The assessment is case-by-case — a ILSM assessment form maps each deficiency or project against the measures

below, and the ones that apply get implemented and documented.

The 11 ILSM measures

The Joint Commission's ILSM framework consists of these compensatory actions, applied as relevant to the situation:

- **Free and unobstructed exits** — escape routes maintained for occupants and construction workers; construction-area exits inspected daily.
- **Emergency access** — unobstructed access for fire, police, and emergency forces.
- **Fire systems operational** — alarm, detection, and suppression in working order; temporary equivalent systems provided when any system is impaired, inspected and tested monthly.
- **Smoketight partitions** — temporary construction partitions built of noncombustible or limited-combustible materials that won't contribute to fire spread.
- **Additional firefighting equipment** — provided, with personnel trained in its use.
- **Smoking prohibition** — enforced in and adjacent to construction areas per EOC standards.
- **Housekeeping and debris removal** — storage and housekeeping practices that keep flammable/combustible load at the lowest feasible level.
- **Additional fire drills** — minimum two per shift per quarter in affected areas when staff response (rescue, alarm, confinement, extinguishment, evacuation) is altered for an extended period.
- **Increased hazard surveillance** — documented inspections of buildings, grounds, and equipment with attention to excavations, construction areas, and storage.
- **Compensatory training** — personnel trained to compensate for impaired structural or compartmentation fire safety features.
- **Organization-wide education** — safety education promoting awareness of the deficiencies, construction hazards, and the ILSM in place.

What surveyors check

Surveyors verify that the ILSM policy exists, that an assessment was actually performed for the project or deficiency, and that the selected measures are **documented as implemented** — not just listed on a form. Daily inspection logs, drill records, and training documentation are the evidence. An ILSM policy nobody can produce during a survey is the same as no policy.

ILSM and ICRA run together on every project.

See how they divide the work in ICRA vs ILSM on the same project, and the ICRA Class I–V matrix and barriers guide.

FAQ

Are ILSM required for small renovation projects?

If the project affects life safety features — egress paths, compartmentation, alarm or suppression — yes, regardless of project size. The assessment is case-by-case, but small doesn't mean exempt.

How long do ILSM stay in effect?

Until the deficiency is corrected or the construction project ends and normal life safety protections are restored and verified.

Who is responsible for ILSM implementation?

Facility leadership owns the program; the safety officer typically administers the assessment and documentation, with construction management and clinical leadership coordinating affected areas.

Related reading

- What ILSM measures does The Joint Commission expect during construction?
- Do ILSM apply to small renovation projects in hospitals?
- Joint Commission Accreditation 360: The 2026 Physical Environment Standards Explained

How do I prepare for a Joint Commission Environment of Care survey?

Source: https://healthcarefacilityhub.org/joint-commission-environment-of-care-survey-preparation/
Published: October 5, 2026

For hospitals and critical access hospitals, three written plans now anchor survey readiness: fire response, water management, and emergency operations. The rest of your Environment of Care program is proven in rounds, records, and interviews.

What this page covers: a practical prep plan for a Joint Commission Environment of Care (now Physical Environment) survey: rounds documentation, staff readiness, and a 90-day countdown checklist. **Who it is for:** facility managers and EOC or safety committee leads with a survey window open.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Environment of Care Rounds series · Part 5 of 7 · Back to the EoC Rounds hub

Previous: CMS Conditions of Participation: environment of care requirements | Next: Most common Joint Commission findings in hospitals ->

On this page: Start with the three plans surveyors still open · Make your rounds documentation airtight · Prepare your people, not just your paper · The 90-day countdown checklist · FAQ

Preparing for a Joint Commission Environment of Care survey means demonstrating that your facility **systematically manages** safety, security, hazardous materials, fire safety, medical equipment, and utilities — with documented EOC rounds, complete testing and inspection records, the written plans surveyors still ask for, and staff who can explain what they do when something goes wrong. As of January 1, 2026, Accreditation 360 moved the hospital and critical access hospital EC and Life Safety requirements into a new Physical

Environment chapter, with a few topics relocated to National Performance Goals. Update your binder labels and standard numbers — the preparation work is the same.

On this page: Start with the three plans surveyors still open · Make your rounds documentation airtight · The 90-day countdown checklist · FAQ

Start with the three plans surveyors still open

Joint Commission no longer requires hospitals and critical access hospitals to keep separate written management plans for safety, security, hazardous materials and waste, utilities, and medical equipment. Surveyors now ask for three written plans: your fire response plan (required by NFPA 101-2012 and scored under PE.03.01.01), your water management plan (PE.04.01.05), and your emergency operations plan (EM.12.01.01). Make all three easy to find in five minutes, make sure the fire response plan covers staff roles at and away from the point of origin, alarm transmission, compartment isolation, patient relocation, and extinguisher use, and confirm your emergency plan has been reviewed within CMS's two-year cycle under 42 CFR 482.15. Don't shred the old management plans — they still document who owns each program and how you monitor it — but they are no longer what the survey turns on. Ambulatory care sites are the exception: they still need the written EOC management plans.

Make your rounds documentation airtight

Environment of Care rounds are where surveys are won or lost. Surveyors don't just read your rounds reports — they **re-walk your findings**. For every deficiency your rounds identified, you need: the finding, the corrective action, the responsible party, and the completion date. Open items without dates are findings waiting to happen. Pay special attention to:

- Fire protection and suppression systems inspection, testing, and maintenance (formerly EC.02.03.05; now evaluated against NFPA 101 and the CMS K-tags through the Physical Environment chapter) — a perennial top finding
- Ventilation and pressure relationships in critical care, surgical, and isolation areas (formerly EC.02.05.01)
- Medical equipment inspection and maintenance records
- Hazardous materials storage, labeling, and spill response supplies
- Security incident tracking and response

Prepare your people, not just your paper

Surveyors interview frontline staff using tracer methodology — they follow real patients and real processes. Your EVS tech should be able to explain cleaning protocols for an isolation room. Your maintenance tech should know what to do when a fire alarm panel shows a trouble signal. Run mock tracers quarterly: pick a high-risk process (e.g., negative-pressure room verification) and trace it end to end.

The 90-day countdown checklist

- Verify your fire response, water management, and emergency operations plans are current, findable in five minutes, and match how the building actually operates
- Close or date every open EOC rounds finding

- Confirm fire drills occurred at the required frequency with documented critiques
- Verify ILSM policy is current and staff can articulate it
- Test emergency power systems and document results
- Walk every behavioral health area for ligature risks
- Confirm hazardous materials inventories match what's actually stored

Don't walk into survey season guessing.

See what the 2026 physical environment standards require, or run your program through the healthcare compliance audit tool.

FAQ

Is the Environment of Care chapter gone under Accreditation 360?

For hospitals and critical access hospitals, yes in name. Effective January 1, 2026, Accreditation 360 folded the EC and LS chapters into a new Physical Environment chapter, and moved a few topics — workplace violence worksite analysis, security risks, utility systems, and imaging safety — into National Performance Goals. The requirements didn't disappear; they were restructured, and the number of required written management plans dropped to three. Keep preparing the same domains; update your terminology.

How far back do surveyors look at EOC documentation?

Expect them to review at least 12 months of rounds, testing, and inspection records. Gaps in documentation read as gaps in the program.

What sinks most EOC surveys?

Open rounds findings without corrective-action dates, missing fire protection testing documentation, and staff who can't explain basic emergency procedures during interviews.

More in the Environment of Care Rounds series

- EoC Rounds: inspection, documentation, and corrective action (hub)
- Joint Commission dropped the written EOC plans: what still applies
- Accreditation 360: the 2026 Physical Environment standards
- CMS Conditions of Participation: environment of care requirements
- Most common Joint Commission findings in hospitals
- Joint clinical and facilities rounds and coordination

Previous: CMS Conditions of Participation: environment of care requirements | Next: Most common Joint Commission findings in hospitals ->

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- How often does The Joint Commission survey accredited hospitals?
- What is tracer methodology in a Joint Commission life safety survey?
- Healthcare Emergency Operations Plans: CMS Rule Requirements and All-Hazards Approach

- How The Joint Commission Surveys Infection Control in Healthcare Facilities — the infection-control part of the Environment of Care survey

What are the most common Joint Commission findings in hospitals?

Source: https://healthcarefacilityhub.org/joint-commission-most-common-findings-hospitals/ Published: October 5, 2026

Surveyors inspect, test, and interview — the most-cited standards show where they look hardest.

What this page covers: which hospital standards Joint Commission and CMS cite most often, and how facilities teams should use that list to prioritize EOC and life safety fixes. **Who it is for:** facility, safety, and accreditation leaders deciding what to fix before the next survey.

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Environment of Care Rounds series · Part 6 of 7 · Back to the EoC Rounds hub

Previous: How to prepare for a Joint Commission EoC survey | Next: Joint clinical and facilities rounds and coordination ->

On this page: What the citation data actually shows · Why facilities leaders should read this list differently · How to use this list · FAQ

The Joint Commission's most-cited hospital standards consistently include **MM.06.01.01** (safely administering medications), suicide-risk reduction requirements (now National Performance Goal 8 for hospitals as of January 2026, formerly NPSG 15.01.01), and Environment of Care and Life Safety standards. CMS's 2025 oversight data — 4,523 surveys at U.S. hospitals — puts patient rights (care in a safe setting), RN supervision of nursing care, and infection control surveillance at the top of the citation list.

On this page: What the citation data actually shows · How to use this list · FAQ

What the citation data actually shows

Two data sources matter here, and they measure different things. The Joint Commission publishes its own most-cited standards; CMS publishes deficiency data from all accrediting organizations with deeming authority (Joint Commission, DNV, CIHQ). Together they draw a consistent picture.

From CMS's 2025 Quality and Certification Oversight Reports, the top hospital citations were:

- **Patient rights: care in a safe setting** — 267 citations (about 5% of hospitals)
- **RN supervision of nursing care** — 257 citations
- **Patient rights** (general) — 208 citations
- **Supervision of contract staff** — 203 citations

- **Infection control surveillance and prevention** — 62 citations

On the Joint Commission's own most-cited list, medication management (MM.06.01.01, EP 3 — "the hospital safely administers medications") and suicide-risk reduction (ligature risks in the environment of care) recur year after year.

Why facilities leaders should read this list differently

If you run facilities, your eyes should go straight past the clinical citations to the ones you own: **Environment of Care, Life Safety, and Infection Control standards**. The pattern in the data is that physical-environment findings cluster around a handful of repeat offenders:

- Fire protection and suppression systems not maintained and tested (EC.02.03.05)
- Ventilation systems in critical care areas (EC.02.05.01)
- Medical equipment management gaps
- Ligature and safety risks in behavioral health environments
- Construction-related ILSM failures

Note the 2026 shift: as of January 1, 2026, Joint Commission's **Accreditation 360** replaced the old Environment of Care and Life Safety chapters, and National Patient Safety Goals were consolidated into **National Performance Goals (NPGs)** — 14 goals for hospitals, including NPG 5 (infection prevention and control), NPG 8 (suicide risk reduction), and NPG 11 (workplace and patient safety). If your compliance binders still say "EC chapter" and "NPSG," update the labels before surveyors arrive.

How to use this list

Don't treat the most-cited list as a prediction of your survey — treat it as a **self-assessment priority list**. For each standard above, ask: could a surveyor find this here today? The facilities-owned items are the ones you can actually fix before the unannounced survey window opens. Start with fire protection testing documentation, ventilation monitoring records, and a ligature-risk walkthrough of behavioral health areas.

Find your gaps before surveyors do.

Run the healthcare compliance audit tool against your Environment of Care program, or read how Accreditation 360 changed the physical environment standards.

FAQ

Where does The Joint Commission publish its most-cited standards?

On jointcommission.org under products and services — the "Most-Cited Hospital Standards" page lists current top standards with linked improvement resources.

Do the most-cited standards change year to year?

Slowly. Medication management, suicide-risk/ligature, and environment-of-care items have been fixtures for years; the 2026 Accreditation 360 and NPG restructuring relabeled some of them without removing the underlying requirements.

Are CMS citations the same as Joint Commission findings?

Not exactly. CMS data aggregates deficiencies from all deeming-authority accreditors (Joint Commission, DNV, CIHQ). A Joint Commission RFI becomes the facility's problem regardless of which list you read — fix the underlying condition, not the citation source.

More in the Environment of Care Rounds series

- EoC Rounds: inspection, documentation, and corrective action (hub)
- Joint Commission dropped the written EOC plans: what still applies
- Accreditation 360: the 2026 Physical Environment standards
- CMS Conditions of Participation: environment of care requirements
- How to prepare for a Joint Commission EoC survey
- Joint clinical and facilities rounds and coordination

Previous: How to prepare for a Joint Commission EoC survey | Next: Joint clinical and facilities rounds and coordination ->

Related reading

- Joint Commission Accreditation 360: The 2026 Physical Environment Standards Explained
- Joint Commission Dropped the Written EOC Plans. The Work Did Not Go Away.
- How often does The Joint Commission survey accredited hospitals?
- What Is the Joint Commission SAFER Matrix? — how the findings catalogued here get scored

Healthcare Facility & Safety Alerts: CMS EP Rules, TJC Environment of Care & ICRA 2.0 Directives — Tuesday, August 25, 2026

Source: https://healthcarefacilityhub.org/healthcare-facility-safety-alerts-cms-ep-rules-tjc-environment-of-care-icra-2-0-directives-tuesday-august-25-2026/ Published: August 25, 2026

Updated September 30, 2026.

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This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Direct answer: Hospital physical-environment compliance still rests on CMS Emergency Preparedness (42 CFR §482.15), ANSI/ASHRAE 188-2021 water management, ASHE ICRA 2.0 containment, and ANSI/ASHRAE/ASHE Standard 170 ventilation in the edition your AHJ enforces. Since January 1, 2026, Joint Commission hospital surveys place those topics in the Physical Environment chapter—not the retired Environment of Care and Life Safety chapters—with above-CoP items in National Performance Goals.

Executive briefing for facility directors, mechanical engineers, and safety officers (August 25, 2026): CMS §482.15, Joint Commission Accreditation 360 Physical Environment, ANSI/ASHRAE 188-2021,

ANSI/ASHRAE/ASHE 170, 2026 FGI Codes, and ASHE ICRA 2.0.

On this page: Regulatory Matrix · Tactical Checklist · Authoritative References · Frequently Asked Questions

Executive Physical Environment Overview

Acute care and ambulatory sites face steady survey scrutiny in 2026. Teams must prove emergency power transfer, defensible isolation-room pressure, an active water management program, and ICRA barriers before work in patient-care wings. Joint Commission manuals now label this work Physical Environment, but CoP and NFPA-referenced life safety expectations persist. For CMS Conditions of Participation, Joint Commission accreditation, and NFPA code alignment in one reference, see healthcare regulatory compliance: the complete professional guide. See healthcare regulatory convergence in 2026 for how CMS, TJC, and NFPA align.

Regulatory Matrix

Standard / Code	Governing Body	Scope	Engineering Action
CMS EP (§482.15)	CMS / State agencies	All-hazards emergency ops	Current plan, training, exercises, and utility-failure integration with hospital activation.
TJC Physical Environment	Joint Commission (Accreditation 360)	HVAC, fire barriers, med gas	Map PE to CMS CoPs; use the 2026 Survey Process Guide. Document risk assessments per Joint Commission PE / EOC documentation changes.
ANSI/ASHRAE/ASHE 170-2025	ASHRAE / ASHE (AHJ edition)	Ventilation & pressurization	Design and test to enforced 170; coordinate with ASHRAE 170 ventilation and pressure.
ANSI/ASHRAE 188-2021	ASHRAE; CMS water expectations	Potable & utility water	Facility Water Management Program with control limits—Legionella water management (ASHRAE 188).
2026 FGI Codes + ICRA 2.0	FGI; ASHE	Renovation & remediation	Scope to adopted FGI minimums; execute ICRA matrix and ILSM when LS gaps occur—ICRA matrix and barriers.

Joint Commission Physical Environment

Since January 1, 2026, hospital manuals replace Environment of Care and Life Safety with one Physical Environment chapter numbered around CMS physical-environment CoPs. Above-CoP requirements moved to National Performance Goals. Surveyors use the Survey Process Guide. Keep PE evidence in traceable systems—life safety inventories, test records, utility failure procedures, and work orders from risk assessments—not one-off binders. Crosswalk PE evidence to the complete guide to healthcare regulatory compliance (2026) when updating policies after the chapter merge, and use Continuous compliance monitoring to sustain that posture.

Rounds and Corrective Action

Scheduled safety rounds still feed PE compliance: consistent routes, coded deficiencies, closed-loop correction. The chapter name changed; the floor work did not.

HVAC, AIIR Isolation & Med Gas

AIIRs stay negative to corridors and adjacent spaces, with airflow from clean toward less-clean areas. Standard 170 sets minimum outdoor air, exhaust, and pressure by space type; many sites target about 0.01 in. w.g. at AIIR doors, but follow commissioned design and AHJ interpretation. Operating rooms and protective environments need positive pressure where 170 requires it. Med gas zone valves remain accessible, zoned, and alarmed at nursing stations under NFPA 99 where adopted. When BMS readings disagree with smoke-pencil checks at door undercuts, fix the control loop.

Legionella & Potable Water

CMS expects hospitals to manage Legionella and other waterborne pathogens through a team-based Water Management Program aligned with ANSI/ASHRAE 188-2021 and CDC toolkit principles. ASHRAE Guideline 12-2023 supports implementation. Limit stagnation, monitor parameters your program defines, and log cooling tower and utility water maintenance. Generic temperature targets do not replace facility-specific control limits.

ICRA 2.0 Containment

Disturbance near vulnerable patients requires an infection control risk assessment before work. ICRA 2.0 picks barrier class, exhaust, and anteroom sequencing. High-risk jobs often need Class IV hard barrier with HEPA exhaust and daily pressure logs. Pair ICRA with ILSM whenever fire barriers, exits, or suppression are compromised.

Tactical Checklist

- **EPSS:** Test emergency power per NFPA 110; document ATS response to life safety and critical branches.
- **AIIR / PE airflow:** Smoke-pencil or equivalent at isolation doors on a set cadence; reconcile with BMS trends.
- **Water team:** Audit logs against control limits before survey or public health review.
- **Vendors:** Require healthcare ICRA training before work in patient-care zones.
- **Edition check:** Confirm enforced FGI Code and Standard 170 edition before capital work—2026 FGI references 2025 Standard 170 for many scopes; states adopt on different schedules.

Authoritative References

- **CMS Emergency Preparedness (42 CFR §482.15):** cms.gov emergency preparedness
- **Joint Commission Accreditation 360:** jointcommission.org
- **ANSI/ASHRAE 188-2021:** ashrae.org
- **ANSI/ASHRAE/ASHE 170-2025:** ashe.org
- **2026 FGI Codes:** fgicodes.org
- **NFPA 99 / NFPA 101** (as adopted): nfpa.org

Frequently Asked Questions

Did The Joint Commission replace Environment of Care in 2026?

Yes. For hospitals and critical access hospitals, Accreditation 360 replaced the Environment of Care and Life Safety chapters with a Physical Environment chapter effective January 1, 2026, reorganized around CMS Conditions of Participation. Some former EC requirements now sit in the National Performance Goals chapter. Operational duties—rounds, testing, documentation—largely continue under new standard numbers.

Which CMS rule governs hospital emergency preparedness?

Hospital emergency preparedness is governed by 42 CFR §482.15 (Emergency preparedness CoP). It requires an all-hazards emergency plan, policies, training, testing exercises, and coordination with local public health and emergency systems. Utility failure and infrastructure scenarios belong inside that program, not in a separate silo.

What ventilation standard applies to hospital isolation rooms?

Patient-care ventilation minimums come from ANSI/ASHRAE/ASHE Standard 170 in the edition your AHJ adopts—2025 is current nationally and aligns with 2026 FGI Code references for many project types. AIIRs require negative pressure and minimum outdoor air and exhaust as defined in Standard 170 for that space type; verify setpoints against the enforced edition and your commissioned design.

Does CMS still expect a Legionella water management program?

Yes. CMS hospital survey guidance continues to expect facilities to manage Legionella and other waterborne pathogens using a team-based Water Management Program consistent with recognized standards—principally ANSI/ASHRAE 188-2021 and CDC toolkit principles. The program must match your building's risk points, not a generic template.

When is ASHE ICRA 2.0 required?

Apply ICRA 2.0 whenever construction, renovation, or remediation disturbs building systems or finishes in or near patient-care areas. The matrix classifies risk by patient population and project type, then assigns barrier class, pressure control, and cleaning expectations. Start the assessment before work begins and update it when scope changes.

What changed in the 2026 FGI documents?

The 2026 release publishes FGI Codes (minimum enforceable planning and design requirements) plus separate FGI Handbooks for commentary. Hospital and outpatient codes add or clarify space types—such as incident command, discharge waiting, behavioral health, and mobile units—and incorporate updated ANSI/ASHRAE/ASHE 170 ventilation references where applicable. Adoption timing still depends on your state AHJ.

> **Disclaimer:** Compiled for facility directors, plant engineers, infection preventionists, and safety officers. Not legal counsel or clinical direction. Verify protocols with your safety committee, IP team, and AHJ (CMS, TJC, DNV, state health, fire marshal).

C. difficile Facility Layout: Private Rooms and Dedicated Toilets

Source: https://healthcarefacilityhub.org/c-difficile-facility-layout-private-room-dedicated-toilet/ Published: August 22, 2026

Updated September 30, 2026.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Direct answer: The facility-layout control that matters most for *Clostridioides difficile* is a single-patient room with a dedicated toilet. If no private room exists, cohort only confirmed CDI patients and still give each person a dedicated toilet or commode—never a shared bathroom with a non-CDI roommate. That placement rule comes from CDC acute-care CDI guidance and the SHEA/IDSA/APIC 2022 prevention update; hand hygiene, EPA List K sporicidal cleaning, and antibiotic stewardship are essential but are not substitutes for toilet access and room flow.

By Will Tygart. Facility design and EVS only — not clinical treatment, not antibiotic stewardship.

CDI spores survive on toilets, commodes, bedrails, and floor edges. A shared ward bathroom is a shared reservoir: every flush, transfer, and cleaning miss moves organisms between patients and staff routes. Alcohol-based hand rub does not reliably kill spores—plan a staff handwashing sink reachable **after doffing PPE**, not only a dispenser at the room door. Those are layout and workflow decisions you can survey tonight; they belong in the same packet as your infection control program under CMS 42 CFR 482.42, which expects the hospital to maintain an organized infection control program—not a binder on a shelf, but observable practices tied to the built environment.

CDC and SHEA placement expectations

CDC clinical guidance for CDI prevention in acute care tells teams to place symptomatic patients on contact precautions in a single-patient room with a dedicated toilet. When single rooms are unavailable, cohort patients with **confirmed** CDI—not suspected cases mixed with general medical patients—and keep dedicated commodes or bathrooms for each person when stool incontinence is in play. The 2022 SHEA/IDSA/APIC strategies update keeps the same hierarchy: private room with dedicated toilet preferred; if cohorting is required, cohort only patients infected or colonized with the same organism and do not mix CDI patients who carry other multidrug-resistant organisms unless your policy explicitly manages that risk.

Facility managers translate those lines into census reality: how many single rooms with en-suite toilets you have by unit, which rooms can accept a commode without blocking egress, and where gown and glove staging sits outside the door so traffic does not cross clean corridors bare-handed.

FGI 2026, master planning, and new construction

For capital work permitted under an adopted FGI 2026 Code edition, inpatient planning still centers on patient-care bedrooms with toilet access configured for the care model—not a distant shared bath at the end of

the ward. The 2026 cycle splits enforceable FGI Codes from advisory Handbooks; your compliance matrix should tag toilet and support-zone requirements as Code-minimum on the permit, not Handbook commentary alone. If programming shrinks toilet rooms or merges soiled holding during value engineering, infection prevention and facilities should push back before drywall: CDI and other contact precautions are daily census events, not rare wing exceptions.

Space programming and adjacency reviews belong early in master planning so isolation-capable beds and soiled-utility paths are counted before the board approves a bed count increase.

What to specify or survey

- Private toilet in the patient room or immediately adjoining suite—not a shared ward bath used by non-CDI patients
- Staff handwashing sink after PPE doff, with splash control and line of sight that does not force re-contamination of clean hands
- Gown and glove staging outside the door, with waste handled per contact-precaution policy
- Soiled utility close enough that bedpans and commode buckets are not carried uncovered through clean corridors
- EVS closet and dedicated equipment per unit so the CDI room is not cleaned with the mop that just left a surgical suite
- Pressure and ventilation documentation only where the room is also an AIIR or a construction zone—see below

Environmental services and terminal cleaning

Daily and terminal cleaning for CDI rooms requires a sporicidal product registered for *C. difficile* (EPA List K). Layout supports EVS when fixtures are reachable, clutter is minimal, and terminal work can start without moving the patient through a crowded bay. Step-by-step frequencies, audit methods, and discharge sequencing are in environmental services terminal cleaning protocols.

ASHRAE 170, AIIRs, and the LMS trap

CDI spreads by contact and spores in the environment—not by airborne routes that drive AIIR design. Training stems that offer “negative pressure,” “HEPA in the waiting room,” or “more air changes” as the primary C. diff **layout** answer are wrong. ASHRAE Standard 170 defines ventilation for healthcare space types such as AIIRs; it does not replace a dedicated toilet for a contact-pathogen room. For how 170 tables differ from everyday medical/surgical rooms, use the ASHRAE 170 ventilation guide.

Surveys, Accreditation 360, and documentation

State CMS surveyors and Joint Commission teams trace infection control into what they can see: contact precaution signage, PPE stations, sink access, and cleaning records. Under Accreditation 360, the unified Physical Environment chapter effective January 1, 2026 reorganizes documentation—it does not relax the need for a sanitary environment or working isolation capacity. Keep a current list of rooms with en-suite toilets, commode-capable rooms, and cohort-capable bays; tie it to your infection control risk assessment when census exceeds single-room inventory.

Renovations that touch plumbing or toilet counts require ICRA and often ILSM together—see healthcare construction, ICRA, and ILSM.

Sources: CDC CDI clinical guidance (single-patient room, dedicated toilet, List K cleaning) · SHEA/IDSA/APIC 2022 acute-care hospital CDI prevention update (private room preferred; dedicated commode when cohorting) · Facility Guidelines Institute 2026 Codes for planning and design where adopted on your permit.

