2026 CSHE ANNUAL INSTITUTE

ASHRAE/ASHE Guideline 43: The New Playbook for Ventilation Compliance in Healthcare Facilities

SILICON SYSTEMS:
POWERING THE FUTURE OF
OF HEALTHCARE FACILITIES

MAY 13 - 15
SANTA CLARA, CA

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Disclaimers

- Not speaking on behalf of Join Commission or any accrediting agencies
- Not speaking on behalf of ASHRAE/ASHE
- Recommend you review the specific standard or guideline requirements of your own accrediting agency
- Recommend you subscribe to their communications to stay up to date

Why are we talking about Ventilation?

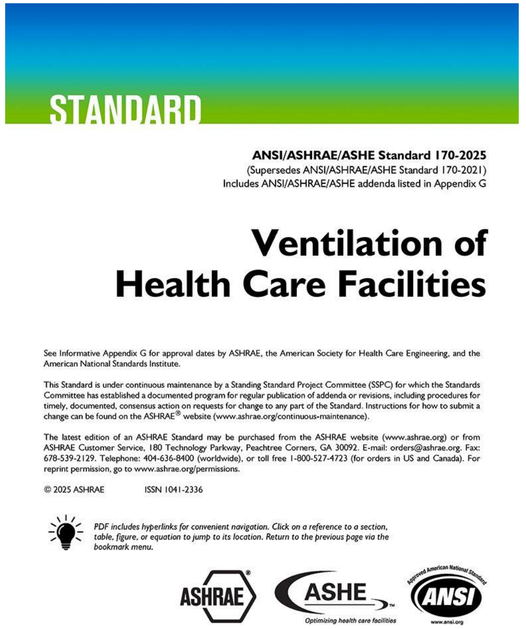
Joint Commission's 5 most challenging requirements for hospitals (2023–2024) are:

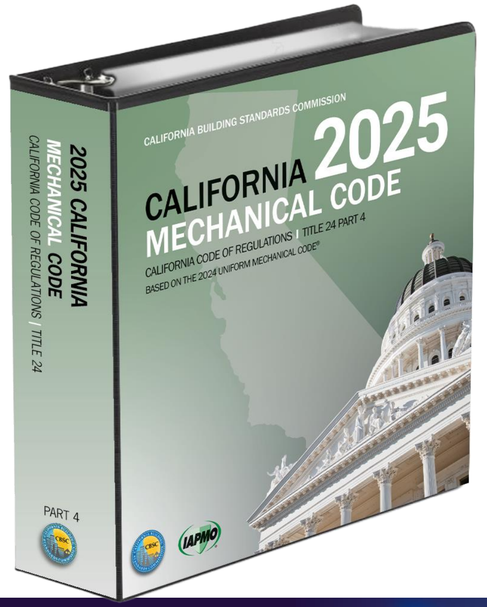
1. Infection Prevention and Control (IC.02.01.01): Improper disinfection and sterilization of medical equipment, devices, and supplies.
2. Suicide Risk Reduction (NPSG.15.01.01): Failure to identify environmental risks for suicide and lack of adherence to suicide prevention policies.
3. Medication Administration (MM.05.01.01): Inadequate safety measures during the administration of medications.
4. Physical Environment Safety (EC.02.06.01): Interior spaces (lighting, safety, and hygiene) not meeting patient safety requirements.
5. **Ventilation Systems (EC.02.05.01 EP15) : Failure to maintain proper ventilation systems and control airborne contaminants including pressure relationships, air-exchange rates, filtration efficiencies, temperature and humidity.**

The Current Ventilation Playbooks

ASHRAE/ASHRAE Standard 170
(Ventilation of Health Care Facilities)

+ T24 Part 4
California Mechanical Code





Why Ventilation Compliance Is Challenging?

- Multiple governing bodies
- Different versions enforced
  - NFPA 99 (2012) – CMS/JC adopted
  - NFPA-99 still references 170-2008
  - Facilities could be built on later versions of CMC/170
- Conflicting Requirements
  - Endoscopy : Negative Pressure in 2008 but NR in 2025

OSHPD
Office of Statewide Health Planning and Development

JOINT COMMISSION

AAMI
Advancing Safety in Healthcare Technology

ASHE
American Society for Healthcare Engineering
A personal membership group of the American Hospital Association

AORN

ASHRAE

APIC
Association for Professionals in Infection Control and Epidemiology

FGI
FACILITY GUIDELINES INSTITUTE

Healthcare Ventilation History

- In California: Table 4-A – consistent since the creation of OSHPD in the 1970s
- Outside California :
  - Pre-2008 : Fragmented Requirements (AIA, FGI, ASHRAE…)
  - ASHRAE-170 published first time in 2008
  - On a 4-year cycle and incorporated in FGI
- Since 2019 mid cycle code update, CMC Table 4-A aligned with Standard 170