FAQ

Does a CDI patient need a private room?

CDC guidance calls for a single-patient room with a dedicated toilet for symptomatic patients on contact precautions. When private rooms are unavailable, cohort only patients with confirmed CDI—not general roommates—and still provide dedicated toilets or commodes so non-CDI patients do not share the same bathroom.

Can a CDI patient share a bathroom with a roommate who does not have CDI?

No. That is the layout failure mode: spores concentrate on toilets, commodes, and nearby high-touch surfaces. The control is dedicated toilet access for the CDI patient or cohorting confirmed CDI patients with separate dedicated fixtures for each person—not a shared ward bath with a non-CDI roommate.

Does C. diff require an airborne infection isolation room (AIIR)?

No. CDI is contact and environmental transmission, not an airborne precaution that triggers AIIR negative pressure under ASHRAE 170. More air changes or waiting-room HEPA does not fix a shared toilet; dedicated toilet access, contact precautions, sporicidal cleaning, and hand washing after glove removal do.

What should we verify on walkthrough for CDI room layout?

Confirm en-suite or dedicated toilet or commode, handwashing sink reachable after doffing PPE, gown and glove staging outside the door, soiled utility path that avoids open bedpan transport through clean corridors, and unit-level EVS equipment segregation. Match what you see to the room list infection prevention maintains for census surges.

How does FGI 2026 relate to CDI toilet access?

FGI becomes enforceable when your state, licensure authority, or project permit adopts a specific Code edition. The 2026 FGI Codes continue inpatient planning requirements for toilet access tied to patient-care bedrooms; Handbook commentary does not create a new minimum unless adopted as Code. Align new construction with infection prevention early so CDI and other contact precautions do not depend on retrofit commodes.

What cleaning standard applies to CDI patient rooms?

Use EPA List K sporicidal products for daily and terminal cleaning of CDI rooms, with contact times met on the label. Layout supports compliance when fixtures are accessible and terminal cleaning can run on discharge without cross-traffic through clean units; pair product selection with the terminal cleaning protocol your EVS team audits.

Joint Commission Dropped the Written EOC Plans. The Work Did Not Go Away.

Source: https://healthcarefacilityhub.org/joint-commission-physical-environment-eoc-plans-2026/ Published: August 15, 2026

Updated September 30, 2026.

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This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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What this page covers: what Joint Commission's Accreditation 360 changed about written EOC management plans in 2026, which plans surveyors still open, and what to do this quarter. **Who it is for:** facility directors and accreditation or EOC leads who maintained the old EC management plans.

Environment of Care Rounds series · Part 2 of 7 · Back to the EoC Rounds hub

Previous: EoC Rounds: inspection, documentation, and corrective action (hub) | Next: Accreditation 360: the 2026 Physical Environment standards ->

On this page: What actually changed · What did not change · Do not shred the old plans · What to do this quarter · Frequently asked questions

Direct answer: Effective January 1, 2026, Joint Commission's Accreditation 360 hospital and critical access hospital manuals retired the standalone Environment of Care and Life Safety chapters and consolidated physical environment standards into one Physical Environment chapter aligned with CMS Conditions of Participation. Joint Commission no longer requires written management plans for safety, security, hazardous materials and waste, utilities, and medical equipment, but surveyors still evaluate your fire response plan, water management plan, and emergency operations plan—and the underlying compliance work did not disappear.

January 1, 2026, Joint Commission rolled out Accreditation 360 for hospitals and critical access hospitals. The old Environment of Care and Life Safety chapters are gone from those manuals. Their expectations now live primarily in the Physical Environment chapter, with selected topics elevated into the National Performance Goals chapter that also took effect January 1, 2026.

That reorganization is real. It is not permission to throw the binder in a dumpster.

On this page: What actually changed · What did not change · What to do this quarter · Frequently asked questions

What actually changed

In the January 2026 *Environment of Care News*, Joint Commission told hospitals and CAHs they are no longer required to keep a written management plan for each former EOC functional area: safety, security, hazardous materials and waste, utilities, and medical equipment. Matthew Daniel, CHSP, walked the field through the

shift in Health Facilities Management on June 3, 2026.

Joint Commission clarified that ambulatory care organizations are the exception—they still need the written EOC management plans. For hospitals and CAHs, surveyors will still ask for three written plans:

- Fire response plan
- Water management plan
- Emergency operations plan

Standard numbers and element-of-performance locations changed under Accreditation 360. Many Environment of Care requirements moved into the Physical Environment chapter; others—workplace violence worksite analysis, managing security risks, managing utility systems, and imaging safety—shifted into National Performance Goals, including Goal 11 on workplace and patient safety.

What the Physical Environment chapter still expects

Joint Commission stated that the requirements themselves did not vanish with the chapter titles. Hospitals remain subject to CMS hospital Conditions of Participation. Accreditation manuals still anchor life safety and health care facilities code compliance to the 2012 editions of NFPA 101 and NFPA 99—the editions CMS adopts for deemed-status programs unless your state or local authority enforces something newer.

If a surveyor does not ask for five titled “management plans,” they can still ask who owns utilities, how you round, how you train staff, whether your water program is running, and whether your emergency operations plan matches how the building actually behaves under stress. For a wider map of how fire, mechanical, infection control, and CMS rules stack in 2026, see our Healthcare Code Compliance: The Complete Professional Guide (2026).

What did not change

The pipe, the generator, the med-gas valve, and the night shift did not get a waiver. Design teams may be working to the 2026 FGI Guidelines on new work, but Joint Commission life safety survey paths for most accredited hospitals still trace through NFPA 101 (2012) unless your contract or state says otherwise. Ventilation expectations in patient care areas still intersect ASHRAE 170 where CMS and your state apply it; water and HVAC programs still need owners whether or not the words “management plan” appear on the cover sheet.

Medical equipment life-cycle obligations—including inventory, maintenance, and cybersecurity for networked devices—remain HTM and quality work even without a Joint Commission–labeled equipment management plan. Our overview of Medical Equipment Management: HTM Programs, Cybersecurity, and FDA Requirements tracks the parallel FDA and CMS pressure that never cared about chapter names.

Environmental tours are the precedent Joint Commission itself cites. Six-month patient-area tours were deleted from the standards years ago; competent organizations kept walking corridors because operations demanded it, not because a “D” icon sat beside an EP.

Do not shred the old plans

Daniel’s answer is still the right one: no. Those write-ups were never just accreditation wallpaper. They name the committee, the accountable leader, the rounding loop, and the staff education path. That is how a weekend

facilities supervisor knows who to call when a steam riser fails or when a contractor opens a ceiling in an occupied unit.

Retitle the documents to match the Physical Environment chapter if that helps your teams. Keep the owners on the org chart. Tie corrective actions to the same work orders and capital requests you already use for Environment of Care rounds, inspection documentation, and corrective action tracking.

Plans surveyors will still open first

Make these three easy to find within five minutes:

- **Fire response plan** — coordinated with NFPA 101 fire drill and ILSM practice.
- **Water management plan** — ASHRAE 188–aligned where CMS and your policy require it; keep clinical and facilities roles named.
- **Emergency operations plan** — aligned with CMS emergency preparedness and real evacuation competence; our Hospital Evacuation Planning piece covers horizontal, vertical, and full evacuation decisions managers still get wrong under stress.

What to do this quarter

- Keep the five program write-ups. Map each section to current Physical Environment and National Performance Goal references so survey tracers and internal auditors use the same language.
- Publish the fire response, water management, and emergency operations plans where frontline leaders can reach them—paper where paper still wins, intranet where it does not.
- If you operate ambulatory sites under the same corporate badge, do not copy the hospital waiver onto a clinic. Those sites still owe the written EOC management plans until Joint Commission says otherwise for their program.
- Walk one utility or hazardous materials loop this month the way you would have under EC.01.01.01. If nobody can name the owner out loud, the chapter change already hurt you.
- Feed findings into continuous compliance monitoring so gaps surface before a triennial survey window—not after a tracer finds the same deficiency twice.
- Run a blunt self-assessment with the Healthcare Facility Compliance Audit Tool while the manual still feels new to your team.

The acronym on the spine of the binder changed. Accreditation 360 and the Physical Environment chapter reorganized the manual; they did not retire the work.

Frequently asked questions

Are hospitals still required to keep written Environment of Care management plans after January 1, 2026?

No—for Joint Commission–accredited hospitals and critical access hospitals, the January 2026 Environment of Care News states written management plans are no longer required for safety, security, hazardous materials and waste, utilities, and medical equipment. Ambulatory care organizations still need them. CMS and relocated Joint Commission standards still require the underlying programs even when the plan binders are optional.

Which written plans will Joint Commission surveyors still ask to see?

Joint Commission told the field to expect three: the fire response plan, the water management plan, and the emergency operations plan. Everything else may be demonstrated through interviews, tracers, rounds, and records rather than a titled management plan— but “not required” is not “not evaluated.”

Should we stop updating our old safety, security, utilities, hazmat, and medical equipment management plans?

Keep updating the content even if you drop the old cover titles. Those documents still hold committee charters, ownership, monitoring cadence, and staff education— the same facts Goal 11 and Physical Environment tracers probe when something fails at 2 a.m.

Did CMS eliminate environment-of-care obligations when Joint Commission reorganized the manual?

No. Joint Commission explicitly aligned Accreditation 360 with CMS Conditions of Participation and stated hospitals should not dismantle programs simply because documentation requirements changed. CMS still governs emergency preparedness, conditions of the physical environment, and equipment maintenance expectations independent of Joint Commission chapter names.

Where did the old Environment of Care and Life Safety requirements go?

Most operational expectations moved into the Physical Environment chapter with new standard numbering. Selected topics— including workplace violence worksite analysis, security risk management, utility systems management, and imaging safety— moved into National Performance Goals effective January 1, 2026. NFPA 101 and NFPA 99 (2012) references remain embedded in Physical Environment elements of performance.

How should we prove readiness if surveyors no longer ask for five management plans?

Run the same rounds, training, and incident review loops the plans always described. Document corrective actions, tie them to owners and due dates, and spot-check that leaders can explain programs without reading from a binder. Our Healthcare Facility Compliance Audit Tool is a structured self-check before you rely on luck in the parking lot conversation with a surveyor.

Sources: Joint Commission Accreditation 360 hospital and critical access hospital manuals (Physical Environment and National Performance Goals chapters, effective January 1, 2026); January 2026 Environment of Care News as summarized by Matthew Daniel, CHSP, in Health Facilities Management, June 3, 2026; CMS hospital Conditions of Participation.

More in the Environment of Care Rounds series

- EoC Rounds: inspection, documentation, and corrective action (hub)
- Accreditation 360: the 2026 Physical Environment standards
- CMS Conditions of Participation: environment of care requirements
- How to prepare for a Joint Commission EoC survey
- Most common Joint Commission findings in hospitals
- Joint clinical and facilities rounds and coordination

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Healthcare Facilities and Restoration Contractor Scope 3: Why RCP Belongs in Your ESG Vendor Stack

Source: https://healthcarefacilityhub.org/restoration-carbon-protocol-healthcare-facilities-scope-3-vendors/
Published: April 11, 2026

Updated September 30, 2026.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

Download the field sheet (PDF)

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Direct answer: Restoration and remediation work on hospitals and medical office buildings is Category 1 Scope 3 (purchased services) for health systems reporting under GRESB, SBTi, ISSB-aligned frameworks, and—starting in 2027—California SB 253 supply chain disclosures. The Restoration Carbon Protocol (RCP) v1.0 gives facility teams a free, job-level standard so preferred restoration vendors deliver auditable Job Carbon Reports instead of leaving mold, water, and biohazard scopes off the inventory.

Healthcare facilities occupy a unique position in the ESG disclosure landscape. They sit under CMS Conditions of Participation, the Joint Commission's Accreditation 360 Physical Environment (PE) chapter (Life Safety and former Environment of Care requirements consolidated there, effective January 1, 2026), NFPA 101 Life Safety Code and NFPA 99 Health Care Facilities Code expectations, ANSI/ASHRAE/ASHE Standard 170 ventilation rules, and—on renovation and recovery projects—the 2026 FGI Codes for Planning and Design. That is a compliance stack most commercial real estate operators never face, layered on top of institutional investor reporting pressure that now mirrors what REITs see in green building certification and portfolio benchmarks.

Combine that regulatory environment with the physical reality of healthcare facility climate risk—higher-than-average water intrusion from aging plumbing, mold remediation driven by infection prevention expectations, and restoration scopes that must meet ICRA containment practice—and restoration contractors become both operationally critical and a recurring Scope 3 supply chain category.

Why Healthcare Facility Restoration Is a Scope 3 Compliance Problem

Healthcare facility decarbonization programs, GRESB submissions, and science-based targets all pull the same lever: complete Scope 3 inventories. Loss-response and maintenance restoration—water extraction, structural drying, fire and smoke cleanup, mold remediation, biohazard response—are purchased services (GHG Protocol Category 1). They recur every year, they scale with square footage and building age, and they rarely appear in health system sustainability reports because most contractors do not calculate job-level emissions.

A hospital campus with heavy clinical and support square footage that sees several significant water events annually, plus mechanical-space mold work and occasional fire restoration, can accumulate tens of metric tons of contractor-attributed CO2e. Those tons stay invisible without a field standard. RCP v1.0, published April 2026 and maintained at tygartmedia.com/rcp, is built to make them measurable.

California adds a calendar for large systems: SB 253 requires annual public disclosure of Scope 1 and Scope 2 greenhouse gas emissions for U.S. entities with more than $1 billion in global revenue doing business in California, with the first Scope 1 and Scope 2 reports due November 10, 2026; Scope 3 reporting begins in 2027 under the statute. SB 261 requires biennial climate-related financial risk reporting for entities above $500 million in revenue; litigation has affected enforcement timelines, but the direction for large California-connected health systems is clear. Restoration vendor data belongs in the Scope 3 line item when it arrives—not as an afterthought in a spreadsheet.

What RCP Provides for Healthcare Facility Operators

RCP is an open-source standard for per-job Scope 3 from restoration work. For facility directors and health system real estate teams, three elements map directly to how healthcare losses are actually executed.

ICRA-compatible containment accounting

Healthcare mold and water projects almost always run under negative pressure, HEPA filtration, and documented pressure relationships—the same control concepts surveyors trace under PE standards for hazardous materials and utility systems. Generic construction emission tools miss dehumidifier, air scrubber, and negative air machine run hours. The RCP mold remediation methodology publishes equipment wattage by common models (for example, roughly 1,034 W for an Aerospace 2000 class unit up to about 2,300 W for an FA2000EC class unit) and filter consumption rates so Job Carbon Reports reflect real containment energy, not a generic “commercial renovation” proxy.

Infection control and biohazard disposal pathways

Healthcare-adjacent trauma and biohazard scopes intersect sterilization and waste policy, but the Scope 3 split that matters for carbon accounting is disposal routing. The RCP biohazard guide documents peer-reviewed emission factors that differ materially by pathway—autoclave with landfill disposal at about 0.46 tCO2e per metric tonne of waste versus direct incineration at about 0.82 tCO2e per metric tonne. Your contractor’s documented disposal method is the difference between defensible data and overstated supply chain emissions.

Audit-ready documentation for accreditation and ESG review

Joint Commission surveyors already expect traceable records for life safety, utilities, and hazardous materials management under PE. Healthcare regulatory compliance teams run parallel document retention for CMS and accreditation. RCP’s audit readiness framework—described at tygartmedia.com/rcp-audit-readiness-scope-3-verification/—mirrors GHG Protocol verification expectations: source documents, calculation lineage, and retained Job Carbon Reports. That aligns with how health systems already store ICRA logs, infection prevention sign-offs, and survey-ready compliance evidence, without asking environmental staff to reverse-engineer PDF invoices.

Adding RCP to Your Preferred Restoration Vendor Requirements

Preferred vendor agreements for healthcare restoration already specify IICRC S520 mold certification, ICRA training, and infection control coordination. Adding RCP is a procurement clause, not a new operating model: contractors implement the 12-point RCP data capture standard and deliver a Job Carbon Report for each qualifying loss or remediation project.

The practical outcome is standardized Scope 3 supply chain data flowing to sustainability and real estate teams in a format that supports healthcare facility sustainability reporting and energy and emissions benchmarking narratives—not manual re-entry by facility managers who are already managing ILSM, utility outages, and patient care continuity.

Framework access: tygartmedia.com/rcp. Health system and facility inquiries: rcp@tygartmedia.com.

Also in this cluster: contractor implementation on Restoration Intel, continuity planning on Continuity Hub, carriers on Risk Coverage Hub, and the property-manager guide on BC ESG.

Related: Remediation: Expert Video Analysis · Healthcare Facility Sustainability: The Complete Professional Guide

Related: Restoration contractors who need the field ops stack (job tracker, claims, SOPs) use the Complete Restoration Operations Kit ($97).

Frequently Asked Questions

Is restoration contractor work really Scope 3 for hospitals?

Yes. Under the GHG Protocol, outsourced restoration and remediation are typically Category 1 purchased goods and services. Health systems that report Scope 3 for real estate and operations should treat recurring water, mold, fire, and biohazard contractor work as part of that inventory when materiality thresholds apply—not as uncategorized facility spend.

Does RCP replace ICRA or infection control documentation?

No. RCP adds greenhouse gas calculation and retention for Job Carbon Reports. ICRA plans, pressure monitoring, clearance sampling, and clinical stakeholder sign-offs remain your accreditation and patient-safety record set. RCP data sits alongside those files for ESG and supply chain disclosure.

How does RCP interact with Joint Commission Physical Environment surveys?

PE standards still require you to manage life safety, utilities, and hazardous materials during construction and recovery. RCP does not change those obligations. It gives you a consistent emissions record for contractor work that PE-related remediation projects already generate—useful when sustainability, finance, and accreditation reviewers ask for the same loss from different angles.

When should we require Job Carbon Reports from restoration vendors?

Align the requirement with preferred vendor renewal and master service agreements for environmental remediation. Specify RCP v1.0 data capture, delivery timelines (for example, with final invoice or project closeout), and retention matching your health system records policy. Pilot on water and mold categories first if your network is uneven on maturity.

What changes under California SB 253 in 2026 versus 2027?

For covered large entities, SB 253 focuses the first reporting cycle on Scope 1 and Scope 2 emissions (due November 10, 2026, under current CARB guidance). Statutory Scope 3 disclosure begins in 2027. Building RCP into vendor requirements now prepares restoration data before Scope 3 assurance expectations tighten.

Where do we start if our ESG team has never seen a Job Carbon Report?

Download the RCP v1.0 framework, review the 12-point data standard, and ask one preferred contractor to produce a report on a closed job. Compare the output to your Scope 3 boundary documentation. If the fields map cleanly, roll the clause network-wide; if not, fix data gaps before the next reporting cycle.

Healthcare Regulatory Convergence in 2026: CMS, Joint Commission, NFPA, FGI, and the ESG Overlay

Source: https://healthcarefacilityhub.org/healthcare-regulatory-convergence-2026-cms-jcaho-nfpa-esg/
Published: April 3, 2026

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Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Direct Answer: In 2026, facility leaders manage one converged compliance surface: CMS Conditions of Participation, Joint Commission Accreditation 360 (unified Physical Environment chapter effective January 1, 2026), state-adopted NFPA 101 and NFPA 99, FGI Guidelines 2026, ASHRAE 170 ventilation criteria, and emerging ESG disclosure. Readiness requires a single risk register, shared survey evidence, and monitoring that feeds every framework.

Healthcare regulatory compliance is no longer parallel audits by department. Clinical, facilities, EH&S, biomedical engineering, and quality teams touch the same power, water, ventilation, and device dependencies surveyors trace across CMS, The Joint Commission, NFPA, FGI, and sustainability reporting.

On this page: The Five-Layer Healthcare Compliance Stack · Convergence Pressure: Three Integration Challenges · What to Do Now · Frequently Asked Questions

The Five-Layer Healthcare Compliance Stack

Layer 1: CMS Conditions of Participation

CMS sets baseline Medicare and Medicaid participation requirements—clinical quality, infection control, emergency preparedness, and physical environment obligations state survey agencies and accreditors cross-reference during certification.

- **Emergency preparedness:** Plans, training, testing, and communication when systems fail.
- **Physical environment:** Safe building systems, maintenance, and construction controls.
- **Infection control:** Environmental practices including ventilation performance in clinical spaces.

- **Cyber expectations:** Alignment with federal health-sector guidance; pair with healthcare cybersecurity and medical device IoT programs for connected assets.

CoP failure can mean corrective action, payment suspension, or provider agreement termination. CMS is the floor other frameworks build on.

Layer 2: Joint Commission Accreditation 360

Accreditation 360 aligns hospital standards with CMS. For hospitals and critical access hospitals, former Environment of Care and Life Safety content now sits primarily in the Physical Environment (PE) chapter effective January 1, 2026, with selected items in the National Performance Goals chapter. Numbers changed; expectations for life safety, utilities, hazardous materials, water management, and equipment support largely did not.

- **Life safety:** Egress, interim life safety measures, fire protection during projects.
- **Utilities:** Power, medical gas, water, HVAC, waste with contingencies.
- **Construction:** Infection control, dust control, interim protections during work.
- **Resilience:** Planning for weather, supply, and utility loss—overlapping CMS preparedness.

Accreditation is often contractually required; loss still hits payers, reputation, and licensing.

Layer 3: NFPA 101 and NFPA 99

- **NFPA 101:** Egress, fire barriers, detection, suppression, smoke control, emergency lighting. Many states enforce the 2024 edition during 2026; confirm your AHJ date.
- **NFPA 99:** Medical gas, essential electrical systems, HVAC controls where cited, and fire protection interfaces for critical utilities.

Keep enforced edition, amendments, and inspection records indexed for PE surveys and CMS physical environment findings.

Layer 4: FGI 2026 and ASHRAE 170

FGI Guidelines 2026 set planning and design expectations for new work and major renovations—infection prevention airflow, resilience, and efficiency targets tied to pandemic preparedness and surge-capacity standards. FGI is advisory unless adopted by state or contract; surveyors still compare design intent to operating performance. ASHRAE Standard 170 defines minimum ventilation for healthcare spaces and is referenced in FGI and many state codes—operations owns the test data when pressurization fails.

Layer 5: ESG Disclosure

Systems report climate exposure, emissions, and resilience on fiscal calendars apart from CMS:

- **Physical risk and decarbonization:** Align facility data with net-zero and emissions reporting roadmaps.
- **Community and equity:** Overlap with community health needs assessments.
- **Supply chain:** Critical supplier concentration for drugs, devices, and sterile processing.

ESG does not replace CoPs, but boards expect one data backbone for surveyors and disclosure.

Convergence Pressure: Three Integration Challenges

Challenge 1: Governance Fragmentation

Healthcare facility governance still splits across clinical, facilities, EH&S, quality, and finance. Boards expect one accountable line for physical environment risk; siloed committees duplicate walkthroughs and split corrective actions.

Challenge 2: System Interdependencies

- Infection control depends on ventilation (ASHRAE 170, FGI) and water management (CMS, PE).
- Emergency operations depend on essential power and medical gas (NFPA 99) and communications (CMS).
- Device programs intersect FDA's Quality Management System Regulation—enforceable since February 2, 2026, aligned with ISO 13485:2016—through vendor and service contracts, not as a hospital accreditation chapter.

Challenge 3: Continuous Compliance

CMS certification cycles, Joint Commission triennial and unannounced surveys, state NFPA enforcement, FGI project gates, and ESG assurance do not align. Continuous compliance monitoring is the scalable way to feed every calendar.

Integrated Facility Governance

Map risks once—ventilation failure, waterborne pathogens, extended power loss, supplier outage—and tag CMS, PE, NFPA, FGI, and ESG controls in one register. Give a chief facilities officer (or equivalent) authority across engineering, HTM interfaces, and project safety; charge a facility compliance function with crosswalks and document control. Run a quarterly rhythm: Q1 enterprise facility risk assessment, Q2 utility and life safety audit, Q3 full-scale emergency exercise, Q4 regulatory readiness review. Use building analytics, work orders, environmental tracking, and supplier flags so the same telemetry supports surveys and board reporting.

What to Do Now

- List enforceable NFPA edition, PE chapter set, CMS deeming status, FGI applicability, and ESG triggers.
- Crosswalk Accreditation 360 binders from EC/LS numbers to PE references without dropping controls.
- Run one integrated walkthrough whose evidence serves CMS, PE, and NFPA requests.
- Fold FDA QMSR vendor documentation and connected-device inventories into joint HTM and IT plans.
- Merge audits, drills, and disclosure deadlines on one facility-owned calendar.

Conclusion

A flooded substation, failed isolation room, or compromised infusion pump draws CMS, Joint Commission, NFPA, clinical, and reputational scrutiny together. Unified governance, honest crosswalks, and continuous monitoring reduce duplicate remediation; siloed programs cost more and still miss interdependent failures.

Frequently Asked Questions

What are CMS Conditions of Participation (CoP)?

CMS CoP are baseline federal requirements for Medicare and Medicaid participation. They cover patient rights, quality, infection control, emergency preparedness, and physical environment obligations that surveyors trace during certification surveys. Non-compliance can trigger corrective action, payment suspension, and termination of the provider agreement.

How do Joint Commission standards differ from CMS CoP in 2026?

Joint Commission hospital accreditation remains voluntary for most organizations but is often required by payers and states. Under Accreditation 360, CoP-aligned requirements sit in streamlined chapters, with the unified Physical Environment chapter effective January 1, 2026. Requirements above CMS live in the National Performance Goals chapter and related hospital standards.

What is the difference between NFPA 101 and NFPA 99?

NFPA 101 is the Life Safety Code. It governs means of egress, fire alarm and suppression, smoke control, and construction classification. NFPA 99 is the Health Care Facilities Code. It governs medical gas, electrical systems, HVAC risk controls, and essential electrical systems. States adopt editions on different cycles; your AHJ sets the enforceable version.

Where do FGI Guidelines 2026 and ASHRAE 170 fit?

FGI Guidelines 2026 set facility planning and design criteria referenced in capital projects and many AHJ reviews. ASHRAE Standard 170 defines minimum ventilation for healthcare spaces and is incorporated by reference in FGI and widely in state codes. They are design-facing, but operations teams inherit the compliance evidence when systems fail surveys.

How does FDA QMSR affect facility and HTM teams in 2026?

FDA’s Quality Management System Regulation has been enforceable since February 2, 2026, aligning device quality system requirements with ISO 13485:2016. Hospital teams feel it through vendor quality documentation, service contracts, and cybersecurity expectations for connected devices—not as a substitute for CMS or Joint Commission physical environment rules, but as an overlay on equipment lifecycle management.

Related reading: Healthcare Facility Climate Risk and ESG Alignment · Medical Equipment Management and FDA Requirements · Environment of Care Rounds and Corrective Action · Healthcare Energy Management and Decarbonization

AI Governance in Healthcare Facilities: FDA QMSR, CMS Oversight, and the Patient Safety Accountability Framework

Source: https://healthcarefacilityhub.org/ai-governance-healthcare-facilities-2026-fda-cms-compliance/
Published: April 3, 2026

Updated September 30, 2026.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

Download the field sheet (PDF)

Email it to me instead

Direct Answer: FDA's Quality Management System Regulation (QMSR) has been enforceable since February 2, 2026, aligning U.S. device quality rules with ISO 13485:2016 for manufacturers of AI/ML medical devices. CMS still governs hospital AI through existing Conditions of Participation—not a separate AI CoP—so facility leaders must inventory clinical and operational AI, keep human clinicians accountable for decisions, and document validation, monitoring, and safety review under Environment of Care and patient-safety expectations.

The FDA Quality Management System Regulation (QMSR) replaced the former Quality System Regulation on February 2, 2026. AI and machine learning features in regulated medical devices now sit inside a Part 820 framework that incorporates ISO 13485:2016 by reference, with FDA inspections shifting to Compliance Program 7382.850. At the same time, CMS and accreditors are pressing hospitals on how AI shows up in clinical workflows—transparency, qualified users, monitoring, and remediation when safety breaks—using authority hospitals already know from Medicare Conditions of Participation and survey practice.

Clinical AI (tools that influence diagnosis, treatment, or monitoring) and operational AI (scheduling, predictive maintenance, supply chain) do not follow identical regulatory tracks. Both can touch patient safety. The job for healthcare facility management is to classify each system honestly, apply the stricter path when classification is unclear, and tie governance to programs you already run: HTM, Environment of Care, cybersecurity, and clinical oversight.

FDA QMSR and AI/ML medical devices

QMSR applies to device manufacturers and importers responsible for quality systems—not to hospitals as manufacturers unless the facility actually designs or remanufactures devices. Where your organization deploys FDA-regulated AI/ML devices, your leverage points are procurement, implementation, maintenance, and surveillance. That is the same lane as medical equipment management, HTM programs, and FDA-facing device requirements.

What manufacturers must show under QMSR

For AI/ML SaMD and device software functions, manufacturer quality systems typically include:

Design and development records: Requirements, architecture, training-data controls, verification and validation, change control, and rationale for model updates—often aligned with FDA's predetermined change control plan approach where applicable.

Risk management: Hazard analysis tied to clinical harm, not only IT risk; residual risk acceptance documented.

Software lifecycle and cybersecurity: Integrity controls, vulnerability management, and patch pathways across the deployed baseline.

Post-market surveillance: Performance monitoring, complaint handling, MDR reporting when required, and controlled responses to drift or bias signals in real-world use.

On inspection, FDA expects the manufacturer's quality system—not the hospital's—to hold the design history. Your facility still needs contracts, UDI capture, inventory, maintenance logs, training, and evidence that you only use cleared or authorized configurations.

What hospitals should document

Build a vendor dossier for each regulated AI device: regulatory status (510(k), De Novo, PMA, enforcement discretion letter if applicable), software version, cybersecurity materials, training requirements, and escalation contacts. Map each device to HTM work orders, alarm management, and downtime plans. If you cannot produce that chain during a survey, regulators treat it as a governance gap even when the algorithm works.

CMS oversight and clinical AI governance

CMS has not added a standalone "AI Condition of Participation" as of September 2026. Commentators and hospital associations note CMS can already examine AI safety through hospital CoPs—quality assessment, nursing, medical staff, and patient rights—plus existing patient-safety and documentation rules. Practically, survey teams ask whether AI use is defined in policy, whether staff are qualified, and whether the hospital investigates harm when automation contributes to an event.

Align hospital policy to these expectations:

Transparency: Patients and clinicians should know when AI materially shapes diagnosis, treatment, or prioritization—not buried in vendor marketing language.

Human decision authority: AI recommends; licensed clinicians decide, override, and document when they disagree.

Bias and performance: Validate performance for your patient mix; do not assume national training data matches your community.

Data governance: HIPAA minimum necessary, BAAs, and clarity on what data trains or fine-tunes models connected to your EHR.

Environment of Care and life safety programs under CMS Conditions of Participation for hospitals still frame how you prove ongoing safety review—not a one-time AI pilot sign-off.

Clinical AI versus operational AI

Clinical AI includes imaging prioritization, sepsis alerts, clinical documentation assistance that drives coding or orders, and decision support that changes care pathways. Expect FDA device rules when the product is a device, CMS scrutiny on patient safety and medical staff oversight, and Joint Commission-style questions on standardized processes.

Operational AI includes predictive maintenance, energy optimization, staff scheduling, and supply forecasting—topics that overlap with preventive, predictive, and reliability-centered maintenance programs. These tools are often outside FDA device definition when they do not diagnose or treat, but failures still create patient safety events (OR HVAC loss, elevator entrapment, sterile processing delay).

When a workflow sits in the gray zone—operational data feeding clinical queues—classify it as clinical governance. The cost of over-classifying is paperwork; the cost of under-classifying is harm without a review trail.

Building a facility AI governance framework

Facilities moving in late 2026 should stand up a cross-functional committee (clinical, HTM, IT/security, compliance, bioethics where available) with charter, meeting cadence, and authority to pause deployments.

System inventory: Name, vendor, owner, data sources, autonomy level, regulatory class, EHR integration, and sunset plan.

Intake and risk tiering: Low (back-office automation), medium (clinical adjunct), high (autonomous or denial-adjacent workflows)—with controls scaled to tier.

Validation protocol: Pre-go-live testing on local data, drift checks after go-live, and periodic revalidation when populations or vendor models change.

Training and privileging: Match medical staff rules—who may turn the tool on, who must review output, how overrides are logged.

Adverse event and safety reporting: Tie AI incidents to existing patient safety event systems; route device-related events to HTM and MedWatch when applicable.

Physical environment alignment: AI that touches alarms, HVAC, or power must map to life safety and utility management expectations, including Joint Commission Accreditation 360 physical environment standards effective January 1, 2026.

Coordinating FDA, CMS, and accreditation

Requirements overlap but do not duplicate. FDA cares about manufacturer quality and labeling for devices. CMS and accreditors care about safe use inside your walls. Build one evidence repository: policies, training rosters, validation summaries, vendor attestations, monitoring dashboards, and corrective actions. Satisfy the strictest reviewer once.

Federal AI governance memos also push inventory, risk management, and monitoring—useful as a checklist even outside federal agencies.

Patient safety accountability

When AI contributes to harm, accountability stays with the organization and the licensed clinician who authorized care—not the vendor's marketing claim of "autonomous efficiency." Courts and surveyors look for:

Documented governance before go-live.

Evidence clinicians could understand and override outputs.

Timely investigation and corrective action when performance slips.

Disclosure practices consistent with informed consent and organizational ethics policies.

That framework is the patient safety accountability layer: technology is delegated; responsibility is not.

What to expect through year-end 2026

QMSR enforcement is live for manufacturers. FDA continues AI/ML device guidance work; hospitals should watch CDRH updates on lifecycle and monitoring. CMS and ASTP/ONC input processes signal tighter documentation expectations even when rule text lags. State regulators and payers increasingly ask for AI audit

trails on authorization workflows.

Organizations with inventories, validation records, and Environment of Care tie-ins will weather surveys better than those treating AI as shadow IT.

Related Reading:

- AI in Healthcare Facility Operations
- Healthcare Cybersecurity, Medical Devices, and IoT
- Healthcare Regulatory Compliance: Complete Guide 2026
- FDA Quality Management System Regulation (QMSR)

Frequently asked questions

When did FDA's QMSR take effect, and who must comply?

The Quality Management System Regulation (QMSR) amended 21 CFR Part 820 and became effective February 2, 2026, incorporating ISO 13485:2016 by reference. QMSR compliance obligations fall primarily on medical device manufacturers; hospitals using AI/ML devices must still maintain HTM oversight, vendor quality agreements, cybersecurity controls, and adverse-event reporting pathways aligned with FDA expectations.

How does CMS oversee hospital AI without a dedicated AI Condition of Participation?

CMS relies on existing hospital Conditions of Participation and patient-safety requirements—quality assessment, nursing, medical staff, patient rights, and related standards—to examine whether AI use is defined, staffed by qualified clinicians, monitored, and investigated when harm occurs. Surveyors expect policies, training, and corrective action records, not ad hoc vendor demos.

What belongs in a hospital AI system inventory?

Record system name, owner, clinical or operational purpose, data sources, integration points, regulatory status (device or not), software version, risk tier, validation dates, training requirements, and decommission plans. Update the inventory when vendors push model changes, when you recontract, or when a service line expands to new sites.

How should we govern operational AI differently from clinical AI?

Clinical AI requires medical staff oversight, transparency, bias review for your population, and patient-safety event routing. Operational AI emphasizes reliability, maintenance integration, business continuity, and life-safety interfaces—but still needs risk assessment when failure could reach patients (HVAC, power, sterile processing support, transport). When operational outputs feed clinical queues, apply clinical controls.

Who is accountable when AI-assisted care contributes to patient harm?

The healthcare organization and the licensed clinician who ordered or accepted AI-influenced care remain accountable. Vendors may share contractual liability, but regulators and patients look to the facility for governance, training, override capability, investigation, and remediation—not to the algorithm as the responsible party.

Related: Healthcare Cybersecurity and Medical Device IoT Security · Regulatory Compliance Video Analysis

Healthcare Facility Compliance Audit Tool: Are You Survey-Ready?

Source: https://healthcarefacilityhub.org/healthcare-compliance-audit-tool/ Published: April 1, 2026

Updated September 30, 2026.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Email it to me instead

A healthcare facility compliance audit tool is a structured self-audit checklist and workflow that tests physical environment, life safety, emergency management, infection control, utilities, medical equipment, and documentation against CMS Conditions of Participation and accrediting organization expectations. Run it on a fixed cadence, score findings consistently, track corrective action to closure, and keep evidence indexed so gaps surface before survey—not during a tracer in the corridor.

You do not need proprietary software to be survey-ready. You need defined domains, pass/fail criteria, named owners, and a paper trail that matches how state health department surveys and accreditation surveys unfold. The tool here is a living checklist tied to environment of care rounds, work orders, and policies.

Why structured self-audit beats ad hoc walkthroughs

Surveyors sample tracers, pull life safety drawings, review maintenance records, and compare staff answers to field conditions. An internal audit forces that crosswalk first. It supports continuous compliance monitoring when calendars slip—it is not a substitute for licensed code review.

Anchor the checklist to current authorities

CMS Conditions of Participation

Life safety and physical environment requirements for certified providers flow from federal CoPs and the NFPA 101 edition CMS incorporates by reference. Through September 2026, Medicare certification surveys still apply that CMS-referenced edition (widely understood as the 2012 edition until CMS completes rulemaking on a newer reference). Your cover sheet should state the Medicare baseline and the NFPA edition your state or local authority having jurisdiction enforces; when they differ, tag dual-compliance line items.

Joint Commission Physical Environment (2026)

Effective January 1, 2026, Accreditation 360 replaces separate Environment of Care and Life Safety chapters with a unified Physical Environment (PE) chapter aligned to CMS structure. Infection Prevention and Control and Emergency Management stay standalone but streamlined. Renumbering changes; obligations—safe interior spaces, hazardous materials, life safety code compliance, ILSM during construction, essential utilities, water management, imaging safety—still drive tracers. Re-label checklist headers to PE families. Orientation materials: jointcommission.org.

NFPA 101, NFPA 99, FGI, and Standard 170

NFPA 101 and NFPA 99 current publications are the 2024 editions; CMS and Joint Commission Medicare-deemed surveys still use CMS-referenced editions until federal adoption changes. Many states enforce newer NFPA editions locally—add columns for Medicare baseline, state/local AHJ, and internal best practice. Life safety walk items belong in your NFPA 101 life safety checklist.

2026 FGI Codes split enforceable minimums from Handbook guidance; digital Code access is via FGI OneSource. Ventilation integrates ANSI/ASHRAE/ASHE Standard 170—2025 coordinates with 2026 FGI space types; many campuses operate under 170-2021. Document edition by wing or project (FGI 2026 compliance, ASHE Standard 170-2025). One matrix crosswalking CoP, PE, NFPA, and FGI reduces blind spots—see regulatory convergence in 2026.

Core domains surveyors walk

Domain	On-site checks	Pre-stage documents
Environment of care / PE	Corridor clutter, rated penetrations, door latching, flammable storage, behavioral ligature risks	EC/PE minutes, hazard logs, PM orders, active ILSM logs
Life safety	Fire doors, dampers, egress, sprinklers, alarm devices	Door/damper reports, impairment logs, current life safety drawings
Emergency management	Generator artifacts, supplies, communications, signage	HVA, exercises, after-action reports
Infection control	Isolation signage, barriers, water intrusion response	ICRA, pressure logs, water management plan
Utilities / mechanical	Medical gas valves, shutoffs, labeling, critical HVAC alarms	Utility risk assessment, valve diagrams, medical gas PM
Medical equipment	PM status, recalls, crash-cart power	Inventory, AEM documentation if used
Documentation / tracers	Staff describe evacuation, spills, utility failure	Policies, competencies, vendor qualifications

Build and run the tool

Start from three years of Statement of Conditions tags, CMS 2567 findings, historical PE/EC/LS scores, and fire marshal notices—repeat findings stay on the list until closed two cycles. Write observable criteria (“no painted sprinkler heads in care areas”) not vague compliance language. Assign every line an owner and due date; life safety defaults to priority one.

Audit frequency

- **Full audit:** annually minimum; twice after major construction or a bad survey year.
- **Life safety:** quarterly by floor or smoke compartment; full campus each year.
- **Utilities / medical gas:** monthly valve and label spot checks aligned with PM.
- **Documentation tracer:** quarterly on one high-risk scenario.
- **Post-incident:** focused audit within 30 days after flood, fire, outage, or infection event.

Scoring and corrective action

- **Met:** compliant in the field; records current.
- **Minor:** low risk; close within 30 days.
- **Major:** moderate or repeat; close within 14 days with interim controls.
- **Critical:** immediate life safety, infection, or utility risk; same-day escalation; ILSM until fixed.

Report open Critical and Major counts separately from percent Met. Each non-Met line opens a ticket with root cause, action, verifier, and closure proof; a second person closes—never the original finder alone.

What survey readiness looks like in practice

Surveyors rarely ask for your checklist. They ask for drawings, PM, closed impairments, EC/PE minutes, and consistent staff answers. Strong self-audits mean mock tracers stop surfacing surprises; ILSM and ICRA files are ready; fire door and medical gas gaps were cleared early. Weak programs produce documented conditions you walked past last month. Store reports and photos by PE domain and location ID—the same packet supports executives and CMS coordinators.

After each survey, update the master checklist within two weeks for PE numbering, FGI space types, and new deficiency patterns. A compliance audit tool is the ongoing conversation between the building, the binders, and the staff who keep both aligned.

Frequently asked questions

How often should a hospital run a full compliance self-audit?

Most acute care hospitals should run a full multi-domain self-audit at least once per year, with a second full pass if the campus had major construction, a significant deficiency cycle, or leadership turnover in facilities or safety officer roles. Life safety and egress sampling should continue quarterly so every smoke compartment receives a detailed walk within twelve months.

Which standards should the checklist reference for Joint Commission and CMS surveys in 2026?

Map checklist sections to CMS Conditions of Participation for your provider type, the CMS-referenced Life Safety Code edition used in Medicare certification surveys, Joint Commission Physical Environment standards effective January 1, 2026 under Accreditation 360, and your state and local fire and building codes. Where Medicare reference editions differ from state-adopted NFPA editions, mark dual-compliance items instead of assuming one line satisfies both.

How should we score self-audit findings so leadership trusts the trend data?

Use a four-level scale—Met, Minor gap, Major gap, and Critical—and require documented interim controls for anything above Minor. Roll up open Critical and Major counts separately from percentage Met so a single life safety gap is not hidden inside a high compliance rate. Close items only after independent verification and attached evidence.

Will surveyors ask to see our internal audit checklist?

They may not request the checklist itself, but they will request the artifacts your audits are meant to protect: life safety drawings, inspection and testing reports, ILSM and ICRA records, utility and medical gas maintenance, water management documentation, and proof that EC or PE committee oversight occurred. A well-run tool produces those artifacts on demand by domain and location.

Does the 2026 Joint Commission Physical Environment chapter change what we inspect?

The obligations remain familiar—safe environment, hazardous materials, life safety, utilities, water management, and related PE topics—but standard numbering and manual organization change. Re-label your checklist to PE structure so staff training, mock surveys, and tracer scripts match the 2026 hospital accreditation manual and reduce confusion during interviews.

Should our tool audit to NFPA 101-2012 or NFPA 101-2024?

For Medicare certification and Joint Commission life safety surveys, audit to the NFPA 101 edition CMS incorporates until federal adoption officially changes. Also audit to any newer NFPA edition your state or local AHJ enforces, and note conflicts explicitly. NFPA 101-2024 is the current NFPA publication; AHJ adoption varies, and CMS adoption follows federal rulemaking rather than automatic updates.

Pandemic Preparedness 2026: Updated Surge Capacity Standards, ASHRAE 241, and Infection Control Lessons Learned

Source: https://healthcarefacilityhub.org/pandemic-preparedness-surge-capacity-ashrae-241-infection-control-2026/
Published: April 1, 2026

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Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

Download the field sheet (PDF)

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Direct answer: Pandemic preparedness in 2026 is measured against permanent surge and ventilation capability—not a binder on a shelf. Hospitals align isolation and HVAC work with ANSI/ASHRAE Standard 241-2023 and ASHRAE 170, phase surge plans around a realistic 30–40% bed increase, and tie activation to CMS emergency preparedness requirements and Joint Commission emergency management and Physical Environment standards effective January 1, 2026.

Pandemic preparedness is the infrastructure, protocols, and operational capacity a healthcare facility maintains to expand clinical services when infectious disease demand spikes. In 2026 it means baseline isolation and ventilation that meet current codes, documented surge protocols tied to staffing and supply limits, infection control that scales without improvisation, and communication paths that keep cohorting intact.

On this page: ASHRAE 241-2023 and ASHRAE 170: ventilation baseline plus infection mode · Surge capacity planning with honest ceilings · Regulatory alignment checklist for 2026 · FAQ: Pandemic

preparedness and surge capacity

COVID-19 lessons: operational resilience, not crisis theater

COVID-19 exposed plans written for tabletop scenarios, not 72-hour operational decisions. Legacy HVAC could not reliably support airborne isolation. Just-in-time supply chains failed under simultaneous demand. Many systems with adequate licensed bed counts still stalled between 30% and 40% effective surge because staffing, equipment, lab throughput, and pharmacy capacity moved together—not one at a time.

Facility leaders now frame readiness as healthcare emergency preparedness and continuity: the ability to deliver care through overlapping shocks (pandemic, weather, mass casualty, supply disruption). That shift shows up in capital plans, not only in the emergency operations plan (EOP).

What actually changed in facility practice

- **Ventilation is clinical infrastructure.** Airborne transmission repositioned HVAC next to hand hygiene and isolation practice. Upgrades target higher outdoor air and filtration where patients concentrate, with isolation treated as a normal operating mode—not a retrofit after the fact. See healthcare HVAC systems for the full mechanical picture.
- **Surge is a system limit, not a bed count.** Extra ICU beds fail without nurses, ventilators, monitors, meds, and housekeeping throughput. Credible plans document cross-training, agency agreements, buffer stock, and convertible spaces. Healthcare surge capacity standards spell out how crisis standards of care intersect with physical capacity.
- **Supply redundancy beats heroic procurement.** Strategic buffers, dual sourcing, and state cache agreements matter more than warehouse volume alone.
- **Infection control must scale by design.** Protocols built for surge multiples—automation where it reduces touch points, clear cohorting logic, training on decisions—not only checklists—held up better under stress. Pair operational plans with infection control in healthcare facilities.

ASHRAE 241-2023 and ASHRAE 170: ventilation baseline plus infection mode

ASHRAE published Standard 241-2023, Control of Infectious Aerosols, in 2023. It sets minimum requirements to reduce risk from infectious aerosols in new and existing buildings, including an infection risk management mode with equivalent clean airflow targets. It complements—not replaces—ASHRAE 170 ventilation, pressure, and air changes for hospitals and outpatient surgical spaces referenced through the 2026 FGI Codes (released August 31, 2026).

Facility takeaways from Standard 241

- **Risk-based airflow and cleaning.** Requirements tie outdoor air, filtration, and air-cleaning to occupancy and operating mode—not a single ACH number for every room.
- **Isolation performance you can verify.** Negative-pressure airborne infection isolation rooms still depend on dedicated exhaust, HEPA where required by 170/FGI, and alarmed pressure monitoring—commissioned at startup and checked on a defined schedule.

- **Flexible surge isolation.** The standard contemplates temporary isolation using portable HEPA, exhaust strategies, and documented procedures when permanent AII rooms are exhausted—exactly the COVID lesson on convertible med-surg capacity.
- **Operations and maintenance.** Filtration maintenance, sensor checks, and mode-switch procedures belong in the written program, not in tribal knowledge.

Phased implementation most hospitals can fund

Phase 1 (2026): Bring existing AII rooms to current ASHRAE 170/FGI performance: exhaust paths, pressure alarms, filtration, and documented test results.

Phase 2 (2026–2027): Pre-identify med-surg and step-down rooms for surge isolation; pre-stage duct taps, electrical, and portable HEPA; drill activation with environmental services and nursing.

Phase 3 (2027+): Broader HVAC upgrades for higher outdoor air and MERV-13+ where 241 assessments show benefit—often bundled with energy and decarbonization projects.

Surge capacity planning with honest ceilings

Pre-COVID plans assumed 50–100% bed surges. Field experience and after-action reviews consistently pointed to friction above roughly one-third capacity growth. Updated planning models surge *by function*: ICU, med-surg, ED, OR, lab, pharmacy, and imaging each get their own ceiling.

Staffing flex—cross-training, supervision ratios, credentialing timelines—must appear in the same document as bed counts. Equipment buffers (ventilators, high-flow oxygen, monitors) should reference shared caches and sister-facility agreements. Laboratory and pharmacy workflows need explicit triage algorithms; they become the bottleneck before beds do.

CMS's Emergency Preparedness Rule (81 FR 63860, effective 2017, enforced through Conditions of Participation) still requires all-hazards EOPs, communication plans, training, and testing. Map surge triggers and resource requests to those documented procedures—see healthcare emergency operations plans and the CMS rule.

ICRA, construction, and pandemic operations

Running construction during patient care—or during surge—without an infection control risk assessment (ICRA) is a known failure mode. Barriers, negative-pressure enclosures, HEPA-equipped vacuums, and sequencing that protects AII pressure relationships are non-negotiable when pandemic cohorting is active. NFPA 101 life safety and NFPA 99 health care facilities codes still govern egress and utility risk during those projects; Joint Commission's 2026 Physical Environment chapter reorganizes environment-of-care expectations to track CMS more closely—worth a gap review against your ICRA templates.

Elective capital projects should defer when the facility is in sustained surge; urgent life-safety or mechanical work proceeds only under an explicit ICRA and with infection prevention sign-off.

Related on Continuity Hub: Healthcare continuity compliance: CMS emergency preparedness, Joint Commission, and HIPAA.

Regulatory alignment checklist for 2026

- **CMS CoPs and EP rule:** EOP, communications, training, two exercises per year (one community-based), after-action improvement—document how ventilation failures or supply gaps trigger escalation.
- **Joint Commission (hospitals):** Restructured emergency management standards and Physical Environment chapter effective January 1, 2026; align policy numbering and former Environment of Care and Life Safety crosswalks before survey.
- **FGI 2026:** Use the 2026 FGI Codes for new construction and major renovations; ventilation minimums continue to reference ASHRAE 170—coordinate infection-surge narratives in programming documents.
- **Evacuation interfaces:** Surge plans should state when evacuation overrides cohorting and how that decision is communicated through the incident command structure.

FAQ: Pandemic preparedness and surge capacity

Does a healthcare facility need permanent isolation rooms for every pandemic surge scenario?

No. ASHRAE 241-2023 assumes worst-case permanent AII inventory is not economically viable. Maintain baseline airborne isolation rooms to ASHRAE 170/FGI requirements, document convertible rooms, pre-stage portable HEPA and exhaust paths, and train teams on activation—so surge isolation is procedural and mechanical, not ad hoc plastic sheeting.

How much ventilation upgrade is necessary for pandemic readiness?

Prioritize true isolation spaces and high-acuity zones (ICU, ED, procedure recovery), then expand based on a 241 assessment of equivalent clean airflow—not a blanket maximum ACH everywhere. Most hospitals phase work over several capital cycles while still gaining meaningful risk reduction in year one.

What surge level should planners budget for?

Plan operations around roughly 30–40% total bed growth unless your system has verified staffing, supplies, and diagnostics beyond that. Higher numbers belong in catastrophic planning with crisis standards of care—not as the default operating target.

Should facilities stockpile PPE and critical equipment?

Hold strategic buffers for items with long lead times (ventilators, certain meds, oxygen delivery hardware). For consumable PPE, balance shelf life and storage cost against vendor redundancy and state/federal cache agreements rather than multi-year hoarding.

Where does ASHRAE 241 fit with ASHRAE 170 in hospitals?

170 remains the healthcare ventilation design standard referenced by FGI and CMS life-safety expectations for patient care areas. 241 adds building-wide infectious aerosol control concepts and infection risk management modes facilities can apply during outbreaks—implemented on top of 170-compliant clinical spaces, not instead of them.

Conclusion: preparedness as daily operations

Pandemic readiness in 2026 is visible in working isolation rooms, tested surge playbooks, and HVAC programs that survive survey and real activation. The capital and training costs are real; so are the costs of repeating 2020 with the same constraints. Treat ventilation upgrades, surge limits, and ICRA discipline as permanent operating

capability—not a compliance sprint before the next variant.

Related: Healthcare Emergency Preparedness: The Complete Professional Guide · Healthcare Surge Capacity: Mass Casualty, Pandemic, and Crisis Standards of Care

Continuous Compliance Monitoring: Real-Time CMS Survey Readiness and Technology-Enabled Healthcare Operations

Source: https://healthcarefacilityhub.org/continuous-compliance-monitoring-cms-survey-readiness-2026/
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Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Continuous compliance monitoring means your facility captures proof of CMS Conditions of Participation, state licensure, and accreditation requirements in the systems where work actually happens—EHR, work orders, LMS, incident reporting—not in a pre-survey binder. With unannounced and complaint-driven surveys, readiness is daily operations backed by auditable data, not a scramble when surveyors arrive.

Continuous compliance monitoring: Integrated tracking of healthcare code and regulatory compliance across CMS CoPs, state rules, and accreditor standards in near real time—so documentation, corrective action, and leadership review run continuously instead of before a survey window.

Why point-in-time survey prep fails in 2026

For years, compliance teams treated CMS surveys as a project: pull logs, retrain staff, patch the building, rehearse interviews. That worked when visits were predictable. It does not work when surveys are unannounced, complaint-triggered, or focused on how you use data—not whether a three-ring binder exists.

Surveyors already expect electronic evidence: barcode medication administration logs, completed environment of care rounds, competency records, and closed-loop work orders. The defensible posture is operational: the same workflows that keep patients safe produce the audit trail.

Regulatory frame: CMS, accreditors, and physical standards

Medicare-participating hospitals and many other providers live under CMS Conditions of Participation in 42 CFR Part 482 (and parallel CoPs for other provider types). Accredited organizations also map to The Joint Commission requirements; the Accreditation 360 platform and revised Performance Elements (PE) chapter alignment took effect January 1, 2026—plan for survey questions tied to documented performance, not checklist theater.

Physical environment and life safety still anchor to adopted codes: NFPA 101 Life Safety Code and NFPA 99 for healthcare facilities, ventilation design under ASHRAE Standard 170 (paired with FGI Guidelines 2026

where your state or project requires it), and equipment management practices aligned with AAMI and manufacturer PM programs. Continuous monitoring connects these domains to work orders, testing records, and capital plans—not separate “code binders.”

Systems that must talk to each other

Typical sources: facility management / CMMS, EHR and ancillary clinical systems, HR and LMS, quality and incident reporting, and credentialing. The compliance layer aggregates exceptions—overdue PM, open life-safety deficiencies, training gaps, unresolved patient-safety events—and routes them with owners and dates.

Environment of care and life safety evidence

CMS environment-of-care expectations cover what staff and patients touch daily: egress paths, fire and smoke barriers, emergency lighting, medical gas, water management, and infection-control-related physical conditions. Mobile rounds with photos, location, and standardized checkpoints beat quarterly walk-throughs that miss half the building.

When a clinician reports a ceiling stain or blocked corridor, the ideal path is one ticket: hazard logged, infection control or safety consulted if needed, repair tracked, and verification documented. That is the story surveyors want—especially if moisture ties to water damage remediation or mold response protocols.

Clinical and workforce compliance data

Medication administration, patient identification, and infection prevention generate high-volume evidence in the EHR. Use that stream for trending and targeted observation rather than random spot checks alone. LMS and HR systems should answer competency questions by role, unit, and renewal date without a pre-survey export marathon.

Incidents and complaints as early warning

Complaints, near misses, and serious events are compliance intelligence. Recurring themes—access to emergency equipment, wait times, credentialing delays—should trigger the same corrective-action discipline as a formal deficiency. Linking incident patterns to open work orders prevents “we never knew” findings.

Dashboards, thresholds, and escalation

Leadership needs a single view: CoP-related open items and age, round completion by zone, training currency by department, life-safety and PM backlog, and trend lines on harm events. Set thresholds (for example, round completion below target, critical PM overdue) with automatic escalation to department managers and the compliance committee. The goal is to fix gaps before CMS certification and compliance staff or accreditors do.

On Healthcare Facility Hub: Healthcare facility assessment ties physical condition, FCI, and regulatory risk into one planning picture.

Implementation phases (practical sequencing)

Phase 1: Inventory and integration

Map which requirements are cited most often locally and which systems already hold evidence. Prioritize API or export feeds from CMMS, LMS, and quality into one compliance workspace before buying another silo.

Phase 2: Mobile capture at the point of work

Deploy rounds, hazard reporting, and training on devices staff already carry. Sensors (hand hygiene, temperature, critical alarms) are optional accelerators, not prerequisites.

Phase 3: Automation and analytics

Automate alerts on overdue items; tune them with frontline feedback to avoid alert fatigue. Use trends to adjust staffing, training, and preventive maintenance—especially where deferred maintenance and open life-safety items drive survey risk.

Culture: survey-ready every day

Technology fails if staff still believe “compliance week” is when documentation counts. Executives should state plainly that unannounced readiness is the standard, fund integration and time for rounds, and hold leaders accountable for open items on the dashboard—not for PowerPoint readiness drills.

FAQ: Continuous compliance monitoring

What is continuous compliance monitoring for CMS survey readiness?

It is operating so that daily workflows in clinical, facilities, and HR systems continuously generate auditable evidence of CMS Conditions of Participation and related state and accreditor requirements—so an unannounced survey is a verification visit, not a reconstruction project.

How do environment of care rounds support continuous monitoring?

Structured mobile rounds with photos, locations, and corrective-action tracking produce a time-stamped record of inspections and repairs. That documentation demonstrates ongoing attention to physical safety and infection-control-related conditions surveyors review on walk-through.

Can smaller hospitals implement this without a massive platform purchase?

Yes, in phases. Most sites already have an EHR, CMMS, and incident reporting. Start with highest-risk domains, integrate exports or APIs, and add mobile rounds before enterprise analytics. Cloud tools lowered upfront cost versus legacy on-premise compliance suites.

If monitoring finds gaps, does documenting them increase liability?

Deficiencies exist whether or not you record them. Documented identification, remediation, and verification show good-faith compliance and quality improvement—far stronger than surveyors discovering unmanaged issues. Legal counsel should align privilege and reporting policies; operations should still close loops.

How does continuous monitoring relate to NFPA 101 and FGI requirements?

Life safety and design standards require maintained assemblies, tested systems, and appropriate ventilation and room layouts. Continuous monitoring ties inspection and PM records, capital projects, and round findings to those code bases so physical environment survey tags trace to closed work—not last-minute repairs.

Conclusion

Continuous compliance monitoring is how mature facilities align CMS survey readiness with real operations: integrated data, visible backlogs, and culture that treats every day as survey day. The investment is integration and discipline; the return is fewer surprises, less pre-survey burnout, and safer care.

Healthcare Cybersecurity and Medical Device IoT Security: NIST Framework, FDA QMSR, and CMS Compliance in 2026

Source: https://healthcarefacilityhub.org/healthcare-cybersecurity-medical-device-iot-nist-fda-qmsr-2026/
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Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Healthcare facilities must protect connected medical devices with an inventory-driven program aligned to FDA device cybersecurity expectations (including QMSR for manufacturers), HIPAA and HHS cyber hygiene, and CMS all-hazards emergency preparedness—not a standalone device cyber CoP. Use NIST CSF 2.0 and IoT guidance (SP 800-213 series) for requirements language, segment clinical networks, enforce MFA on device administration, and monitor device traffic continuously.

Healthcare cybersecurity (facility view): Controls and governance that keep hospital information systems, building systems, and networked biomedical equipment available, confidential, and trustworthy. **Medical device IoT security** is the subset covering ventilators, pumps, monitors, imaging systems, and lab gear that share your LAN, Wi-Fi, or vendor tunnels—where weak authentication or delayed patching can disrupt care or expose PHI.

What Changed by Late 2026

The FDA Quality Management System Regulation (QMSR) has been in force since February 2, 2026. It replaces the legacy Quality System Regulation by incorporating ISO 13485:2016 by reference for manufacturers—not a new hospital CoP, but a sharper lens on how vendors document design, risk, and postmarket controls, including software lifecycle discipline you will see in security bulletins and update packages.

On the facility side, CMS hospital Conditions of Participation still do not spell out networked-device cybersecurity as a discrete standard. CMS does expect cyber threats to appear in all-hazards emergency operations planning, and surveyors can follow threads through the Environment of Care, medical records, and emergency preparedness when outages touch clinical workflows. Map those threads to the broader healthcare regulatory compliance framework—CMS CoPs, Joint Commission expectations, and adopted NFPA codes—before surveyors connect the dots for you. Accreditors such as The Joint Commission continue to

tighten EC and IM expectations; treat survey prep as crosswalk work, not an IT side project.

Patient safety teams should assume a ransomware or device-compromise event is both a HIPAA incident and a clinical operations incident. That integration is the operating reality in 2026, not optional paperwork.

NIST Frameworks: CSF 2.0 and the SP 800-213 Series

Do not treat NIST SP 800-213 (final, November 2021) as a medical-device-only standard. It is federal IoT cybersecurity guidance—how agencies define device cybersecurity requirements when procuring connected products. NIST began a five-year refresh in 2025; check CSRC for any revised publication before you cite edition dates in policies.

For hospitals, the practical stack is:

- **NIST Cybersecurity Framework 2.0** for program structure (Govern, Identify, Protect, Detect, Respond, Recover).
- **SP 800-213 and SP 800-213A** for translating controls into device capability and vendor-support language during RFPs and contract reviews.
- **FDA premarket and postmarket cybersecurity guidance** (including expectations for cyber devices under FD&C Act section 524B) when you evaluate what manufacturers must deliver.

Map these to operational tasks your biomed and IT teams already own: authoritative device inventory, vulnerability intake from FDA and CISA alerts, network segmentation, and documented exceptions where patching waits on clinical validation.

FDA QMSR, ISO 13485, and What Hospitals Should Verify

QMSR enforcement lands on manufacturers first. Your leverage is procurement and postmarket surveillance:

Procurement and contracting

Ask for SBOM or component disclosure where available, coordinated vulnerability disclosure contacts, patch cadence, and whether updates are FDA-submitted when required. ISO 13485:2016 stresses risk-based QMS design; cybersecurity evidence should appear in quality records, not marketing PDFs alone.

Postmarket monitoring

Facilities remain responsible for safe use. Cyber failures that harm or could harm patients still belong in your incident and FDA Medical Device Reporting workflows when they meet reporting criteria. A building-system intrusion that reaches clinical VLANs is an enterprise risk event—document how HVAC, access control, and clinical networks intersect in your facility condition and capital planning risk registers, not only in IT tickets.

Patch and validation timing

You cannot defer patches forever without a written risk acceptance. Align maintenance windows with biomed validation steps, capture rollback plans, and store change records where continuous compliance monitoring teams can produce them during a survey, consistent with the document retention patterns described in Healthcare Regulatory Compliance: The Complete Professional Guide (2026).

Threat Patterns Facility Managers See

Attackers still prioritize healthcare for ransom and data theft. CISA and sector ISACs routinely warn on edge devices, remote access, and unsegmented clinical networks. Common device-side gaps include default credentials, cleartext maintenance interfaces, missing mutual authentication, shared third-party libraries across models, and no local anomaly logging when hospital SIEM coverage is thin.

Legacy pumps, analyzers, and surgical platforms often went online for convenience without a security budget. Compensating controls—VLANs, NAC, one-way gateways, and strict vendor VPN terms—are usually the only short-term option until replacement hits the capital queue.

Technical Controls That Hold Up in Surveys and Audits

Encryption and network placement

Require modern TLS for cloud and vendor sessions where the device supports it. Where it does not, isolate the asset, restrict peers, and document why upgrade or retirement is scheduled. Prefer WPA3-Enterprise or wired-only profiles for wireless clinical gear when the manufacturer certifies it.

Administrative access and MFA

Any interface that changes therapy parameters, firmware, or network settings should require individual accounts and MFA through your hospital IAM program. Shared biomed passwords fail both HIPAA access-control expectations and common accreditor interviews.

Continuous monitoring

Passive discovery plus NetFlow or mirror-based analytics beats quarterly scans alone. Flag new external destinations, lateral movement from office VLANs, and after-hours configuration changes on high-consequence devices. Pair SIEM or MDR with a clinical engineering escalation path—not a midnight email to a generic SOC queue.

Incident Response Tied to Patient Safety

Pull cybersecurity events into the same command structure as code events and utility failures. Escalate to clinical leadership when device availability or integrity is in doubt. Recovery playbooks should list devices that cannot reboot during active cases and vendors who must approve emergency patches.

Exercise cyber scenarios inside your emergency preparedness program alongside power loss and water disruption. After-action items should feed capital planning, training, and state survey corrective-action tracking when gaps surface.

2026 Roadmap for Facility Leaders

Inventory (complete first): Model, firmware, OS, connectivity, VLAN, patch history, owner, and clinical criticality for every networked device.

Gap assessment: Score each category against NIST CSF functions and FDA cybersecurity guidance; prioritize high-consequence therapy devices.

Implement: Segment clinical networks, deploy MFA for device admins, stand up continuous monitoring on critical subnets, and rewrite vendor contracts with update SLAs.

Sustain: Monthly governance with biomed, IT, privacy, and safety; tie metrics to budget and survey readiness.

FAQ: Medical Device Cybersecurity and CMS/FDA Alignment

Does CMS require a dedicated medical device cybersecurity standard on Medicare surveys?

No. CMS CoPs do not list networked-device cybersecurity as its own requirement. Surveyors may still review cyber-related preparedness under emergency preparedness and Environment of Care when you tie threats to patient care, records, or utilities. Accreditors may probe more deeply—keep evidence organized.

How does FDA QMSR change hospital procurement in 2026?

QMSR governs manufacturer quality systems under 21 CFR Part 820. Hospitals should require proof of QMSR-aligned processes from vendors: risk management, design controls, complaint handling, and documented software update paths. Your contracts should preserve right-to-audit and vulnerability notification clauses.

Which NIST publications should we cite for connected devices?

Use Cybersecurity Framework 2.0 for the overall program. Use SP 800-213 and SP 800-213A for IoT procurement language and control traceability. Pair them with FDA device cybersecurity guidance—not SP 800-213 alone as a "medical device standard."

What if legacy devices cannot meet current encryption or patching expectations?

Document a formal risk assessment, implement compensating controls (segmentation, monitoring, access limits), set a retirement or replacement date, and have leadership sign the exception. Review at least annually and before surveys.

Who owns medical device cybersecurity day to day?

It is shared. The CISO or IT security lead sets network and monitoring standards; clinical engineering owns inventory and patches; privacy leads HIPAA breach analysis; patient safety ties incidents to care impact. A standing committee with decision authority beats ad hoc email chains.

Conclusion

2026 is less about a single new hospital rule than synchronized pressure: manufacturers under QMSR, patients on networked devices, and surveyors who connect cyber failures to preparedness and safety. Facilities that inventory devices honestly, segment networks, monitor continuously, and document exceptions will weather audits better than those chasing compliance after an outage.

Regulatory Compliance: Expert Video Analysis

Source: https://healthcarefacilityhub.org/video-regulatory-compliance/ Published: March 18, 2026

Home / Regulatory Compliance / Video

Updated September 30, 2026.

Read the complete guide: Healthcare Regulatory Compliance: The Complete Professional Guide (2026)

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

Download the field sheet (PDF)

Email it to me instead

The Joint Commission accredits hospitals and many other healthcare organizations through unannounced surveys against published standards that align with CMS Conditions of Participation, life safety codes, and infection control expectations. Facility managers prepare by keeping documentation current, running mock tracers, and closing gaps in the physical environment before surveyors arrive. This video walks through accreditation basics, survey prep, and how teams should embed standards in daily work—not just before a visit.

What Is The Joint Commission? Accreditation, Standards & Survey Prep for Healthcare Teams

Channel: nurselyf **Published:** 2025-05-25 **Views:** 2,036

Video Source: *What Is The Joint Commission? Accreditation, Standards & Survey Prep for Healthcare Teams* by nurselyf

URL: https://youtube.com/watch?v=_iQIaPeSxAw

Published: 2025-05-25 | **Views:** 2,036

Why This Matters

Joint Commission accreditation remains a widely recognized mark of quality and safety for hospitals and many ambulatory programs. Surveys are unannounced and tracer-based: surveyors follow patients, staff, and equipment through your building and your paperwork. Lose accreditation or accumulate unresolved findings and you risk payer contracts, referral relationships, and staff morale. As of January 1, 2026, hospitals also work under the updated Physical Environment chapter within Joint Commission Accreditation 360—worth lining up with your Accreditation 360: 2026 Physical Environment Standards checklist before the next survey window.

Key Moments

Video timestamps for major topics discussed:

Time	Topic
0:00 – 1:30	Introduction and overview
1:30 – 5:00	Key concepts and main discussion
5:00 – 10:00	Best practices and implementation strategies
10:00+	Conclusion and next steps

Healthcare Facility Standards & Resources

Accreditation surveys crosswalk clinical care, environment of care, and life safety. These references show up repeatedly in tracer questions and plan-of-correction work:

- **Joint Commission:** Accreditation 360 standards (including 2026 Physical Environment updates)
- **CMS:** Conditions of Participation for hospitals and critical access hospitals
- **NFPA:** NFPA 101 Life Safety Code and NFPA 99 Health Care Facilities Code (adopted edition per CMS and local AHJ)
- **ASHRAE:** Standard 170 ventilation for health care facilities
- **FGI:** 2026 Guidelines for Design and Construction (design basis for many PE findings)
- **ASHE:** Compliance and regulatory toolkits for facility leaders

Key Takeaways

- Accreditation validates systems—not a binder you pull out once every three years
- Mock surveys and gap analysis should start months ahead of your anticipated survey period
- Physical environment, utilities, and infection prevention tie directly to NFPA 101 and NFPA 99 expectations on most Medicare-certified campuses
- Every department owns tracers: nursing, pharmacy, EVS, and engineering included
- Leadership rounds and visible corrective action matter as much as policy language
- After accreditation, keep the same cadence for environment of care rounds and documentation

Expert Analysis

I have watched too many teams treat Joint Commission prep as a documentation sprint. Surveyors read the building. Exits clear, fire doors latched, medical gas shutoffs labeled, interim life safety measures documented when construction is active—that is the work. Pair this video with your own tracer: pick a patient path from ED to inpatient unit and note every handoff where a standard could break.

On the regulatory stack, CMS CoPs set the floor for Medicare participation. The Joint Commission equivalency path still demands proof that your program meets those outcomes. Life safety and emergency management chapters pull from the NFPA edition your state and CMS recognize; do not assume the 2012 code set forever. Ventilation and pressurization questions increasingly reference ASHRAE 170. Sterile processing and equipment questions may cite AAMI standards your clinical engineering team already uses for PM cycles.

Design and renovation projects should be checked against the FGI Guidelines 2026 Edition early so you are not explaining after-the-fact waivers during a survey. State licensure surveys run on a different calendar but overlap on infection control and physical plant items—see State Health Department Surveys: Preparation and Corrective Action for parallel prep. For a wider map of codes and accreditors, use the Healthcare Code Compliance: Complete Guide.

Industry Standards & Guidelines

Organization	Standard/Guideline	Reference
Joint Commission	Accreditation 360 (2026 Physical Environment chapter)	jointcommission.org
CMS	Conditions of Participation	cms.gov
NFPA	NFPA 101 / NFPA 99 (adopted edition)	nfpa.org

Organization	Standard/Guideline	Reference
ASHRAE	Standard 170 (ventilation of health care facilities)	ashrae.org
FGI	2026 Guidelines for Design and Construction	fgi-guidelines.org
ASHE	Facility compliance and regulatory resources	ashe.org

Related Reading on Healthcare Facility Hub

More on regulatory compliance and the physical plant:

- State Health Department Surveys: Preparation and Corrective Action
- Accreditation 360: 2026 Physical Environment Standards
- Healthcare Code Compliance: Complete Guide

Resources from Related Networks

ASHE: Compliance & Regulatory Resources

Frequently Asked Questions

How does Joint Commission accreditation differ from state licensing and CMS surveys?

State licensing sets mandatory minimums for operating legally. CMS surveys enforce Conditions of Participation when you bill Medicare or Medicaid. Joint Commission accreditation is voluntary for many organizations but is often contractually required; its tracers stress continuous readiness rather than a single licensure visit. Findings in one program frequently surface again in another, so align corrective actions once.

What should facility managers prioritize for Accreditation 360 Physical Environment in 2026?

Focus on provable life safety performance: fire barriers and doors, egress paths, utility shutdown labeling, medical gas and vacuum integrity, and construction risk assessments with ILSM when you affect rated assemblies. Cross-check policies against the January 1, 2026 Physical Environment chapter requirements and your own drawings. If documentation and field conditions disagree, fix the field condition first.

How far in advance should we run mock surveys?

Start structured gap analysis three to six months before your typical survey window. Run a full mock tracer six to eight weeks out, then again after major corrective work. Include night and weekend shifts; surveyors do. Close loops on work orders, PM backlogs, and permit-to-work packages tied to active projects.

Where do NFPA 101 and NFPA 99 show up during accreditation?

They underpin Environment of Care and Emergency Management expectations for egress, fire protection features, electrical systems, and medical gas installations. Surveyors compare what they see in corridors and mechanical spaces to your policy statements and inspection logs. Know which NFPA edition your state and CMS reference and train staff to that edition, not an outdated cheat sheet.

What happens if we receive deficiencies during a survey?

You submit evidence-based plans of correction with responsible owners and dates. Severity drives timelines—immediate threat to life requires urgent mitigation. Repeat or systemic findings can escalate to accreditation decisions. Track each item to verified closure and feed lessons into rounds so the same gap does not reopen before the next tracer.

How long does Joint Commission accreditation last?

Full accreditation cycles are typically three years for most hospital programs, with unannounced surveys within that window. Continuous compliance expectations apply between surveys; brief focused reviews may occur when risk signals warrant. Treat the month after survey the same as the month before—standards slip when teams stand down.

William Tygart, Healthcare Facility Hub. Video analysis for facility leaders managing accreditation, codes, and survey readiness.

Hvac Systems: Expert Video Analysis

Source: https://healthcarefacilityhub.org/video-hvac-systems/ Published: March 18, 2026

Read the complete guide: Healthcare HVAC Systems: The Complete Professional Guide (2026)

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

Download the field sheet (PDF)

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Updated September 30, 2026.

Direct Answer: This beginner video walks through air handlers, filtration, coils, fans, chillers, and makeup-air versus recirculation layouts—the same plant hospital operators maintain. Acute-care compliance still rests on adopted ANSI/ASHRAE/ASHE Standard 170 ventilation, pressure relationships, and humidity for each space, plus CMS Conditions of Participation and The Joint Commission Accreditation 360 Physical Environment chapter (effective January 1, 2026). Use the clip for vocabulary; use your 170 inventory and TAB files for survey-ready proof.

Home / HVAC Systems / Video

Source video: HVAC Systems Explained: Components, Functionality & Benefits (Mr. SMART Engineering, YouTube, March 2024)

Video source: *HVAC Systems Explained: Components, Functionality & Benefits* by Mr. SMART Engineering **URL:** https://youtube.com/watch?v=tRB9gyXitGk **Published on YouTube:** March 2024

Why this matters in healthcare facilities

Hospital HVAC is patient-safety infrastructure. Supply air temperature, relative humidity, filtration, and room pressure differentials support infection control in healthcare facilities, protect sterile work in surgery and sterile processing, and keep staff in code-compliant environments. A chiller trip or a damper stuck open is not a

comfort complaint—it is an environment-of-care event with survey and liability exposure. The video shows generic commercial components; your job is mapping those components to the spaces on your ASHRAE 170 ventilation and pressure-relationship inventory and proving they still perform after every filter change and control edit.

Topics covered in the video

The source video does not publish chapter timestamps; topics below follow the on-screen sequence.

Segment	Topic
Opening	Role of heating, ventilation, and air conditioning in occupant comfort
Core terms	AHU components: dampers, filtration, cooling and heating coils, fans, humidifiers, mixing
Large buildings	Makeup-air units versus recirculation units when one AHU is insufficient
Plant	Chillers, refrigeration cycle, air-cooled versus water-cooled condensing, cooling towers
Close	Summary of how conditioned air is produced and delivered

Standards and guidance to pair with the video

Map generic HVAC vocabulary to the editions your AHJ and accreditation program enforce:

- **ASHRAE / ASHE:** ANSI/ASHRAE/ASHE Standard 170 (2025 edition commonly referenced with new FGI adoptions) for healthcare ventilation and pressure relationships
- **ASHRAE:** ANSI/ASHRAE Standard 188 for Legionella risk management in building water systems tied to humidifiers, cooling towers, and condensate paths—see also Legionella water management programs on Healthcare Facility Hub
- **FGI:** 2026 FGI Codes for Planning and Design (Hospital, Outpatient, Residential) with companion digital Handbooks for explanatory material
- **CMS:** Conditions of Participation—hospital environment of care and physical plant expectations
- **The Joint Commission:** Accreditation 360 unified Physical Environment chapter effective January 1, 2026 (consolidated former Environment of Care and Life Safety numbering)
- **NFPA:** NFPA 101 and NFPA 99 as adopted locally for life safety and essential system interfaces with HVAC

Key takeaways for facility managers

- The video’s AHU–chiller story is the same plant your operators maintain; healthcare adds room-level performance proof under Standard 170.
- Airborne infection isolation rooms need controlled negative pressure; operating and sterile spaces need positive pressure and filtration detail covered in our operating room HVAC guide.
- Humidity control protects materials, equipment, and condensation-sensitive infection-control housekeeping—not only comfort setpoints.

- Filter upgrades and coil fouling change fan capacity; reverification belongs in your commissioning and TAB file, not in a one-time turnover binder.
- Water-side equipment connects to ASHRAE 188 programs; air-side equipment connects to 170 tables—keep both files current.
- For plant reliability, redundancy, and survey documentation beyond this clip, use the complete professional guide linked below.

Expert analysis

I use beginner explainers like this one in orientation for non-mechanical leaders. The animation correctly ties comfort to central plant equipment: filtration stages, coils, supply fans, chilled-water generation, and the split between makeup air and recirculation in large footprints. None of that replaces your adopted design basis.

In acute care, the same hardware must deliver 170 minimum air changes, pressure relationships, and filtration for each space type—commonly ANSI/ASHRAE/ASHE Standard 170-2025 on new FGI 2026 hospital work, with older wings on the edition enforced at approval. Sterile processing cascade logic still pairs AAMI ST79 workflow with HVAC pressure and humidity control.

Accreditation 360 reorganized, not relaxed, physical environment work. From January 1, 2026, former Environment of Care and Life Safety HVAC-related items sit in the unified Physical Environment chapter, mapped to CMS Conditions of Participation—pair that chapter with our healthcare regulatory compliance videos on CMS, Joint Commission, and NFPA when training non-mechanical leaders. Survey evidence is PM on 170-serving air handlers, filter DP logs, OR and isolation alarm tests, essential-fan generator exercises, and updated balance reports after duct or control work.

Higher-efficiency filtration and portable HEPA deployments still require capacity checks and clear exhaust paths so corridors keep intended pressure relationships. Train mechanics on healthcare sequences of operation, not only commercial rooftop presets.

Related reading on Healthcare Facility Hub

- Healthcare HVAC Systems: The Complete Professional Guide (2026)
- Healthcare Regulatory Compliance Videos: CMS, Joint Commission & NFPA

Key terms

ACH: Air changes per hour—ventilation rate metric tied to 170 room tables.

AHU: Air handling unit—central assembly of filters, coils, fans, and controls shown in the video.

AIIR: Airborne infection isolation room—typically negative pressure relative to adjacent spaces.

MERV: Minimum efficiency reporting value—filter performance rating; higher values capture finer particles when fan capacity allows.

MAU / RCU: Makeup-air unit and recirculation unit—split system approach for large loads described in the video.

170: Shorthand for ANSI/ASHRAE/ASHE Standard 170 used throughout healthcare ventilation design.

Frequently Asked Questions

Why do hospital HVAC systems differ from commercial office HVAC?

Healthcare HVAC must deliver ventilation, filtration, humidity, and room pressure relationships that support infection control and clinical care—not just comfort. Spaces such as airborne infection isolation rooms, operating suites, and sterile processing depend on documented pressure differentials and airflow patterns under ANSI/ASHRAE/ASHE Standard 170, adopted through your FGI edition and AHJ. A typical office rooftop unit does not carry that room-by-room compliance burden.

What is the difference between negative-pressure and positive-pressure rooms?

Negative-pressure rooms pull air inward at the door so contaminants stay contained—used for many AIIR designs. Positive-pressure rooms push clean air outward to protect a sterile or protected zone, such as an OR suite or protective environment. Both require controlled supply and exhaust, monitored differentials, and periodic testing; the signs on the doors are not the control strategy.

How often should we service and rebalance healthcare HVAC serving 170 spaces?

Follow manufacturer PM intervals, your CMMS program, and risk ranking for the spaces served. Many organizations run quarterly PM on critical air-handling equipment, annual structural inspections, and air balance verification after filter upgrades, control changes, or construction. Tie reverification to your commissioning file whenever contractors alter ducts, boxes, or setpoints.

Which code editions apply to our campus in 2026?

It depends on the wing and the authority having jurisdiction. New design commonly references the 2026 FGI Codes with ANSI/ASHRAE/ASHE Standard 170-2025 through that adoption path; existing areas often remain under the FGI/170 edition enforced when they were built until renovation or AHJ action triggers upgrade. Accredited hospitals also align evidence with CMS Conditions of Participation and The Joint Commission Accreditation 360 Physical Environment chapter, effective January 1, 2026. NFPA 101 and NFPA 99 apply as adopted locally for life safety and essential systems interfaces.

Can we use this beginner video as compliance training?

Use it to orient non-mechanical staff to terms—AHU, chiller, ventilation—but not as your compliance basis. Pair it with your adopted 170 room inventory, current TAB reports, alarm response policies, and the Healthcare Facility Hub guides on ASHRAE 170 design, operating room HVAC, and infection control. Surveyors want evidence the built environment still matches your approved balance data.

FGI Guidelines for Healthcare: 2022 vs 2026 Codes, Room Sizes, and Compliance

Source: https://healthcarefacilityhub.org/fgi-guidelines-healthcare-facility-design-2026-edition-compliance/
Published: March 18, 2026

Updated September 30, 2026.

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This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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This page as a book for your AI – the full guide, the key numbers and rules, and instructions your bot can run with, including what it should ask you first. Upload it to your assistant and work the problem together.

Download the book for your bot (PDF)

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Direct Answer: FGI documents are not a building code by themselves. They become enforceable when a state licensing authority, building official, CMS-related survey path, or Joint Commission surveyor applies an adopted edition. Many active projects and licenses still reference 2018 or 2022 Guidelines. The 2026 cycle separates FGI Codes for Planning and Design (minimum requirements written for adoption) from FGI Handbooks for Planning and Design (advisory guidance and commentary). Purchase or subscribe through official FGI channels at fgicodes.org—do not rely on unofficial PDFs.

Facility managers live at the intersection of editions: the FGI cycle on the permit, the NFPA 101 life safety code for healthcare edition your Medicare-deemed survey uses, the ASHRAE 170 ventilation standard your AHJ enforces, and state licensure rules that may name FGI by edition. This article explains the 2026 split, how to confirm which edition binds you, and where compliance usually breaks down—without reprinting FGI room-area or air-change tables.

On this page: FGI 2026: Codes versus Handbooks · Which FGI edition is your facility on? · Common compliance traps **Go deeper:** FGI Codes — the official site

FGI 2026: Codes versus Handbooks

For decades, the Facility Guidelines Institute published the FGI Guidelines as combined documents: minimum requirements plus extensive appendix commentary in one binding. Beginning with the 2026 edition, FGI reorganized that material into two product lines, as described on fgicodes.org and in FGI Bulletin #30.

FGI Codes for Planning and Design

The 2026 FGI Codes contain minimum planning and design requirements for hospitals, outpatient facilities, and residential care and support settings. These are the provisions intended for adoption into state codes, agency rules, and project specifications. When an AHJ says “meet FGI,” they mean the Code edition they have formally referenced—not every paragraph in a designer’s Handbook subscription.

FGI Handbooks for Planning and Design

The Handbooks carry explanatory material: diagrams, planning considerations, clinical context, and commentary that previously lived in appendices. FGI positions Handbooks as companion resources for teams who need to interpret intent. Handbook language helps you design; it does not create a new enforceable minimum unless the same text is adopted inside the Code or your AHJ’s amendment package.

Why the split matters on the job site

During plan review disputes, contractors and clinicians often cite “FGI says” without naming Code versus Handbook. After 2026, that ambiguity has teeth. Facility managers should insist that basis-of-design documents, owner’s project requirements, and compliance matrices tag each requirement as Code-minimum or Handbook-advisory. That single habit prevents change orders driven by non-binding graphics and keeps survey prep focused on adopted minimums.

FGI also introduced digital access models (including FGI OneSource) alongside print Codes. Handbooks are subscription-based and embed the full Code text for subscribers. Budget for licenses the same way you budget for NFPA and ASHRAE seats—shared logins on construction projects create audit gaps.

2022 Guidelines versus 2026 Codes: what actually changed for you

The 2022 FGI Guidelines remain valid wherever still adopted. The 2026 Codes revise minimum requirements through FGI’s consensus process; they do not automatically supersede 2022 in your state or on your existing certificate of occupancy. Treat edition change like any code cycle: follow the edition on the building permit and licensure file unless a formal AHJ migration date exists.

Compared with 2022, expect 2026 to refine space-type definitions, update cross-references to contemporary clinical practice, and align naming with ANSI/ASHRAE/ASHE Standard 170-2025 space types where FGI and ASHE coordinated updates. You still verify room sizes and ventilation per the adopted FGI edition *and* the ASHRAE 170 edition referenced by that FGI edition and your state—those three pointers must match on inpatient ORs, isolation rooms, sterile processing, and behavioral health suites.

This page does not reproduce FGI square-footage or air-change tables. Those values are edition-specific, occupancy-specific (Hospital 2.x versus Outpatient 3.x versus Residential 4.x), and tied to named space types. To read them correctly: open the adopted Code volume, locate the space by its official FGI name (not a hospital nickname), read the minimum room area and configuration requirements in the chapter for that space type, then cross-check ventilation in ASHRAE 170 Table 7-1 (or the outpatient/residential tables) for the same space label. If the names do not align, stop and reconcile with your engineer before drywall closes.

Which FGI edition is your facility on?

Ask four sources and reconcile conflicts early.

State licensure and facility standards

Many states incorporate FGI by reference in hospital, nursing home, or ambulatory surgical center rules. The licensing agency’s administrative code or design manual usually names an edition (2018, 2022, or—once rulemaking completes—2026). That edition governs new construction and often major renovation thresholds even when your corporate standard is newer.

Building permit and recorded plan set

The edition stamped on the approved architectural plans typically controls area and layout for that project. A 2014 wing reviewed under 2010 Guidelines does not retroactively become 2022 because the main tower renovated later. Maintain a simple campus map by building segment and FGI edition—surveyors compare drawings to observed conditions.

Accreditation and CMS-deemed survey paths

Medicare Conditions of Participation do not replace FGI wholesale; they drive life safety, emergency preparedness, and physical environment expectations through crosswalks and surveyor guidance. The Joint Commission's Accreditation 360 Physical Environment standards, effective January 1, 2026, reorganize how environment-of-care expectations are documented—not a free pass to ignore state FGI adoption. Deemed-status hospitals still coordinate TJC findings with CMS life safety requirements. See our healthcare regulatory compliance videos on CMS, Joint Commission, and NFPA and our healthcare code compliance guide for how layers stack.

Internal capital standards

Health systems sometimes specify "latest FGI" in internal design manuals while licensed under an older adopted edition. The stricter applicable requirement wins for compliance; the internal standard wins for capital planning. Document which governs when they differ.

How FGI interacts with NFPA 101, ASHRAE 170, and ICRA

FGI answers "what spaces exist and how big/configured must they be." Other standards answer adjacent questions. None of them substitutes for the others.

NFPA 101 Life Safety Code

Egress, fire barriers, smoke compartments, suites, and occupancy classification flow from NFPA 101. CMS-certified providers remain surveyed under NFPA 101-2012 and NFPA 99-2012 Health Care Facilities Code unless and until CMS completes a rulemaking to update those references; NFPA's current published Life Safety Code edition is 2024. State and local fire marshals may enforce newer editions on permits concurrently. A corridor width that satisfies FGI still fails if it violates the Life Safety Code chapter your AHJ enforces. Keep your life safety drawings and inspection records aligned with the NFPA 101 chapter enforced on your survey path when bridging fire marshal and licensure reviews.

ANSI/ASHRAE/ASHE Standard 170

Ventilation rates, pressure relationships, filtration, and exhaust separation come from Standard 170. The current ANSI edition is 170-2025; many jurisdictions and active 2022 FGI projects still reference 170-2021 (apply published errata). ASHE notes that AHJs enforce different 170 editions simultaneously—confirm yours before accepting TAB reports. FGI sets spatial prerequisites (e.g., anteroom presence); 170 sets air parameters. Commissioning evidence must match the 170 edition on the mechanical basis of design.

Infection control during construction

FGI and ASHRAE 170 Section 10 address ventilation during construction; they do not replace an ICRA-driven healthcare construction program. Facility managers chair the risk assessment, enforce barrier integrity, and tie ILSM measures to life safety when interim conditions differ from approved drawings. Treat ICRA as operational law during renovation regardless of which FGI edition the finished project targets.

Your compliance role: design, construction, and survey

Design and preconstruction

Insert owner's representatives into the compliance matrix early. Require architects and engineers to list FGI Code edition, NFPA edition for fire/smoke, ASHRAE 170 edition, and applicable NFPA 99 systems chapters

on sheet one. Challenge value-engineering that removes anterooms, shrinks soiled holding, or merges support zones without a formal equivalency approved by the AHJ.

Construction and turnover

Walk the job with infection prevention before above-ceiling work. Verify room names on HVAC drawings match FGI space types and 170 tables. Incomplete airflow verification at turnover is a leading source of post-occupancy pressure failures. Align TAB and functional testing with the 170 edition cited on the permit, not whichever report template the vendor keeps on file.

Survey and ongoing operations

Surveyors trace observable conditions to the edition that governed approval. Maintain as-built drawings, door inspection records, pressure logs for critical rooms, and evidence that infection control policies match built environment. Under Joint Commission Accreditation 360, environment-of-care documentation expects clearer linkage between standards, risks, and corrective actions—prepare crosswalks with our regulatory compliance video breakdowns for facility teams before the tracer, not during it.

Common compliance traps

- **Edition drift:** Design to 2026 Code while the permit and license remain 2022 without an AHJ-approved migration path.
- **Handbook cited as Code:** Treating Handbook commentary or best-practice diagrams as mandatory minimums in contracts.
- **Nickname spaces:** Labeling rooms on drawings with hospital slang that does not map to FGI/170 space types, hiding missing area or ACH.
- **Split-campus confusion:** Applying one FGI edition campus-wide when wings were approved under different cycles.
- **170/FGI mismatch:** Using 170-2025 TAB criteria on a 2022 FGI/170-2021 permitted project (or the reverse) without engineer sign-off.
- **Life safety blind spot:** Resolving only FGI room sizes while smoke compartment size, suite boundaries, or egress paths violate the NFPA 101 edition enforced on your CMS or state survey.
- **Renovation amnesia:** Opening ceilings under ICRA without updating life safety interim measures when egress or fire alarm zones change.

Frequently asked questions

Are FGI documents building code by themselves?

No. FGI publishes consensus planning and design requirements; they become enforceable only when an authority having jurisdiction, state licensure rule, or applicable accreditation crosswalk adopts a specific edition. Until adoption, treat FGI as the reference your designers use—not automatic law.

Do 2026 FGI Codes automatically replace the 2022 Guidelines at my hospital?

No. The edition on your permit, licensure citation, and AHJ adoption notice controls. Moving to 2026 requires explicit adoption through state rulemaking or project-specific approval—not the publication date on FGI’s

website.

Where do I find minimum room sizes and ventilation rates?

In the adopted FGI Code volume for your occupancy type, under the official space-type name, then in the ASHRAE 170 tables for the edition referenced by your project and AHJ. Do not use summary blogs or old appendix PDFs; values change by edition and space label.

Does CMS enforce FGI directly?

CMS Conditions of Participation focus on health and safety outcomes, life safety, and operational requirements rather than serving as a national FGI adopter. State agencies and accreditation organizations bridge FGI into surveys. Medicare-certified life safety remains tied to adopted NFPA editions referenced in CMS rules—currently NFPA 101-2012 for survey purposes—not the latest NFPA print edition.

Which ASHRAE 170 edition should match my FGI edition?

Follow the 170 edition cited on the mechanical design basis, state rules, and the FGI edition's cross-references for new work. ANSI/ASHRAE/ASHE Standard 170-2025 is the current publication; many 2022 FGI projects still use 170-2021 with errata. Ask your AHJ and engineer to confirm; do not assume "latest" applies to an in-flight permit.

What should facility managers verify before a physical environment survey?

Match observed rooms to permitted drawings and space-type names, confirm critical pressurized rooms are within policy, reconcile open construction ICRA and ILSM documentation, and ensure life safety documentation (doors, smoke barriers, egress) aligns with the NFPA 101 edition enforced on your survey path—not only FGI room sizes.

Related reading: What Are the FGI Guidelines for Healthcare Facilities? — the definitional hub for the Guidelines behind this design guide

Related reading: How to Access the FGI Guidelines for a Design Project — official access routes for the adopted edition

Related reading: How FGI Guidelines Affect Hospital Renovation Projects — the renovation-scope application of the Guidelines

NFPA 99 Health Care Facilities Code: Risk-Based Approach to Medical Gas, Electrical, and Fire Systems

Source: https://healthcarefacilityhub.org/nfpa-99-health-care-facilities-code-risk-based-medical-gas-electrical/
Published: March 18, 2026

Updated September 30, 2026.

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Direct answer: NFPA 99, Health Care Facilities Code, assigns risk categories to healthcare spaces and sets minimum performance for medical gas and vacuum, electrical and emergency power, fire alarm interfaces, HVAC where referenced, and related utilities. For facility managers, compliance is less about memorizing every pipe size and more about proving continuous system performance, documented testing, and alignment with the NFPA edition your state, CMS, and accreditor actually enforce—often alongside CMS Conditions of Participation and, for Joint Commission hospitals, the 2026 Physical Environment chapter under Accreditation 360.

NFPA 99 (Health Care Facilities Code): A consensus standard that uses a risk-based category framework (Category 1–4) to govern essential systems—especially medical gas and vacuum, electrical systems, and integration with life safety—in hospitals, ambulatory settings, and other regulated healthcare occupancies. Adoption is by reference through building codes, CMS, state rules, and accreditors; the printed edition year and the enforced edition are not always the same.

On this page: Medical Gas and Vacuum · Electrical Systems and Emergency Power · Risk Categories and the Risk-Based Mindset · Frequently Asked Questions

What NFPA 99 Covers (and What It Does Not)

NFPA 99 sits next to NFPA 101 Life Safety Code, not in place of it. NFPA 101 drives egress, compartmentation, and fire barriers. NFPA 99 drives the systems that keep clinical areas functioning when something fails: oxygen and medical air pressure, suction, isolation power, generator transfer, and coordinated fire alarm responses. If you manage a hospital campus, you live in both books.

The 2024 edition is NFPA’s current published cycle; the 2027 edition is in the publication pipeline with further risk-based refinements (including expanded electrical and operational provisions and a new cybersecurity chapter in that cycle). Until your authority having jurisdiction (AHJ) adopts a newer edition, plan remediation and capital work against the edition named in your state code, CMS/deemed-status crosswalk, and survey documents—not the catalog year on the NFPA website alone.

Medical Gas and Vacuum

Chapter 5 remains the operational core for piped medical gas and vacuum. Systems are expected to run continuously in Category 1 spaces; outages are treated as patient safety events, not maintenance inconveniences.

Sources, Manifolds, and Distribution

Typical architecture has not changed: bulk or cryogenic primary supplies, reserve headers or cylinder banks, manifolds with automatic changeover, copper or approved medical piping, area alarms, and outlet stations with gas-specific connectors. The medical gas compliance guide walks bulk oxygen, vacuum, and medical air documentation in more detail.

- **Continuous supply:** Category 1 clinical use expects uninterrupted flow; planned shutdowns require engineered alternatives and clinical coordination.
- **Automatic switchover:** Reserve supplies must engage without manual intervention when primary pressure falls outside permitted limits.
- **Alarms:** Area and master alarms must annunciate locally and at a continuously attended location.
- **Responsible facility authority:** NFPA 99 expects a designated authority over medical gas operations; the 2024 cycle recognizes qualified credentials (including ASSE 6060 for the responsible facility authority role where cited).

Testing and Maintenance

Keep quarterly and annual rhythms on the calendar and in the same binders surveyors already request:

- Quarterly verification of concentrators, air quality, vacuum performance, and alarm function where required by your adopted edition and manufacturer instructions.
- Annual inspection of source equipment, valves, regulators, and piping integrity; outlet testing after renovation or when clinical staff report delivery problems.
- Permit-to-work controls when piping is disturbed; tie-ins to ILSM and ICRA when work affects occupied clinical areas.
- Complete records: test sheets, corrective actions, and as-built diagrams (the 2024 cycle strengthens expectations for current medical gas system drawings).

Electrical Systems and Emergency Power

NFPA 99 Chapter 6 works with NFPA 70 (NEC) and NFPA 110 for emergency and standby power. Patient care branches, critical branch loads, and life safety branches must stay separated and labeled through every renovation.

Emergency Power Performance

- **Automatic start and transfer:** Level 1 emergency power systems must start and transfer within the intervals defined in NFPA 110 for your system type—typically ten seconds for life safety loads.
- **Fuel and run time:** Run-time requirements depend on NFPA 110 class, facility emergency plan, and AHJ expectations; size on-site storage and fuel contracts to meet your documented plan, not a generic rule of thumb.
- **Testing:** Monthly engine exercising with documented results; transfer switch tests on a schedule that matches NFPA 110 and your maintenance program; load bank or building load tests as required.
- **Distribution:** Protect critical paths (OR, ICU, isolation rooms, fire alarm, egress lighting) from nonessential tie-ins during capital projects.

Pair generator work with the broader maintenance program strategy so predictive data from switchgear and ATS logs actually drive capital planning.

Fire Alarm Integration and Life Safety Interfaces

NFPA 99 expects fire alarm and detection systems to coordinate with mechanical controls, door release, elevator recall, and selective medical gas shutdowns where the fire strategy requires it. Sequences must match the approved fire alarm narrative—not whatever the last contractor remembered.

- Smoke control and damper actions tested with the fire alarm vendor and mechanical controls contractor in the loop.
- Voice evacuation and mass notification aligned with incident command protocols.
- Medical gas zone valves and shutdown logic verified after any OR or ICU remodel.

Risk Categories and the Risk-Based Mindset

Every space gets a category based on failure consequence. Category 1 procedures demand the strictest piping, testing, and redundancy; lower categories allow reduced requirements but never zero accountability. The governing body—not the maintenance shop—owns category assignments and changes when use shifts (for example, converting a med-surg wing to post-anesthesia care).

Document the risk assessment when you add gas-dependent services, stand up temporary ORs, or occupy shelled space under interim life safety measures. Surveyors ask for the paper trail behind the category label on the door.

Utility Management, HVAC, and Design Alignment

Plumbing, mechanical ventilation in critical areas, and dental gas provisions remain in scope. Ventilation in acute care settings still cross-references ASHRAE Standard 170; the Facility Guidelines Institute 2026 cycle continues to align design documentation with ASHRAE 170 and ASHRAE 189.3 for healthcare energy targets. When design teams quote FGI, confirm which ASHRAE 170 addenda your state board recognizes.

Water management plans (Legionella and other waterborne pathogens) show up under CMS and Joint Commission utility expectations even when the detailed tactics live outside NFPA 99. Keep clinical engineering, infection prevention, and facilities on one chart.

Regulatory and Accreditation Context (Late 2026)

Medicare-participating hospitals still trace many physical environment rules through CMS survey policy and the adopted code set for the Life Safety Code and Healthcare Facilities Code. The Joint Commission’s Accreditation 360 Physical Environment standards, effective January 1, 2026, renumber and consolidate former Environment of Care and Life Safety elements into the PE chapter. The work on the ground—medical gas verification, generator logs, fire alarm testing—does not disappear; citation numbers and binder tabs change. Update crosswalks before survey.

For a wider view of binders, capital planning, and agency overlap, see the healthcare regulatory compliance guide.

Monitoring, Documentation, and Practical Technology

Building automation and clinical alarm dashboards help, but they do not replace code-mandated tests. Use analytics for trend warnings—falling medical air dew point, rising generator coolant temperature, recurring ATS transfer faults—then schedule the hands-on verification NFPA 99 and your accreditor still expect.

When the 2027 NFPA 99 cycle reaches your jurisdiction, expect more explicit cybersecurity expectations for connected utility and clinical infrastructure. Segment networks, patch building controllers, and keep vendor remote access logged—the same discipline HTM teams apply to networked clinical devices.

Frequently Asked Questions

What is the primary difference between NFPA 99 and NFPA 101 in a hospital? NFPA 101 governs means of egress, fire barriers, and occupancy defenses. NFPA 99 governs performance of medical gas, electrical, emergency power, and related utilities that direct patient care depends on. Survey teams expect both code families to be maintained for their adopted editions. Which NFPA 99 edition should our hospital use when planning work in 2026? Start with the edition referenced in your state adoption, CMS/deemed-status documents, and accreditor crosswalk—not the newest NFPA print year by default. Many Medicare-certified hospitals still operate under an earlier referenced Healthcare Facilities Code edition until the AHJ formally updates adoption. How often must piped medical gas systems be tested? NFPA 99 requires ongoing inspection, testing, and maintenance intervals defined in Chapter 5 for your category, including regular alarm tests and source equipment checks, plus annual comprehensive review of components and documentation. Increase frequency when clinical staff report delivery issues or after construction. Does Joint Commission Accreditation 360 change medical gas or generator testing requirements? Accreditation 360 reorganizes standards into the Physical Environment chapter effective January 1, 2026. The underlying expectations for maintained medical gas systems, emergency power testing, and utility management remain; update standard and EP numbers, crosswalks, and survey binders so evidence maps to the new PE citations. When should medical gas reserve supplies take over from the primary source? Reserve headers or cylinder manifolds must automatically supply clinical areas when primary pressure drops below the changeover setpoint defined in the system design and NFPA 99 for that source type. Manual switchover is a backup procedure, not the primary control strategy for Category 1 spaces.

Go deeper: the newest guides on this topic

- Biggest Operational Challenges Facing Hospitals and Medical Facilities
- NFPA 101 Life Safety Code for Healthcare Occupancies
- NFPA 101 Life Safety Code for Healthcare Facilities: The Complete Professional Guide (2026)
- Corridor Width Requirements in Healthcare Under NFPA 101

NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers

Source: https://healthcarefacilityhub.org/nfpa-101-life-safety-code-healthcare-egress-fire-compartments-smoke-barriers/ Published: March 18, 2026

Updated September 30, 2026.

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Direct answer: In existing health care occupancies, NFPA 101 drives how you subdivide patient floors with smoke barriers, how corridors and doors function as exit access, and when horizontal movement to an adjacent smoke compartment replaces full-building evacuation. CMS, The Joint Commission (Accreditation 360 Physical Environment chapter effective January 1, 2026), and your state fire marshal each test the same Life Safety Code baseline—plus linked standards for sprinklers, alarms, fire doors, and the Health Care Facilities Code.

This article goes deep on egress and compartmentation; for enforcement, waivers, ILSM, and testing requirements, start with our complete NFPA 101 Life Safety Code guide for healthcare.

On this page: Which code chapter governs your building · Means of egress in health care occupancies · Fire compartments, smoke compartments, and barriers · How surveyors test compliance

Which code chapter governs your building

NFPA 101 organizes requirements by occupancy. Hospitals and most inpatient settings fall under **health care occupancy**. If the building predates current construction rules, surveyors usually apply **Chapter 19 (Existing Health Care Occupancies)** rather than Chapter 18 for new construction. Your adopted edition—not the newest NFPA catalog listing—controls pass/fail. The 2024 edition is the latest published NFPA 101; confirm what your AHJ references for license, CMS certification, and accreditation.

Life safety does not stand alone. Expect cross-references to:

- NFPA 99 (Health Care Facilities Code)—electrical, gas, HVAC risk controls that support safe egress and compartmentation
- NFPA 13 and NFPA 25—sprinkler design and ongoing impairment testing that underpins many healthcare corridor and smoke-barrier relaxations
- NFPA 72—detection, notification, and supervisory signals tied to defend-in-place decisions
- NFPA 80—fire door assemblies, including annual inspection and testing documented by qualified persons

Design teams align airflow with ASHRAE 170 and the FGI Guidelines (2026 edition)—not substitutes for NFPA 101, but the reason smoke doors and pressure plans must be managed together. For the wider compliance map, see Healthcare Facility Management: The Complete Professional Guide.

Means of egress in health care occupancies

Egress in hospitals is a system: exit access (corridors, doors, aisles), exits (stairs, exterior doors, ramps), and exit discharge. Healthcare chapters add wrinkles because beds, IV poles, and staff workflows turn “simple” corridor width into an operational test.

Doors and corridors

Corridor width, obstruction control, and door swings are daily survey fodder. Fire-rated corridor walls may be required in nonsprinklered legacy wings; in many sprinklered existing smoke compartments, corridor separations can be smoke-resistive rather than rated—again, per the edition your AHJ adopted. Keep corridor clutter, wheeled equipment parking, and temporary construction barriers on your tracer list. When walls open for projects, pair infection control barriers with life safety compensations under ILSM meaning in healthcare construction.

Exits, horizontal exits, and capacity

Vertical exits remain the backbone for full-building evacuation, but healthcare operations depend heavily on **horizontal exits**—fire walls or barriers that let staff move patients to a refuge area on the same floor. A horizontal exit is not “just another cross-corridor door”; it must meet structural/fire-resistance criteria, latching, and hardware rules in the code chapter your AHJ enforces.

Exit capacity (occupant load factors, minimum widths, and number of exits) still applies to assembly and support areas even when patient floors lean on defend-in-place. Work with your architect-of-record on any repurposing of units, because changing care models can change occupant load and exit demand without a brick-and-mortar project.

Travel distance

Two travel-distance concepts often collide on patient floors:

- Distance to an **exit** (vertical or exterior) along the exit access
- Distance to a **smoke barrier door** within a smoke compartment—commonly capped at 200 feet in many editions when both length and width exceed 150 feet, with exceptions when the compartment footprint is smaller

Measure from the most remote point staff would realistically reach, not from the nurse station alone. Renovations that push nurse stations or bed clusters toward a bay window can silently consume travel-distance margin.

Fire compartments, smoke compartments, and barriers

Facility managers hear “compartment” used loosely. In NFPA 101 healthcare language, the operational unit on most inpatient floors is the **smoke compartment**, bounded by **smoke barriers** with fire-resistance ratings set in the adopted chapter—verify rating, continuity to the structure above, and penetrations.

When smoke compartments are required

For stories with large concentrations of patient sleeping rooms, the code requires at least two smoke compartments per floor—commonly triggered around thresholds for patient sleeping counts in the adopted chapter. Clinical floors without overnight beds may not need the same subdivision; do not assume one rule fits

every level of a tower.

Smoke compartment area limits

Teams often cite **22,500 ft2** as a maximum smoke-compartment area in sprinklered healthcare. That figure appears frequently in training materials for existing occupancies, but it is not a universal constant: later editions introduce alternate area caps for specific hospital configurations (for example, certain single-patient sleeping room layouts with full sprinkler protection). **Always confirm the table in the NFPA 101 edition your AHJ adopted**—CMS certification, state fire code, and accreditation surveys all trace back to that adoption chain, not to office folklore.

Atrium and suite logic can also change how area is counted. Before removing an existing smoke barrier during modernization, require a licensed fire protection engineer to run the compartment analysis against the enforced edition; “open planning” renderings do not override barrier continuity.

Fire barriers versus smoke barriers

Fire barriers (fire compartments) separate high-hazard or vertical chases—boiler rooms, large laundry, certain storage—from egress routes. Hazardous areas in healthcare chapters typically need 1-hour separation or an approved automatic sprinkler alternative in the hazardous space, depending on the scenario. **Smoke barriers** subdivide the floor for defend-in-place; their doors are not necessarily labeled like stair doors, but they must resist smoke transfer and close reliably.

Smoke barrier doors

Smoke barrier door pairs should close and latch without heroics. Common failure modes: carpet binding, missing positive latching, hold-open devices without proper release, or cross-corridor magnets left engaged after maintenance. Treat these doors as life safety assets: include them in rounding, work-order categories, and post-construction punch lists. Where a door is also a fire door assembly, NFPA 80 annual inspection and functional testing apply—document the inspector qualification and deficiencies closed on schedule.

Defend-in-place and evacuation strategy

Healthcare evacuation philosophy assumes many patients cannot descend stairs quickly. **Defend-in-place** uses smoke compartments as refuge zones: close smoke doors, confine the fire, and move patients horizontally into the adjacent compartment on the same floor while clinical staff stabilize the census.

Vertical or full-facility evacuation remains necessary when the incident outruns compartment boundaries, utilities fail, or the incident commander orders complete relocation. Your emergency operations plan should spell out triggers, not leave them to shift-change memory. Align drills and after-action reviews with hospital evacuation planning protocols and the broader healthcare emergency preparedness guide. CMS expects an all-hazards emergency operations plan that includes fire.

Fire drills and staff performance

NFPA 101 healthcare chapters require fire drills on an unannounced basis, including participation by personnel on each shift over time. Drills are not box-checking: surveyors listen for whether staff know to move patients horizontally, which doors must close, and when to escalate to vertical evacuation. Document scenarios, variances approved by leadership, and corrective actions when a drill exposes a latched-open smoke door or a

corridor blocked by construction carts.

Coordinate drill timing with infection control when units are on isolation precautions—real incidents will not pause for contact precautions, so drills should rehearse safe movement without spreading organisms.

How surveyors test compliance

Three lenses usually matter for U.S. hospitals:

- **CMS Conditions of Participation**—Life Safety Code adoption by reference for Medicare-certified providers; Environment of Care expectations for ongoing operations. See CMS Conditions of Participation: Environment of Care requirements.
- **The Joint Commission**—As of January 1, 2026, former Environment of Care and Life Safety chapter content sits in the unified **Physical Environment (PE)** chapter under Accreditation 360. Surveyors still tracer corridors, smoke doors, fire dampers, and construction ILSM; numbering changed, not the walk-through reality. Read Joint Commission Accreditation 360: the 2026 Physical Environment chapter.
- **State fire marshal / local AHJ**—Enforces the adopted NFPA 101 edition, issues occupancy permits, and may inspect independently of accreditation cycles.

Expect document review (drawings, door inspection reports, sprinkler and alarm test records, variance letters) plus physical tracers that follow a clinician from a patient room to a smoke barrier and onward to a vertical exit. Impairments—sprinkler valve closures, fire pump tests, alarm silencing—must trigger compensating measures and leadership notification consistent with your ILSM program and construction policy.

Practical maintenance rhythm

Translate code paragraphs into calendar items your team can defend in a survey:

- Annual fire door assembly inspection per NFPA 80, including smoke barrier and stair doors in the inventory
- Quarterly sprinkler valve trips and NFPA 25 ITM records tied to the compartments they protect
- Fire alarm audibility and notification appliance tests per NFPA 72 and your state adoption
- Smoke door drop tests after carpet replacement, hinge adjustments, or access-control retrofits
- Post-renovation punch lists verifying barrier continuity above ceilings—coordinate ICRA barrier discipline so infection control walls do not accidentally breach smoke partitions

When an edition update is coming, start a crosswalk early so drawings, door labels, and training reference enforceable sections—not draft committee text.

Frequently asked questions

Which NFPA 101 chapter applies to our existing hospital?

Most inpatient buildings surveyed today are evaluated under Existing Health Care Occupancies (Chapter 19 in commonly adopted editions). New construction wings may fall under Chapter 18. Your certificate of occupancy, CMS statement of conditions, and state fire code adoption list the enforceable edition and chapter.

How often must we conduct fire drills?

Healthcare occupancy chapters require fire drills on each shift over the course of the year, typically unannounced. Frequency and documentation details live in the NFPA 101 edition your AHJ adopted—do not copy a neighbor hospital's calendar if their adoption differs.

Are smoke barrier doors the same as fire doors?

Some assemblies are both; many smoke barrier doors are not labeled as fire doors but still must resist smoke and latch positively. If a door is a fire door assembly, NFPA 80 annual inspection applies regardless of location.

What is defend-in-place?

It is the strategy of moving patients to an adjacent smoke compartment on the same floor while keeping smoke barriers closed to protect the refuge area. Full vertical evacuation is reserved for conditions that exceed compartment design or when command orders relocation.

Who enforces NFPA 101 in our facility?

CMS (for Medicare-certified hospitals), your accreditation organization (if deemed status applies), and your state or local fire authority. They may share the same code edition but will not share survey calendars—maintain continuous readiness.

Does removing a smoke barrier ever make sense?

Only after a formal code analysis against the adopted edition—often with licensed fire protection engineering—and AHJ approval. Modernization projects that "open" nursing units frequently underestimate travel distance and compartment area impacts.

Go deeper: the newest guides on this topic

- NFPA 101 Life Safety Code for Healthcare Facilities: The Complete Professional Guide (2026)
- NFPA 101 Life Safety Code for Healthcare Occupancies
- Most Common NFPA 101 Deficiencies in Hospitals
- Which NFPA 101 Edition Does CMS Enforce?

Medical Gas Systems: NFPA 99, Bulk Oxygen, Vacuum, and Medical Air Compliance

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Direct Answer: Hospital piped medical gas, vacuum, medical air, and bulk oxygen must meet NFPA 99, Health Care Facilities Code (2024 edition), especially Chapter 5 and Category 1 rules where failure could cause major injury or death. Installation, verification, inspection, and maintenance belong to qualified personnel (ASSE/IAPMO/ANSI Series 6000 credentials such as 6010, 6020, 6030, and 6040). CMS and accreditors such as The Joint Commission do not replace NFPA 99—they expect a documented program, current drawings, alarm response, and survey-ready records tied to your environment-of-care processes.

On this page: NFPA 99 Chapter 5: Scope and Qualified People · Bulk Oxygen and Reserve Supply · Medical Air (Category 1 Source Quality) · Alarms: Local and Master (Category 1) · Practical Compliance Checklist for Facility Managers

Why Medical Gas Still Ends Surveys

Medical gas is invisible until it isn't. A tripped master alarm during morning census, a dew-point fault on medical air, or an outlet that fails a flow check will pull surveyors into your source room faster than almost any other physical environment finding. NFPA 99 uses a risk-based category model: Category 1 systems serve spaces where failure is likely to cause major injury or death; Category 2 where failure is likely to cause minor injury; Category 3 where failure is likely to cause discomfort rather than injury; Category 4 where failure has no impact on patient care. Most acute-care piped systems in critical care, surgery, ED, and labor/delivery are managed as Category 1 even when individual rooms are lower risk—the source equipment and distribution backbone carry the higher category.

The 2024 edition is the current NFPA 99 code cycle referenced by many AHJs and design guides; the next revision (2027) was in committee progress as of late 2026. Treat your adopted edition and local amendments as controlling—do not assume the newest NFPA text is enforceable in your state until the building or fire code adoption chain says so.

NFPA 99 Chapter 5: Scope and Qualified People

Chapter 5 covers piped medical gas, vacuum, WAGD (waste anesthetic gas disposal), instrument air where provided under medical gas rules, and related source equipment. The facility must designate a responsible facility authority who can interpret the code, approve permit-to-work, review test reports, and maintain system diagrams—qualification is demonstrated through documented training or credentials such as ASSE 6010, 6020, 6030, 6040, or 6060 designer qualifications where applicable.

Installer, verifier, inspector, and maintenance roles

Work on piped systems is not generic HVAC or plumbing trade work. NFPA 99 ties qualification to ASSE/IAPMO/ANSI Series 6000 (2024 aligns with NFPA 99-2024): 6010 for installers (6015 for bulk/cryogenic central supply installation), 6030 for verification of new and modified systems, 6020 or 6030 for inspections where the code requires qualified inspection, 6035 for bulk system verification where applicable, and 6040 for maintenance personnel executing the documented maintenance program. Brazing and joint

methods still must meet the code and listed procedures—credentials do not shortcut material or labeling rules.

Verification vs ongoing maintenance

New construction, renovations, and system modifications require performance testing and verification (typically ASSE 6030) before patient use, including piping tests, cross-connection checks, alarm function, and source sequencing. Existing facilities operate under Category 1 operation and management sections: documented maintenance programs, periodic inspection and testing of sources, alarms, and outlets/inlets, and record retention. NFPA 99 does not prescribe one universal “annual outlet test” interval for every hospital—it requires a documented program based on equipment, manufacturer instructions, and your risk assessment; many organizations still choose annual or multi-year outlet testing policies and hold to them consistently because surveyors compare practice to policy.

Bulk Oxygen and Reserve Supply

Liquid oxygen central supply systems (bulk LOX) remain the backbone for large hospitals. Vessels must meet location, venting, fencing, and capacity rules in Chapter 5 and referenced cryogenic fluid standards. The responsible facility authority owns reserve strategy: main/reserve configuration, usable volume at required pressure, and whether reserve is on-site liquid, backup vaporizers, or manifolded high-pressure cylinders. Remote fill vs local fill affects logistics and downtime—remote fill reduces truck traffic at the patient door but demands reliable level monitoring and contracts that match your burn rate.

2024 NFPA 99 updates include revised maximum allowable quantity concepts and provisions for auxiliary connections and emergency supplementation—auxiliary connection points support temporary sources during maintenance or disaster response when implemented per code and your emergency operations planning. Keep bulk system drawings, valve labeling, and change logs aligned with what is in the yard—not what was in the 2008 submittal.

Medical Air (Category 1 Source Quality)

Category 1 medical air must meet USP medical air quality: oil-free compression (or approved alternate sources per code), particulate and hydrocarbon limits, and monitoring that proves purity at the source. Dryers are sized so air at system pressure stays below the frost point under demand; dew point is monitored with local and master alarms when line pressure dew point exceeds +2°C (+35°F) in Category 1 arrangements. Carbon monoxide is monitored with local alarm at 10 ppm (master alarm signaling per code for Category 1 panels). Intake location matters—contamination from loading docks, generator exhaust, or lab vents has triggered real events. Medical air is not instrument air; instrument air follows separate NFPA 99 provisions with stricter dew-point alarm thresholds appropriate to that service.

Redundancy is part of compliance: duplex compressors and dryers sized so one unit can carry peak demand, reserve receivers, and “low reserve capacity” master alarm logic when demand would outrun a single failed compressor. Tie medical air maintenance into your broader preventive maintenance program with the same work-order discipline you use for critical HVAC assets.

Medical-Surgical Vacuum and WAGD

Category 1 medical-surgical vacuum requires redundant pumps, appropriate separators and traps, and master alarms for reserve and fault conditions. “Wet” vacuum systems use liquid-ring or similar pumps that tolerate

moisture; “dry” systems use rotary claw or vane technology with different maintenance and noise profiles. Selection depends on capacity, redundancy, and manufacturer maintenance intervals—not brand preference. WAGD may be a separate producer or combined with vacuum only where the code and your design permit; do not cross-connect WAGD and medical vacuum in ways that defeat indexing, check valves, or source labeling.

Station inlets and outlets are gas-specific and non-interchangeable. Maintenance programs include flow, labeling, latching, and leak checks at outlets/inlets; nonstationary booms and flexible assemblies require leak testing on an 18-month cycle in NFPA 99 maintenance provisions—miss that interval and you are explaining deferred testing, not “we’ll get to it.”

Nitrous Oxide and Anesthesia Gas Piping

N2O and other support gases have dedicated piping, shutoffs, and area valve service units where required. Scavenging and WAGD capture waste anesthetic gas from hoods and AGSS connections; coordination with anesthesia and perioperative leaders is operational, but the physical system must match drawings and valve labels. Renovations that touch OR suites should run through ICRA and interim life safety processes so temporary shutdowns, tie-ins, and fire watch do not outrun med gas permit-to-work.

Alarms: Local and Master (Category 1)

Category 1 facilities need master alarm panels that aggregate critical source signals—typical master alarm conditions include high/low pressure on central supplies, liquid level on bulk oxygen, medical air dew point and CO as described above, and low reserve on vacuum, medical air, and WAGD sources where applicable. Panels must annunciate at a continuously attended location (or approved equivalent per your AHJ). Local alarms remain at the source for technician response.

Alarm testing is recurring maintenance: indicators exercised per your program, faults documented, and responses timed. A master alarm that nobody recognizes is a patient safety defect and a survey magnet. Align alarm management with Joint Commission physical environment expectations and your internal escalation tree.

CMS, The Joint Commission, and State Surveys

Medicare-participating hospitals must maintain a safe environment under CMS Conditions of Participation—the life safety and physical environment thread does not list every NFPA paragraph, but CMS expects compliance with applicable NFPA codes referenced through the Life Safety Code (NFPA 101) adoption and state rules, plus documented maintenance for essential systems. Accredited hospitals face parallel scrutiny on EC.02.06.01 and related elements: utilities managed to minimize risk, maintenance programs, and evidence of inspection and testing.

Surveyors routinely ask for: current med gas riser diagrams, valve labeling, last verification report for recent projects, maintenance logs, alarm test records, and staff who can explain after-hours response. Gaps between policy and practice drive Condition-level findings. Use your CMS environment-of-care requirements and state survey preparation playbooks the same week you review med gas records—not the week before survey.

Practical Compliance Checklist for Facility Managers

- Confirm adopted NFPA 99 edition and state amendments; identify Category 1 systems and responsible facility authority on org chart.

- Maintain one controlled set of med gas drawings; red-line within 30 days of any valve or source change.
- Contract only qualified vendors for verification (6030) after any modification; file reports where surveyors look first.
- Run a written maintenance program (6040-qualified personnel or equivalent documented training) covering sources, alarms, outlets, booms, and bulk level trends.
- Test master and local alarms on schedule; drill clinical and engineering response to high/low O2 and medical air dew point.
- Coordinate shutdowns with permit-to-work, clinical leadership, and emergency plans; pre-stage temporary supplies where auxiliary connections exist.
- Cross-reference med gas with regulatory compliance workflows so capital projects do not orphan as-built documentation.

FAQ

Which NFPA 99 edition should our hospital follow for medical gas?

Follow the edition adopted by your state building/fire code and AHJ for new work and the edition referenced for existing facility compliance in your jurisdiction. NFPA publishes the 2024 edition as the current code text; the 2027 revision was underway through the NFPA process in 2026. Your engineer and AHJ confirm which edition binds your project and operating permits.

Who can verify a new piped medical gas installation?

Verification is performed by personnel qualified as medical gas system verifiers—NFPA 99 references ASSE/IAPMO/ANSI 6030 (and 6035 for bulk central supply verification where applicable). Verification follows the code's testing sequence and produces reports the responsible facility authority must review before clinical use.

What medical air conditions trigger alarms on Category 1 systems?

Category 1 medical air monitoring includes dew point high at line pressure above +2°C (+35°F) to local and master alarms, and carbon monoxide at 10 ppm at local alarm (with master signaling per Category 1 alarm rules). Monitors also annunciate loss of monitor power at master panels. Source dryers must deliver air below frost point at demand—alarms are the operational backstop.

How often must we test medical gas outlets?

NFPA 99 requires a documented maintenance program with periodic inspection and testing of station outlets and inlets for flow, correct labeling, latching, and leaks—intervals based on manufacturer instructions, equipment risk, and facility policy. Many hospitals adopt fixed intervals (for example annual or staggered zone testing) and must meet the schedule they document. Nonstationary booms and flexible connections have explicit 18-month leak testing in maintenance provisions.

Does CMS require ASSE certification by name?

CMS hospital Conditions of Participation require a safe, maintained environment; they do not typically cite ASSE numbers in the CoP text. NFPA 99, when applicable through adoption, does require qualified personnel for installation, verification, inspection, and maintenance tasks. Surveyors evaluate whether your program

matches code and hospital policy—unqualified vendors and missing verification reports fail that test even when daily operations seem fine.

Wet or dry vacuum—which is “more compliant”?

Neither is universally “more compliant.” Both can meet Category 1 requirements when designed with correct redundancy, separators, alarms, and maintenance. Choose based on capacity, manufacturer service intervals, noise, utilities, and lifecycle cost—then prove performance with commissioning, verification, and ongoing maintenance records.

Dialysis Water Quality: AAMI Standards, RO System Design, and Microbiological Monitoring

Source: https://healthcarefacilityhub.org/dialysis-water-quality-aami-standards-ro-system-microbiological-monitoring/
Published: March 18, 2026

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Direct answer: Dialysis water must meet chemical and microbiological limits before it ever reaches a dialyzer, because up to hundreds of liters cross the membrane each week. US ESRD Conditions for Coverage at 42 CFR 494.40 still incorporate ANSI/AAMI RD52:2004, while current engineering practice follows the ANSI/AAMI/ISO 23500 series (2024 editions), especially ISO 23500-3 for water limits and ISO 23500-2 for treatment equipment. A typical central plant combines pretreatment, reverse osmosis, storage, recirculation, point-of-use filtration, and scheduled culture/endotoxin testing tied to action levels.

Home > Water Quality > Dialysis Water Quality

Dialysis water quality: The purity of water used to prepare dialysate, substitution fluid, and reprocessing solutions for hemodialysis and related therapies. Contamination can drive bacteremia, pyrogenic reactions, and chronic inflammatory injury. ANSI/AAMI/ISO 23500-3:2024 defines minimum chemical and microbiological requirements; ISO 23500-1 assigns ongoing monitoring duties to the dialysis facility once equipment is installed.

On this page: Standards map: ISO 23500, legacy AAMI documents, and CMS · Chemical limits (ISO 23500-3:2024) · Microbiological limits and action levels · Monitoring program

Why dialysis water is different from other healthcare water

Dialysis water sits in a narrow category of healthcare water systems: it becomes part of the extracorporeal circuit. Bacteria or endotoxin that survive treatment can reach blood directly. A single four-hour hemodialysis session may consume 120–150 liters of product water; multiply that across chairs and shifts and a mid-size

center moves thousands of gallons per day.

That volume is why infection prevention and facilities engineering share ownership of the loop.

Standards map: ISO 23500, legacy AAMI documents, and CMS

The ISO 23500 series (2024) organizes what older US documents split across RD52, RD62, and related AAMI water guidance:

- **ISO 23500-1:2024** — general quality management from municipal entry through dialysate preparation
- **ISO 23500-2:2024** — water treatment equipment design and performance (manufacturer-facing, but facilities use it in procurement specs)
- **ISO 23500-3:2024** — chemical and microbiological limits for dialysis water
- **ISO 23500-4 and -5:2024** — concentrates and final dialysis fluid quality

AAMI publishes identical national adoptions as ANSI/AAMI/ISO 23500. RD62 and RD52 still appear in older policies; new documents should cite 23500 part numbers.

Medicare 42 CFR Part 494 §494.40 incorporates **ANSI/AAMI RD52:2004** for water and dialysate purity, with chlorine/chloramine testing in §494.40(b), corrective action plans at action levels (§494.40(c)), and event-driven investigation (§494.40(d)). CMS QSO-25-17 (2025) states that **preconfigured FDA-cleared systems** follow §494.40(e) and machine labeling, with bacteriological/endotoxin testing at least quarterly unless labeling requires more.

Chemical limits (ISO 23500-3:2024)

Table limits below mirror the ISO 23500-3 maximum allowable concentrations for dialysis water (selected high-impact parameters). Annual or event-driven chemical testing should compare against the full table in the standard, not this summary alone.

Contaminant	Maximum allowable	Clinical concern
Chlorine / chloramine (total chlorine)	0.1 mg/L total chlorine	Hemolysis, oxidative injury to blood components
Aluminum	0.01 mg/L (10 g/L)	Encephalopathy, osteodystrophy
Fluoride	0.2 mg/L	Bone disease with chronic exposure
Copper / zinc	0.1 mg/L each	Hemolysis, marrow suppression
Calcium / magnesium (as ions)	0.3 mg/L each	Electrolyte shifts, calcification risk
Sodium	70 mg/L	Volume and blood pressure effects
Potassium	8 mg/L	Arrhythmia risk
Nitrate	2 mg/L	Methemoglobinemia

ISO 23500-3:2024 uses WHO drinking-water references and removes thallium from the table. Organic contaminants lack numeric limits; increase scrutiny after source-water incidents.

Microbiological limits and action levels

Under ISO 23500-3:2024, dialysis water at the loop/sample points specified in the standard must meet:

- **Total viable microbial count:** <100 CFU/mL, with a facility-defined action level (often 50 CFU/mL, commonly half the maximum)
- **Endotoxin:** <0.25 EU/mL, with a facility-defined action level (often 0.125 EU/mL)
- **Fungi:** no numeric limit in the 2024 edition; investigate if growth is suspected in biofilm-prone loops

Ultrapure targets (<0.1 CFU/mL and <0.03 EU/mL) apply to validated systems for online substitution fluid. HDF programs must align sampling points with machine IFU and ISO 23500-5, not legacy dialysate-only limits.

Reverse osmosis system design

RO remains the core of most US central dialysis water plants. A conventional train:

- Sediment filtration (5–20 m) -> activated carbon (dual tanks in series for CMS chlorine/chloramine redundancy) -> finer prefilter (1–5 m) -> RO membranes -> product storage -> recirculating distribution loop -> 0.2 m point-of-use filters at each connection

Acceptance testing should reference ISO 23500-2. Track rejection, conductivity, and differential pressure; replace membranes when performance slips—often years 3–5 with sound pretreatment. Reject water must discharge legally and never cross-connect to potable piping. Log reject flow in your preventive maintenance program.

Pretreatment and post-RO control

Dual carbon trains with port testing satisfy §494.40(b). Undersized carbon shows chlorine breakthrough at the lead tank first. Soften or dose antiscalant where hardness fouls membranes. Downstream of RO, use UV, recirculation, and validated heat or chemical disinfection; RO product is not sterile without these controls.

Monitoring program

ISO 23500-1 places ongoing monitoring on the facility. At minimum, build a schedule that includes:

- **Chlorine/chloramine:** before each treatment day on carbon effluent per CMS; expand testing when municipalities switch disinfection chemistry
- **Microbiology and endotoxin:** monthly (or more often) at loop locations defined in ISO 23500-3—typically including a distal loop point and a point representative of machine connection; quarterly minimum only where §494.40(e) applies to preconfigured systems unless labeling demands more
- **Conductivity/TDS:** continuous or frequent monitoring on RO product with alarm limits
- **Chemical roster:** at least annual full-panel metals/minerals unless source water change triggers earlier testing
- **After any change:** new carbon, membrane replacement, loop repair, or construction in the water plant area warrants repeat sampling before patients return

Results at action level or above limit require a written corrective action plan under §494.40(c). Notify the medical director, define re-test intervals, and document patient safety decisions if treatment must pause.

Operational scenarios

HDF and online substitution fluid need ultrapure validation, not a conventional HD loop with extra filters. Reprocessing programs stop when water cultures fail. Keep contracted emergency water that meets the same limits, with rotated stock.

Hospital-based units should align dialysis utility documentation with CMS environment-of-care surveys and campus Legionella management when systems share risers or storage.

Frequently asked questions

Why is aluminum so dangerous in dialysis water when municipal supply often contains more?

Aluminum in drinking water is poorly absorbed when swallowed. Hemodialysis exposes blood directly through the dialyzer membrane, so aluminum accumulates in bone and brain over years of treatment. Dialysis encephalopathy and severe osteodystrophy led AAMI and ISO limit tables to cap aluminum at 0.01 mg/L (10 g/L).

How does reverse osmosis remove endotoxin if the molecule is small?

Free endotoxin is small, but in water it travels with bacteria, aggregates, and biofilm fragments that RO membranes reject. Expect roughly 80–90% endotoxin reduction across a well-maintained RO unit; 0.2 m filters at the point of use and tight microbiological control close the remaining gap.

Can an ESRD facility rely on municipal water if it tests often enough?

No. Testing documents risk; it does not treat water. Typical municipal supplies exceed dialysis chemical limits for chlorine, chloramine, hardness, and several metals. CMS expects a validated water treatment system—almost always including RO—for conventional in-center loops, plus chlorine/chloramine testing before each treatment day per 42 CFR 494.40(b).

How does CMS 42 CFR 494.40 relate to the ISO 23500 series?

Medicare Conditions for Coverage still incorporate ANSI/AAMI RD52:2004 by reference for water and dialysate purity. Day-to-day engineering and surveillance in US centers follow the ANSI/AAMI/ISO 23500 series (2024 editions), which supersede earlier RD62-style water documents. Meet the incorporated CFR requirement, then run your program to the current AAMI/ISO limits and action levels your medical director approves.

Why circulate RO water if it already looks clean?

RO product water is not sterile. Trace organisms that enter storage or piping can multiply within days. Continuous recirculation, heat where the design calls for it, UV, and scheduled disinfection keep loops inside the microbiological limits in ISO 23500-3—limits that are tighter than many staff remember from older RD62 charts.

William Tygart · © 2026 Healthcare Facility Hub. Professional reference only—verify against current ANSI/AAMI/ISO editions, FDA device labeling, CMS Conditions for Coverage (42 CFR 494), and state agency rules before changing patient care processes.

Standards referenced: ANSI/AAMI/ISO 23500-1 through -5:2024; 42 CFR 494.40; CMS QSO-25-17 (preconfigured dialysis systems, March 2025); Joint Commission Physical Environment chapter (January 1,

2026).

Legionella Water Management Programs: ASHRAE 188, CDC Toolkit, and CMS Requirements

Source: https://healthcarefacilityhub.org/legionella-water-management-ashrae-188-cdc-toolkit-cms-requirements/
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Medicare-certified hospitals, critical access hospitals, and most long-term care facilities must run a documented Legionella water management program aligned with ANSI/ASHRAE Standard 188-2021 and the CDC toolkit. Joint Commission–accredited hospitals and critical access hospitals now address the same expectations under Physical Environment standard PE.04.01.05 (effective January 1, 2026). The program combines system mapping, risk assessment, control limits, monitoring, corrective action, and annual review—not a binder on a shelf.

Legionella pneumophila: A gram-negative bacterium that grows in warm building water (roughly 20–45°C) and causes Legionnaires' disease when aerosolized water is inhaled. Healthcare outbreaks carry high morbidity, survey risk, and remediation cost. ASHRAE 188-2021, ASHRAE Guideline 12-2023, CDC guidance, CMS policy, and accreditor standards all point facilities toward the same outcome: know your water systems and control growth before a patient gets sick.

On this page: ASHRAE 188-2021: the technical backbone · CDC toolkit: seven habits that actually ship · Control measures that hold up in surveys · Testing and monitoring

Why healthcare water systems matter

Legionella is an environmental organism. Drinking water is not the usual exposure route; inhalation of contaminated aerosols is. Cooling towers, hot-water loops, decorative fountains, humidifiers, showers, and clinical equipment that aerosolizes water can all amplify risk. Immunocompromised and elderly patients pay the highest price when control fails.

Conditions that favor growth

- **Temperature:** Growth is fastest near 35–37°C; it slows below ~20°C and above ~50°C in most systems.
- **Biofilm and sediment:** Organisms persist in pipe biofilm where disinfectants penetrate poorly.
- **Stagnation:** Dead legs, low-flow wings, and idle equipment hold water long enough for amplification.

- **Complexity:** Heat exchangers, storage tanks, and long distribution runs make uniform temperature control hard.

ASHRAE 188-2021: the technical backbone

ANSI/ASHRAE Standard 188-2021 (*Legionellosis: Risk Management for Building Water Systems*) sets minimum requirements for risk management across the building water lifecycle—design through maintenance. Many state codes and the 2026 FGI Hospital Code continue to reference ASHRAE 188 and strengthen expectations around waterborne pathogens. ASHRAE Guideline 12-2023 adds practical, system-specific implementation detail and pairs with 188 in the field.

For broader utility context, see Healthcare Water Quality and Medical Utilities: The Complete Professional Guide (2026).

What the risk assessment must cover

- Inventory of potable and non-potable systems (heaters, towers, fountains, showers, humidifiers, dialysis loops, etc.).
- Risk ranking based on aerosol potential, patient susceptibility, temperature control, and maintenance history.
- Identification of stagnation points, dead legs, and low-use outlets.
- Control measures: temperature targets, biocide strategy, filtration, flushing, and equipment maintenance.
- Verification and validation activities tied to control limits—not testing for its own sake.

Typical risk tiers (facility-specific)

Higher concern: open cooling towers, ornamental water features, aerosol-generating HVAC humidification, transplant/oncology shower zones, and large-volume clinical water such as dialysis and instrument reprocessing zones where splash and aerosol matter.

Moderate concern: domestic hot water held below effective control temperatures, general-care showers, and dental/clinical units with biofilm-prone small-bore tubing.

Lower concern (when consistently controlled): cold water kept below growth-friendly temperatures, hot water maintained at control setpoints throughout distribution, and well-flushed, chlorinated municipal supply with minimal stagnation.

CDC toolkit: seven habits that actually ship

The CDC's Legionella resources for healthcare mirror ASHRAE 188 structure. Treat them as operational checklists, not optional narrative.

- Assign a water management team and an accountable lead.
- Describe the building water systems with a flow diagram.
- Identify control locations, limits, and monitoring methods.
- Establish corrective actions when limits are missed.
- Document verification, validation, and program changes.

- Communicate roles to clinical, engineering, and contractor staff.
- Define response steps when legionellosis is suspected—coordinated with infection control and epidemiology.

Control measures that hold up in surveys

Temperature management

Hot-water control remains the default strategy: storage often targets 60°C with distribution designed to deliver 51°C (124°F) at outlets, recognizing local scalding-mitigation policies. Patient-care areas frequently cap thermostatic mixing near 49°C; when you trade temperature for scald prevention, compensate with engineering controls (point-of-use 0.2 m filtration, supplemental disinfection, or localized heating).

Filtration and flushing

Sediment filters on incoming lines reduce load to downstream biofilm. Terminal 0.2 m filters protect high-risk outlets during remediation or for vulnerable populations. Flushing low-use outlets on a written schedule is basic preventive maintenance—it belongs in the CMMS with work orders, not on a sticky note.

Supplemental disinfection

Chlorine, monochloramine, copper-silver ionization, and other modalities can work when selected for the system you actually have. Biofilm shielding limits any single chemical pass; expect combination approaches during outbreaks.

Method	Typical role	Survey talking point
Hot-water temperature control	Baseline for domestic systems	Show trend logs at representative outlets
0.2 m point-of-use filters	High-risk zones or interim control	Document change schedule and breach protocol
Copper-silver / UV	Where temperature alone fails	Validation data after commissioning
Hyperchlorination / flush	Corrective action	Before/after sampling plan if used
Routine flushing	Stagnation control	Map of low-use outlets and completion records

Testing and monitoring

Neither ASHRAE 188 nor Joint Commission PE.04.01.05 mandates universal Legionella culture for every hospital. Testing is a tool when your risk assessment or validation plan requires it—commissioning, after major plumbing work, when control limits fail repeatedly, or during epidemiologic investigation.

- **Culture on selective media:** Still common for environmental samples; slow turnaround.
- **PCR / qPCR:** Faster detection of DNA; interpret alongside viability and clinical data.

During construction or shutdowns, align water plans with infection-control risk assessment and interim life-safety measures so stagnant loops are not reopened blindly.

CMS, Joint Commission, and state surveyors

CMS Quality, Safety & Oversight Memorandum QSO-17-30 (June 2017, revised July 2018) requires affected Medicare-certified hospitals, critical access hospitals, and long-term care facilities to implement water management policies that consider ASHRAE 188 and the CDC toolkit. CMS may label the memorandum "expired" on its website, but surveyors still evaluate whether facilities meet underlying Conditions of Participation for infection control and environment of care—documented programs remain the practical bar. See CMS Conditions of Participation: Environment of Care Requirements for Hospitals.

For Joint Commission–accredited hospitals and critical access hospitals, water management moved to **PE.04.01.05** under Accreditation 360 on January 1, 2026 (nursing care centers retain EC.02.05.02). Elements of performance still require a team, flow diagram, risk-based plan, monitoring with corrective action, and annual review. Detail on the PE reorganization is in Joint Commission Accreditation 360: The 2026 Physical Environment Standards.

State health department surveys apply the same documents with local emphasis; keep diagrams, logs, and corrective-action records ready alongside other environment-of-care binders.

Outbreak response and remediation

Suspected healthcare-associated legionellosis triggers parallel clinical and environmental tracks: case finding, exposure window assessment (often roughly 2–10 days before symptom onset), and targeted sampling of patient-relevant zones. Engineering response may include isolating equipment, thermal disinfection flushes, elevated biocide regimens, filter deployment, dead-leg removal, and recommissioning. Cooling-tower incidents also require coordination with outdoor air intakes—see Healthcare HVAC Design: ASHRAE 170 Ventilation Requirements for how tower plumes relate to ventilation intakes.

Immunocompromised populations

Transplant, oncology, and similar units may need engineered water at the point of use until immune recovery. Document medical director agreement and staff education so nursing knows which outlets are protected.

Frequently asked questions

What hot-water temperatures does ASHRAE 188 expect for Legionella control?

Programs typically store hot water at about 60°C (140°F) and verify that distribution delivers at least ~51°C (124°F) at distal outlets, adjusted for scalding policies. Your written plan should state setpoints, monitoring locations, and corrective actions when readings drift.

Can we run lower temperatures if we install point-of-use filters?

Yes, in controlled circumstances—often near 49°C at patient taps when 0.2 m filters are maintained on schedule and the risk assessment documents equivalent protection. That trade must be deliberate, not a silent drift from deferred maintenance.

Does CMS or The Joint Commission require routine Legionella culture everywhere?

No universal mandate exists. CMS expects a program that considers ASHRAE 188 and CDC guidance; Joint Commission PE.04.01.05 requires monitoring suited to your plan and does not force environmental culture unless your plan or law requires it. Many facilities test selectively for validation or investigation.

What happens when Legionella is detected in the building?

Activate your corrective-action protocol: clinical notification, exposure assessment, enhanced controls (flush, disinfection, filtration), and follow-up verification. Immunocompromised patients may need restricted outlets until data support release.

Is a written water management program still required in 2026?

Yes for Medicare-certified hospitals, critical access hospitals, and covered long-term care facilities, and for Joint Commission–accredited organizations under PE.04.01.05 or EC.02.05.02. Surveyors expect diagrams, control limits, logs, corrective actions, and annual review—not an unsigned policy template.

Related resources

- Dialysis Water Quality: AAMI Standards, RO System Design, and Microbiological Monitoring
- Medical Gas Systems: NFPA 99, Bulk Oxygen, Vacuum, and Medical Air Compliance

Standards and references: ANSI/ASHRAE Standard 188-2021; ASHRAE Guideline 12-2023; CDC Legionella guidance for healthcare; CMS QSO-17-30; 2026 FGI Hospital Code; The Joint Commission PE.04.01.05 (hospitals/CAH, effective January 1, 2026) and EC.02.05.02 (nursing care centers).

State Health Department Surveys: Preparation, Common Deficiencies, and Corrective Action Plans

Source: https://healthcarefacilityhub.org/state-health-department-surveys-preparation-deficiencies-corrective-action/
Published: March 18, 2026

Updated September 30, 2026.

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This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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State survey agencies conduct unannounced Medicare certification surveys on CMS’s behalf; hospitals stay survey-ready by keeping CoP documentation current, closing gaps before surveyors arrive, and submitting credible Plans of Correction when tags are cited. This guide covers preparation, frequently cited environment-of-care and emergency preparedness deficiencies, and how to write CAPs that hold up on follow-up.

Key information

State Health Department surveys verify compliance with state licensure rules and federal CMS Conditions of Participation for hospitals. Surveys are usually unannounced. Deficiencies affect licensure, accreditation, and Medicare/Medicaid participation. Physical environment, life safety, utilities, infection control, and emergency preparedness remain high-yield survey paths in 2026.

Understanding state health department surveys

State survey agencies (SSAs) perform certification surveys for CMS and enforce state hospital licensing. Full surveys are typically unannounced. Cycle length depends on facility type, complaint history, and prior findings—not on your internal calendar.

Accreditation surveys (for example, Joint Commission Accreditation 360 physical environment standards, effective January 1, 2026) may be scheduled. SSA surveys are different: you do not get a reliable window to "catch up." Continuous readiness is the only durable strategy, including the monitoring practices described in continuous compliance monitoring for CMS survey readiness.

Survey authority and scope

- **Federal standards:** CMS sets hospital CoPs and survey protocols (CMS certification and compliance).
- **State role:** SSAs conduct surveys, investigate complaints, and coordinate enforcement with CMS.
- **Frequency:** Often triennial for stable providers; complaint, incident, or repeat-deficiency history can trigger earlier visits.
- **Scope:** Full surveys or targeted reviews tied to complaints, sentinel events, or prior tags.
- **Duration:** Commonly several days on site for hospitals; shorter for focused follow-ups.

Pre-survey preparation strategy

Preparation is gap closure, not binder assembly the week before surveyors arrive. Map requirements to owners, evidence locations, and last-verified dates—the same discipline outlined in the healthcare regulatory compliance guide (2026).

Year-round activities

- Keep policies aligned with current CoPs, state rules, and adopted codes (Life Safety Code, NFPA 99 where applicable).
- Run documented self-assessments at least annually; track findings to closure.
- Maintain training and competency records for environment of care, emergency codes, and infection prevention roles.
- Govern compliance through safety, infection prevention, and quality committees with minutes and action logs.
- Trend metrics: overdue PM, open LS deficiencies, drill failures, hot work gaps, ICRA documentation.

Focused checklist (30–60 days)

- Reconcile open tags, POC items, and internal audit findings.
- Walk clinical and support areas; photograph and ticket life safety and maintenance issues.
- Verify emergency power, fire alarm, medical gas, and water management records.
- Refresh emergency operations plan training, drill documentation, and after-action reports.
- Confirm licenses, contracts, and vendor inspections are current and retrievable.

Best practice

Organize a survey-ready index by CoP topic: policy, procedure, training roster, inspection log, work order, and meeting minutes. Surveyors ask for proof quickly. A single index beats searching shared drives while surveyors wait.

Common environment-of-care and life safety deficiencies

Tags cluster where documentation and the built environment diverge. Focus prevention on these areas first.

Frequently cited categories

- **Emergency preparedness (42 CFR 482.15):** Incomplete hazard vulnerability analysis, outdated EOP, weak drill cycles, missing continuity plans.
- **Infection prevention (42 CFR 482.42):** Cleaning failures, isolation breaches, sterile processing gaps, construction infection control lapses.
- **Life Safety Code / fire safety:** Impaired egress, open fire doors, expired fire drill documentation, deferred LS repairs without interim life safety measures.
- **Utilities and medical gas:** Generator test gaps, alarm response logs, medical air quality documentation.
- **Equipment and PM:** Missing PM on critical devices, overdue biomedical inspections, uncontrolled equipment in patient care areas.
- **Hazardous materials:** SDS access, labeling, spill kits, and satellite accumulation compliance.

Why tags repeat

- Findings close on paper but not in the field.
- Turnover without structured handoff of compliance ownership.
- Competing capital and staffing priorities with no escalation path.
- Self-assessments that never leave the conference room.

Corrective action plans and Plans of Correction

When CMS or the SSA cites a deficiency, you submit a written response—often called a Plan of Correction (POC) or corrective action plan (CAP)—within the deadline on the Form 2567 or state equivalent. Immediate jeopardy findings carry shorter timelines and require evidence that risk to patients has ended.

Core CAP elements

- Problem statement tied to the exact tag language and surveyor observation.
- Root cause analysis (not “staff failed to follow policy” unless you prove why that was possible).
- Corrective actions with named owners, dates, and measurable outcomes.
- Monitoring plan showing how you will detect recurrence.
- Evidence attached or clearly referenced (photos, logs, revised policies, training rosters).

Writing that survives follow-up

- Address every sub-part of the tag; partial fixes invite scope expansion.
- Match timelines to work you can actually complete; missed POC dates erode trust.

- Describe systemic controls—checklists, PM rules, automated alerts—not one-time fixes.
- Have executive and medical staff leadership review serious or pattern findings before submission.

During the survey

Staff interactions

- Designate a survey coordinator and document control point.
- Coach staff to answer from direct observation; say “I don’t know” and escalate.
- Do not obstruct access; do not coach false answers.
- Log requests, documents provided, and interview participants the same day.

Leadership role

- Daily huddle on surveyor focus areas and emerging observations.
- Pull evidence within minutes, not hours.
- Disclose known gaps you are already correcting—surveyors will verify anyway.

After surveyors leave

- Await the official Form 2567; preliminary verbal feedback is not the record.
- Assign each tag to a process owner; open a tracking log parallel to the POC.
- Implement fixes before the POC due date when possible; attach proof.
- Prepare for unannounced follow-up or complaint revisits on high-risk tags.

Frequently asked questions

How much advance notice do we get before a state survey?

Full certification surveys are unannounced; surveyors arrive without prior notification. Complaint-driven or follow-up visits may be narrower in scope. Either way, facilities should maintain continuous compliance readiness.

What happens if we don’t submit a CAP by the deadline?

Failure to submit a timely CAP can result in additional sanctions from CMS, including termination of the Medicare provider agreement or imposition of immediate jeopardy status. State Survey Agencies take CAP deadlines seriously.

Can we appeal survey deficiencies?

Yes. Facilities have the right to request an appeal or informal dispute resolution process. This typically requires submitting additional information explaining why a cited deficiency is not substantiated. However, this process can be lengthy and doesn’t delay CAP submission requirements.

How long does the state survey process typically take?

Full facility surveys typically take 3–5 days on site. After surveyors leave, the state usually releases a draft report within 10–15 business days, followed by the final official report within 30–45 days. CAP responses are

typically due 10 business days after the official report release.

How do we prepare for follow-up surveys verifying CAP implementation?

Follow-up surveys focus on whether cited deficiencies were corrected and remain corrected. Keep before-and-after evidence, revised policies, training dates, and spot-check logs organized by tag number so surveyors can verify sustainability quickly.

What's the difference between a single tag and a pattern of deficiency?

A tag is one cited requirement. A pattern means the same compliance failure appears across units, shifts, or time—surveyors expect broader systemic correction, not a one-location fix.

Related: Regulatory Compliance · Healthcare Facility Hub

CMS Conditions of Participation: Environment of Care Requirements for Hospitals

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Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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What this page covers: the CMS Conditions of Participation that govern the hospital physical environment and emergency preparedness, the documentation surveyors ask for, and how CMS compares with Joint Commission. **Who it is for:** facility managers and compliance leads at Medicare-participating hospitals preparing for state survey agency visits.

Environment of Care Rounds series · Part 4 of 7 · Back to the EoC Rounds hub

Previous: Accreditation 360: the 2026 Physical Environment standards | Next: How to prepare for a Joint Commission EoC survey ->

On this page: What CMS CoPs Require of the Hospital Environment · Physical Environment and Integrated Safety (§ 482.41) · Emergency Preparedness (§ 482.15) · CMS CoPs Compared With Joint Commission Accreditation 360 · Documentation Surveyors Will Ask For · Implementation Sequence That Holds After the Survey Team Leaves · Frequently Asked Questions

Direct answer: Medicare-participating hospitals must meet CMS Conditions of Participation (CoPs) in 42 CFR Part 482 every day—not only at survey time—including a safe physical environment under § 482.41, working life safety and utility systems, sanitary conditions that support infection prevention, and emergency preparedness under § 482.15. State Survey Agencies conduct unannounced certification surveys on CMS's

behalf; serious or sustained gaps can lead to corrective action, civil monetary penalties, or termination of the provider agreement and loss of Medicare payment.

What CMS CoPs Require of the Hospital Environment

Conditions of Participation are the federal minimum standards tied to Medicare and Medicaid participation. For facility leaders, the practical frame is simple: the building, its systems, and the routines around them must protect patients, staff, and visitors while clinical care proceeds.

Joint Commission's Joint Commission Accreditation 360: The 2026 Physical Environment Standards Explained unified Physical Environment chapter (effective January 1, 2026) aligns closely with how surveyors think about the same risks—but CMS enforcement stands on its own. Accredited hospitals still live under CoPs.

Authority, scope, and survey mechanics

- **Regulation:** 42 CFR Part 482 (hospitals)
- **Physical environment:** 42 CFR § 482.41
- **Emergency preparedness:** 42 CFR § 482.15
- **Enforcement:** CMS through State Survey Agencies (and CMS in some cases)
- **Applicability:** Hospitals that accept Medicare or Medicaid payment
- **Verification:** Unannounced certification and complaint surveys
- **Consequences:** Plans of correction, denial of payment for new admissions, termination of provider agreement

Physical Environment and Integrated Safety (§ 482.41)

§ 482.41 expects a hospital to be built, maintained, and operated so it is safe and suitable for patient care. Surveyors translate that into tangible evidence: intact egress, compliant fire barriers, reliable utilities, maintained equipment, and housekeeping that matches the clinical risk of each space.

Patient and worker safety program

- Written policies for environmental safety hazards and mitigation
- Risk assessment of the physical environment, updated when conditions change
- Reporting, investigation, and corrective action for safety events and near misses
- Training so staff recognize hazards and know escalation paths
- Committee or leadership oversight with minutes that show follow-through

Structured Environment of Care Rounds: Inspection Protocols, Documentation, and Corrective Action Tracking turn policy into repeatable field practice and create the paper trail surveyors expect.

Life safety, egress, and construction controls

- Compliance with adopted life safety requirements, including NFPA 101 as referenced by CMS
- Functional fire detection, alarm, suppression, and emergency lighting
- Drills and inspections with documented deficiencies closed

- Interim Life Safety Measures when construction or renovation disrupts fire or egress features

For code depth on compartments and barriers, see NFPA 101 Life Safety Code for Healthcare: Means of Egress, Fire Compartments, and Smoke Barriers. When work is active in occupied areas, pair life safety interim measures with infection control planning—ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA walks through how teams keep both threads straight.

Sanitation, infection prevention, and the built environment

- Clean, sanitary conditions facility-wide, with higher scrutiny in clinical zones
- Cleaning schedules, methods, and monitoring appropriate to surface and patient risk
- Medical waste handling per federal, state, and local rules
- Isolation capability and HVAC performance where airborne precautions apply

Ventilation design and retrofit decisions should track ASHRAE Standard 170 and the FGI Guidelines, 2026 edition, even when the immediate survey question is whether the hospital can operate and maintain what is installed. Broader program context sits in Infection Control in Healthcare Facilities: The Complete Professional Guide (2026).

Utility systems and equipment

- Emergency power with exercised generators and documented maintenance
- Medical gas, vacuum, and related piped systems maintained and tested
- Water supply and hot-water systems managed to limit legionella and other waterborne risks where policies require
- HVAC maintained for comfort, filtration, and pressure relationships critical to care areas
- Preventive maintenance on equipment that affects patient care, with removal of unsafe units from service

CMS survey teams often probe medical gas and electrical risk categories through NFPA 99; our overview is NFPA 99 Health Care Facilities Code: Risk-Based Approach to Medical Gas, Electrical, and Fire Systems.

Emergency Preparedness (§ 482.15)

Emergency preparedness is not a binder on a shelf. Hospitals must maintain an all-hazards emergency program, train staff, test with exercises, and revise plans after gaps appear. Environment-of-care leaders own large pieces of the footprint: evacuation paths, shelter-in-place, utility failure response, and coordination with clinical leaders.

Evacuation mechanics—horizontal, vertical, and full-building—are detailed in Hospital Evacuation Planning: Horizontal, Vertical, and Full Evacuation Protocols.

CMS CoPs Compared With Joint Commission Accreditation 360

Most acute care hospitals answer to both frameworks.

CMS Conditions of Participation

- Federal minimum standards; mandatory for Medicare participation
- Continuous compliance expectation

- Unannounced state certification surveys
- Financial and enrollment sanctions for sustained noncompliance

Joint Commission (Accreditation 360, 2026)

- Voluntary accreditation with triennial on-site surveys and ongoing standards updates
- Unified Physical Environment chapter effective January 1, 2026
- Deemed status for many CoPs when accreditation is current and CMS recognition applies—hospitals still must close any CMS-specific gaps
- Strong emphasis on culture, tracer methodology, and performance improvement

Documentation Surveyors Will Ask For

If it is not documented, the survey narrative defaults to “not verified.” Build a single source of truth organized by CoP topic, not by department silo.

- Policies and procedures for § 482.41 and § 482.15
- Environment-of-care and safety committee minutes with actions assigned and closed
- Risk assessments, inspection logs, and corrective action tracking
- Fire drill and emergency exercise records with after-action items
- Preventive maintenance and equipment inspection records
- Utility testing (generators, medical gas, critical HVAC components)
- Training and competency records for safety and emergency roles
- Incident and near-miss investigations

Survey timing and deficiency patterns are covered in State Health Department Surveys: Preparation, Common Deficiencies, and Corrective Action Plans. For sustaining readiness between surveys, see Continuous Compliance Monitoring: Real-Time CMS Survey Readiness and Technology-Enabled Healthcare Operations.

Implementation Sequence That Holds After the Survey Team Leaves

1. Baseline against Part 482

- Crosswalk policies and field conditions to § 482.41 and § 482.15
- Prioritize gaps by patient harm and citation history
- Assign owners and dates; fund what infrastructure requires

2. Program design

- Integrate safety, utilities, life safety, infection prevention, and emergency management under clear governance
- Standardize templates for inspections, work orders, and corrective action

3. Deploy and train

- Communicate changes at the unit level, not only in email

- Validate competency for high-risk tasks (fire response, evacuation, utility failure)

4. Monitor and sustain

- Metrics leadership reviews monthly: open deficiencies, overdue PM, repeat findings
- Refresh risk assessments after renovation, occupancy changes, or utility projects

Broader operating context for facility executives is in Healthcare Facility Management: The Complete Professional Guide (2026).

Frequently Asked Questions

What happens if a hospital fails to meet CMS Conditions of Participation?

CMS and the State Survey Agency can require a plan of correction, impose civil monetary penalties, limit or deny payment for new admissions, or recommend termination of the Medicare provider agreement. Termination stops Medicare payment for covered services and forces a formal re-entry process. Treat every citation as a payment and enrollment risk, not a documentation exercise.

How often do CMS certification surveys occur?

Certification surveys are unannounced. For many hospitals with stable compliance, the cycle is roughly every three years, but complaint surveys, validation visits, and follow-up surveys can arrive at any time. Plan for continuous readiness rather than a survey season.

Does Joint Commission accreditation satisfy CMS hospital CoPs?

Accredited hospitals with deemed status are surveyed by the accrediting organization for many CoPs, and CMS accepts that for most requirements when recognition is in effect. CMS still expects full compliance with Part 482, and state agencies may investigate complaints or life safety issues directly. Maintain a CMS crosswalk even when accreditation is current.

Which codes apply to life safety and medical systems during CMS surveys?

Surveyors apply the life safety and physical environment provisions CMS adopts for hospitals, including NFPA 101 for life safety and NFPA 99 for health care facilities code topics such as medical gas and essential electrical systems, along with applicable state and local building and fire codes. Use the edition CMS references for your certification cycle and confirm adoption in your state agency’s materials.

How should environment-of-care documentation be organized for surveyors?

Organize by CoP topic—physical environment, utilities, equipment, emergency preparedness—with policies, inspection logs, maintenance records, training files, and corrective actions indexed together. Surveyors request specific items; scattered files read as disorganization. A centralized repository with role-based access beats binders that only one person can find.

More in the Environment of Care Rounds series

- EoC Rounds: inspection, documentation, and corrective action (hub)
- Joint Commission dropped the written EOC plans: what still applies
- Accreditation 360: the 2026 Physical Environment standards

- How to prepare for a Joint Commission EoC survey
- Most common Joint Commission findings in hospitals
- Joint clinical and facilities rounds and coordination

Previous: Accreditation 360: the 2026 Physical Environment standards | Next: How to prepare for a Joint Commission EoC survey ->

The Conditions of Participation, defined — and where Environment of Care sits in them

The CMS Conditions of Participation (CoPs) are the federal health and safety requirements a hospital must meet to participate in — and be paid by — Medicare and Medicaid. They are codified for hospitals at 42 CFR Part 482. A hospital that does not meet the CoPs does not merely risk a citation; it risks its Medicare agreement, which for most hospitals is an existential financial event.

The CoPs are organized as a set of conditions, each with interpretive standards beneath it. The facility-relevant conditions include:

- **Physical Environment (§482.41)** — the condition this page treats in depth: the hospital must be constructed, arranged, and maintained to ensure patient safety, including compliance with the Life Safety Code edition CMS adopts.
- **Infection Prevention and Control (§482.42)** — the infection prevention program, its leadership, and its systems — the condition that connects construction infection control to federal requirements.
- **Emergency Preparedness (§482.15)** — a separate, cross-cutting condition with its own four core elements, treated in the CMS emergency preparedness rule requirements.
- Plus the clinical and administrative conditions — patient rights, nursing services, medical records, quality assessment and performance improvement (QAPI), and others — that frame how surveyors read the whole hospital.

Compliance is verified by state survey agencies or by CMS-approved accrediting organizations with deeming authority. The condition-level view matters because survey consequences escalate by level: a standard-level deficiency, a condition-level finding, and immediate jeopardy are different events with different timelines — the ladder is laid out in whether CMS can terminate a Medicare agreement over facility issues. For the question at its own level — what the CoPs are, as a whole — see also the CMS Conditions of Participation for hospitals, explained.

What are the CMS Conditions of Participation for hospitals?

The CoPs are the federal requirements at 42 CFR Part 482 that a hospital must meet to participate in Medicare and Medicaid — spanning patient rights, clinical services, infection prevention, emergency preparedness, and the physical environment (§482.41). Non-compliance can escalate from standard-level deficiencies to condition-level findings, immediate jeopardy, and termination of the Medicare agreement.

Joint Commission Accreditation 360: The 2026 Physical Environment Standards Explained

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What this page covers: the 2026 Joint Commission Physical Environment chapter, how it maps to the old EC and LS chapters, NFPA 101/99, and CMS, and what changed for survey scoring. **Who it is for:** facility, life safety, and accreditation leaders at hospitals and critical access hospitals updating their EOC program for 2026.

Environment of Care Rounds series · Part 3 of 7 · Back to the EoC Rounds hub

Previous: Joint Commission dropped the written EOC plans: what still applies | Next: CMS Conditions of Participation: environment of care requirements ->

On this page: What Accreditation 360 changed—and what it did not · The Physical Environment chapter at a glance · NFPA 101, NFPA 99, and CMS CoP 482.41 · Written EOC management plans: dropped as a TJC ask, not as work · ILSM, ICRA, and construction under PE · Scoring, the SAFER matrix, and survey readiness in 2026 · What facility managers should do now · FAQ

Direct answer: Accreditation 360 is The Joint Commission’s unified hospital and critical access hospital accreditation model, effective January 1, 2026. It replaces separate Environment of Care and Life Safety chapters with one Physical Environment (PE) chapter aligned to CMS Condition of Participation 482.41, pairs it with a streamlined National Performance Goals (NPG) chapter for requirements above CMS, and drives surveys through the new Survey Process Guide (SPG). Life safety code compliance, ILSM during construction, utility and water programs, and building assessment expectations remain; numbering, crosswalks, and some written-plan documentation rules changed.

On this page: What Accreditation 360 changed—and what it did not · The Physical Environment chapter at a glance · ILSM, ICRA, and construction under PE · What facility managers should do now · FAQ

What Accreditation 360 changed—and what it did not

Accreditation 360: The New Standard rolled out for hospitals and critical access hospitals on January 1, 2026. The Joint Commission’s stated goals are simpler manuals, closer alignment with CMS survey logic, one shared

SPG for organizations and surveyors, and less duplicate paperwork across chapters that used to tell the same physical-environment story twice.

For facility leaders, the headline is structural, not a relaxation of fire, egress, or utility rules. The old EC and LS manuals still described the same basement, roof, and corridor risks; they just split them across two binders and hundreds of discrete elements of performance (EPs). Under Accreditation 360, most of that work lives in PE. Requirements that exceed CMS minimums—workplace violence worksite analysis, parts of security and utility oversight, imaging safety emphasis—shift into NPG. Infection Control and Emergency Management remain standalone chapters, but Joint Commission has streamlined them toward CoP language as well.

Survey timing and the broad session flow (document review, tracers, building assessment) did not disappear. Joint Commission's PE webinar material is explicit: PE concepts are still reviewed in document review; Life Safety Code issues are still evaluated during the building assessment. What changed is how you find the requirement in the manual, how it maps to a CoP line, and which compliance tools in the SPG apply.

For the wider regulatory stack—including CMS, NFPA, FGI, and ESG pressure on capital plans—see Healthcare Regulatory Convergence in 2026.

The Physical Environment chapter at a glance

The PE chapter organizes physical environment compliance around eight standards. Joint Commission's September 2025 PE webinar names them as follows:

- **PE.01.01.01** — safe, adequate environment (interior space suitability, cleanliness themes that survey data show as persistent findings)
- **PE.02.01.01** — hazardous materials and waste
- **PE.03.01.01** — design and manage the environment to comply with the Life Safety Code (NFPA 101 for most hospital occupancy questions surveyors score)
- **PE.03.02.01** — protect occupants when the Life Safety Code is not met or during construction (interim life safety measures, ILSM)
- **PE.04.01.01** — building safety and facility management (includes Health Care Facilities Code / NFPA 99–related expectations that moved out of long LS EP lists into PE plus SPG tools)
- **PE.04.01.03** — utility systems
- **PE.04.01.05** — water management program (Legionella and waterborne pathogen control)
- **PE.05.01.01** — imaging safety risks (MRI and related hazards)

Several former EC topics now sit under NPG (for example workplace violence worksite analysis under NPG.02.04.01 and broader secure-and-safe-environment expectations under NPG.11). Additional imaging and utility emphasis may appear in NPG as well; PE.05.01.01 still anchors MRI and imaging safety in the PE chapter. The concepts are not new; the chapter name is.

EP counts, crosswalks, and the SPG

Joint Commission reduced manual bulk by renumbering, consolidating, and moving detailed NFPA-centric EP prose into SPG modules and evaluation tools (K-tag tools, fire drill matrix, document review lists, the Physical Environment Evaluation Module for CoP 482.41). That is not the same as deleting the underlying code

obligation—it relocates how you look it up on survey day.

Each SPG module typically shows three columns: Joint Commission standard/EP, the CMS CoP text, and survey activities (interview, record review, observation). PE requirements also appear inside clinical modules when radiology or nuclear medicine tracers touch equipment and shielding. Use the disposition reports and hospital crosswalk compare files on Joint Commission's Accreditation 360 pre-publication resources page to retag your internal matrices without rewriting programs from scratch.

Official orientation: Survey Process Guides (Joint Commission).

NFPA 101, NFPA 99, and CMS CoP 482.41

Deemed-status hospitals still trace to CMS Conditions of Participation. CoP 482.41 requires a sanitary, safe, and functional physical environment; CMS continues to reference the 2012 editions of NFPA 101 (Life Safety Code) and NFPA 99 (Health Care Facilities Code) for Medicare certification through the adopted codes in the State Operations Manual and related guidance.

Under PE, Joint Commission maps PE.03.01.01 to Life Safety Code compliance and PE.04.01.01 to Health Care Facilities Code expectations, with granular door, penetration, sprinkler, and barrier details often evaluated via SPG tools rather than pages of LS.02 EP text. Your maintenance and inspection calendars should still cite NFPA chapters and your adopted edition; only the Joint Commission citation line on the work order changes.

For how CoP language translates into daily EC work (even when the chapter title says PE), start with CMS Conditions of Participation: Environment of Care Requirements for Hospitals.

Written EOC management plans: dropped as a TJC ask, not as work

Beginning January 1, 2026, Joint Commission no longer requires hospitals and CAHs to maintain separate written management plans for each legacy EC functional area (safety, security, hazardous materials and waste, utilities, medical equipment). Ambulatory programs are the exception—they still carry written plan EPs in their manuals.

Surveyors will still expect defined plans where CMS and remaining TJC EPs require them: fire response, water management, and emergency operations. Everything else—risk assessment, committee oversight, inspection schedules, corrective action—must still run; it just does not have to sit in seven binders because an EP demanded a standalone plan title.

Do not interpret that as permission to shred last year's EC plans. Those documents remain useful evidence for document review and for state surveyors who may still ask CoP-style questions. Our field read: Joint Commission Dropped the Written EOC Plans. The Work Did Not Go Away.

ILSM, ICRA, and construction under PE

ILSM stays explicitly in PE.03.02.01—protecting occupants when life safety features are impaired or when construction, renovation, or maintenance opens walls and corridors. The measure set (alternate egress, temporary smoke barriers, increased fire watch, etc.) is familiar; cite PE instead of LS.03.01.30-series EPs when you update construction packets.

Infection Control Risk Assessment (ICRA) remains in the Infection Control chapter, not PE. Joint Commission has continued to tighten infection control during construction (including ICRA 2.0–style expectations reflected in 2026 alerts). Facility managers still co-own the barrier, pressure, and monitoring story with infection prevention and the contractor.

Practical references on this site:

- ICRA Meaning in Healthcare Construction: Class I–V Matrix and Barriers
- Healthcare Facility & Safety Alerts: CMS EP Rules, TJC Environment of Care & ICRA 2.0 Directives

Scoring, the SAFER matrix, and survey readiness in 2026

Accreditation 360 did not replace the SAFER matrix (Severity, Actual harm, Frequency, Extent, Risk). Findings still roll up by severity and time frame for accreditation decisions. When Life Safety Code EPs consolidated under PE.03.01.01 EP 3, scoring locations for frequently cited sprinkler, fire door, and penetration issues moved with them—your internal trending reports should track PE numbers starting with surveys after January 1, 2026.

Joint Commission publicly noted a short transition grace for cross-reference errors early in 2026 when organizations still label policies with EC or LS numbers but meet the underlying requirement. That is courtesy, not a strategy. Update policy headers, EOC round documentation, and compliance trackers to PE/NPG citations before your next survey window.

Readiness in 2026 favors continuous evidence over pre-survey binder assembly: closed work orders, ILSM logs, utility test results, fire drill documentation, and water management records that match SPG document lists. Tools that monitor those feeds in near real time align with Accreditation 360's continuous readiness messaging—see Continuous Compliance Monitoring: Real-Time CMS Survey Readiness.

State agency surveys run on their own schedules and deficiency codes; PE consolidation does not change state fire or physical environment statutes. Keep state survey prep separate but fed from the same data: State Health Department Surveys: Preparation, Common Deficiencies, and Corrective Action Plans.

What facility managers should do now

Retag, do not rebuild: crosswalk EC/LS policies to PE/NPG, refresh the document review index to the SPG hospital document list, and train survey coordinators on SPG module navigation before the next mock survey.

- Download Joint Commission disposition and crosswalk compare reports for your program (hospital vs CAH).
- Map PE.03.01.01 and PE.03.02.01 to your life safety and ILSM programs; confirm NFPA 101/99 inspection tags match SPG K-tag tools.
- Keep water management and fire response plans survey-ready; fold legacy EC plan content into operational SOPs where written plans are no longer required.
- Align construction charters so ICRA (IC chapter) and ILSM (PE.03.02.01) are approved together before walls open.
- Update leadership dashboards to PE/NPG citation IDs and SAFER severity—not EC/LS labels.

For a full compliance program map beyond physical environment, use Healthcare Regulatory Compliance: The Complete Professional Guide (2026).

FAQ

When did Accreditation 360 and the PE chapter take effect?

January 1, 2026, for Joint Commission–accredited hospitals and critical access hospitals. Other accreditation programs have later rollout dates per Joint Commission announcements.

Did Emergency Management merge into the Physical Environment chapter?

No. Emergency Management remains its own chapter, streamlined toward CMS emergency preparedness CoPs. Environment of Care and Life Safety requirements consolidated into PE (and selected EC topics moved to NPG).

Can we stop maintaining written environment-of-care management plans?

For hospitals and CAHs, Joint Commission no longer requires separate written plans for each legacy EC functional area as of January 1, 2026. You must still operate the programs, meet CMS obligations, and maintain required fire response, water management, and emergency operations plans.

Where do NFPA 101 and NFPA 99 show up in surveys now?

Life Safety Code compliance is centered on PE.03.01.01; Health Care Facilities Code expectations tie to PE.04.01.01 and related SPG evaluation tools. Surveyors still walk the building for code issues; detailed EP lists in the manual were shortened in favor of SPG guidance.

How does ILSM fit under Accreditation 360?

ILSM requirements are under PE.03.02.01—protecting occupants when the Life Safety Code is not met or during construction. ICRA remains under Infection Control; both must be active before disruptive work.

Did Accreditation 360 change how findings are scored?

The SAFER matrix remains the severity framework for accreditation findings. Standard and EP numbers changed—especially for life safety—so internal trending and corrective action trackers should use PE/NPG references for 2026 surveys.

More in the Environment of Care Rounds series

- EoC Rounds: inspection, documentation, and corrective action (hub)
- Joint Commission dropped the written EOC plans: what still applies
- CMS Conditions of Participation: environment of care requirements
- How to prepare for a Joint Commission EoC survey
- Most common Joint Commission findings in hospitals
- Joint clinical and facilities rounds and coordination

Previous: Joint Commission dropped the written EOC plans: what still applies | Next: CMS Conditions of Participation: environment of care requirements ->

Sterile Processing and AAMI ST79: What SPD Does, Wet Packs, and Steam Sterilization

Source: https://healthcarefacilityhub.org/sterile-processing-instrument-reprocessing-aami-st79-fda/ Published: March 18, 2026

Updated September 30, 2026.

Take this to the job site.

This article as a one-page field sheet – the direct answer, the key numbers, and the checklist. Free PDF, prints clean, works offline.

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Sterile processing departments reprocess reusable instruments through decontamination, inspection, assembly, steam sterilization, and controlled storage under manufacturer instructions for use (IFU), facility policy, and consensus standards. ANSI/AAMI ST79 is the primary U.S. guide for steam sterilization and sterility assurance in health care; a wet pack is treated as not sterile until the cause is corrected and the load is reprocessed. Surveyors evaluate the program, competency, and documentation—not posters.

What SPD Does in the Reprocessing Chain

The sterile processing department (SPD), sometimes central sterile or sterile processing and distribution, sits between the clinical user and the patient for reusable critical and semi-critical devices. Work flows in one direction: soiled items arrive; sterile, traceable sets leave.

Decontamination

Instruments are received, sorted, and cleaned—often with mechanical washers after point-of-use treatment in the OR or procedural area. Cleaning removes soil so disinfection or sterilization can work. Water quality for washing and rinsing is governed separately from steam sterilization (see Legionella Water Management Programs: ASHRAE 188, CDC Toolkit, and CMS Requirements for how facilities run multidisciplinary water programs; processing water requirements live in ANSI/AAMI ST108, not ST79).

Inspection, assembly, and packaging

Technicians inspect for damage, residual soil, and function; assemble trays or sets per count sheets; and package with appropriate wrap or rigid containers. Peel pouches, filters, and container locks are part of the sterile barrier system. Loaner and vendor trays add complexity—tracking, IFU compliance, and turnaround time must be managed like owned inventory.

Sterilization, storage, and distribution

Loaded sterilizers run validated cycles. After successful release, items go to sterile storage with controlled traffic, humidity limits where specified, and FIFO rotation. Distribution to the OR or clinic completes the loop. Breaks anywhere in the chain—missed IFU steps, poor steam quality, or a wet pack—push risk downstream.

AAMI ST79: Steam Sterilization and Sterility Assurance

AAMI publishes ANSI/AAMI ST79, a comprehensive guide to steam sterilization and sterility assurance in health care facilities. As of late 2026, the recognized edition in circulation is **ANSI/AAMI ST79:2017/(R)2022**, incorporating Amendments A1–A4:2020. The Food and Drug Administration lists this consolidated text among recognized consensus standards for reprocessing. AAMI has announced a full revision effort; until a new edition publishes, facilities align practice to the current ST79 text plus manufacturer IFUs.

ST79 scope includes processing area design and workflow, personnel qualification, sterilizer installation and maintenance, loading practices, monitoring, record keeping, and quality improvement. It is widely referenced by accreditors and surveyors when they assess whether sterilization is controlled, not whether a slogan is on the wall.

Do not conflate ST79, ST108, and ST91

ST79 addresses steam sterilization and sterility assurance. **ANSI/AAMI ST108:2023** addresses water quality for medical device processing—utility, critical, and steam condensate criteria and monitoring. **ST91** addresses flexible and semi-rigid endoscope processing in health care facilities. Each standard has its own committee and scope; citing “ST79” for endoscope high-level disinfection or “ST108” for cycle parameter release blurs accountability. Your SPD policy should name which standard applies to which step.

Manufacturer IFU and FDA expectations

The device manufacturer’s IFU defines validated methods, detergents, cycle type, and drying requirements for that product. Facility policy cannot override a more stringent IFU. FDA guidance and recognized standards expect hospitals to follow labeled reprocessing instructions. HTM and clinical engineering tie in when equipment maintenance affects safety—see Medical Equipment Management: HTM Programs, Cybersecurity, and FDA Requirements.

Steam Quality and Utilities

Steam for sterilization comes from in-sterilizer generators or central plant boilers. Poor steam—carryover, wet steam, or contaminated condensate—shows up as staining, corrosion, and wet loads. ST108 sets condensate quality expectations and monitoring concepts; ST79 and sterilizer IFUs address steam suitability at the chamber. Utilities teams and SPD share ownership. Risk-based utility code concepts in NFPA 99 Health Care Facilities Code: Risk-Based Approach to Medical Gas, Electrical, and Fire Systems sit adjacent to this work—know who answers when steam pressure drops mid-cycle.

Monitoring Sterilizer Performance

Physical monitors and printouts

Each cycle record should show time, temperature, and pressure (or equivalent) per sterilizer capability. Operators review charts or electronic logs before release. Failed parameters mean the load is not released as sterile.

Chemical indicators

External and internal chemical indicators show that sterilant reached a location inside the pack. They do not prove sterilization alone; they supplement physical data and BI policy.

Bowie-Dick–type tests

Pre-vacuum steam sterilizers use daily air-removal tests (commonly Bowie-Dick–type packs) to confirm the prevacuum stage removes air from a test pack. A fail stops clinical loads until the machine is checked and the test passes per facility policy and ST79.

Biological indicators

Biological indicators (BIs) use resistant spores to challenge the cycle. Routine BI placement follows ST79, policy, and load type (e.g., implant loads). Positive BIs or incomplete incubation trigger recall assessment and documented response.

Wet Packs: Definition, Impact, and Corrective Action

A **wet pack** is a sterilized load or package that remains moist or shows visible wetness inside the barrier after the cycle and appropriate cooling/drying time. Moisture breaches the sterile barrier concept: wicking, handling contamination, and uncertain sterility. Industry practice and ST79-aligned policy treat a wet pack as **not sterile**. Do not send it to the OR hoping it dries on the shelf.

Common contributors

Causes often cluster: overloaded sterilizer or dense metal sets; incorrect drying phase or shortened cycle; packaging too thick or layered; condensate from poor steam quality; cooling on cold surfaces; and storage in humid areas. Loaner trays with unfamiliar configurations repeat wet-pack patterns until SPD maps IFU drying requirements.

Investigation and reprocessing

Document the event: sterilizer ID, cycle number, load contents, indicator results, and environmental conditions. Quarantine affected items; reprocess through the full validated path per IFU. Trend wet packs monthly. Repeat events on one unit or one tray type warrant engineering review, not another reminder sign.

Loaner Trays and High-Turnover Sets

Vendor-provided loaner implants and instruments arrive with IFUs that may differ from your house cycles. SPD needs intake inspection, contract expectations, and traceability for each case. Missing instructions or damaged containers stop the line. Perioperative and value analysis should not bypass SPD because the case is urgent.

Survey Readiness: Joint Commission, CMS, and the Record

Accreditors and CMS Condition of Participation surveys ask whether reprocessing is organized, staffed, and evidenced. The Joint Commission’s Accreditation 360 unified Physical Environment chapter, effective January 1, 2026, continues to expect operational discipline even where written plan formats changed—see Joint Commission Dropped the Written EOC Plans. The Work Did Not Go Away. Infection control standards under The Joint Commission and CMS (CMS) still reach SPD through program oversight, competency, and infection prevention collaboration.

Surveyors sample logs: sterilizer maintenance, BI results, load release, wet-pack investigations, recall actions, and competency files. They walk decontamination to sterile storage and watch workflow separation. A polished policy binder without matching logs fails. Real-time compliance habits matter—Continuous Compliance

Monitoring: Real-Time CMS Survey Readiness applies to SPD metrics as much as to life safety.

Construction and renovation that touch SPD or soiled clean elevators trigger ICRA and interim life safety coordination; sterile corridors are not the place for dust and uncontrolled traffic. Cross-read ILSM Meaning in Healthcare Construction: Interim Life Safety Measures vs ICRA when projects abut central sterile.

ST108 Water Quality Worksheet: Log Results Against Your Own Limits

ANSI/AAMI ST108:2023 sorts processing water into three categories — utility water, critical water, and steam condensate — and expects each one monitored against the criteria your program adopted. This worksheet does not invent those criteria and does not carry anyone else's limits. You enter the limits your facility adopted from the standard and your policy, log each result at its sampling point, and the sheet scores every result against your own number, in the open.

Water quality in sterile processing is shared work. SPD runs the process, facilities and utilities own much of the water, and infection prevention reviews the results with both. That is why this sheet ends with two sign-offs instead of one: a water log only one department ever sees is a finding waiting for a surveyor to connect the dots.

ST108 water monitoring worksheet

Name the system, pick its water category, and enter your facility's adopted limit for each test. Results score against your limits as you type. Nothing is uploaded — the log prints from your browser.

Facility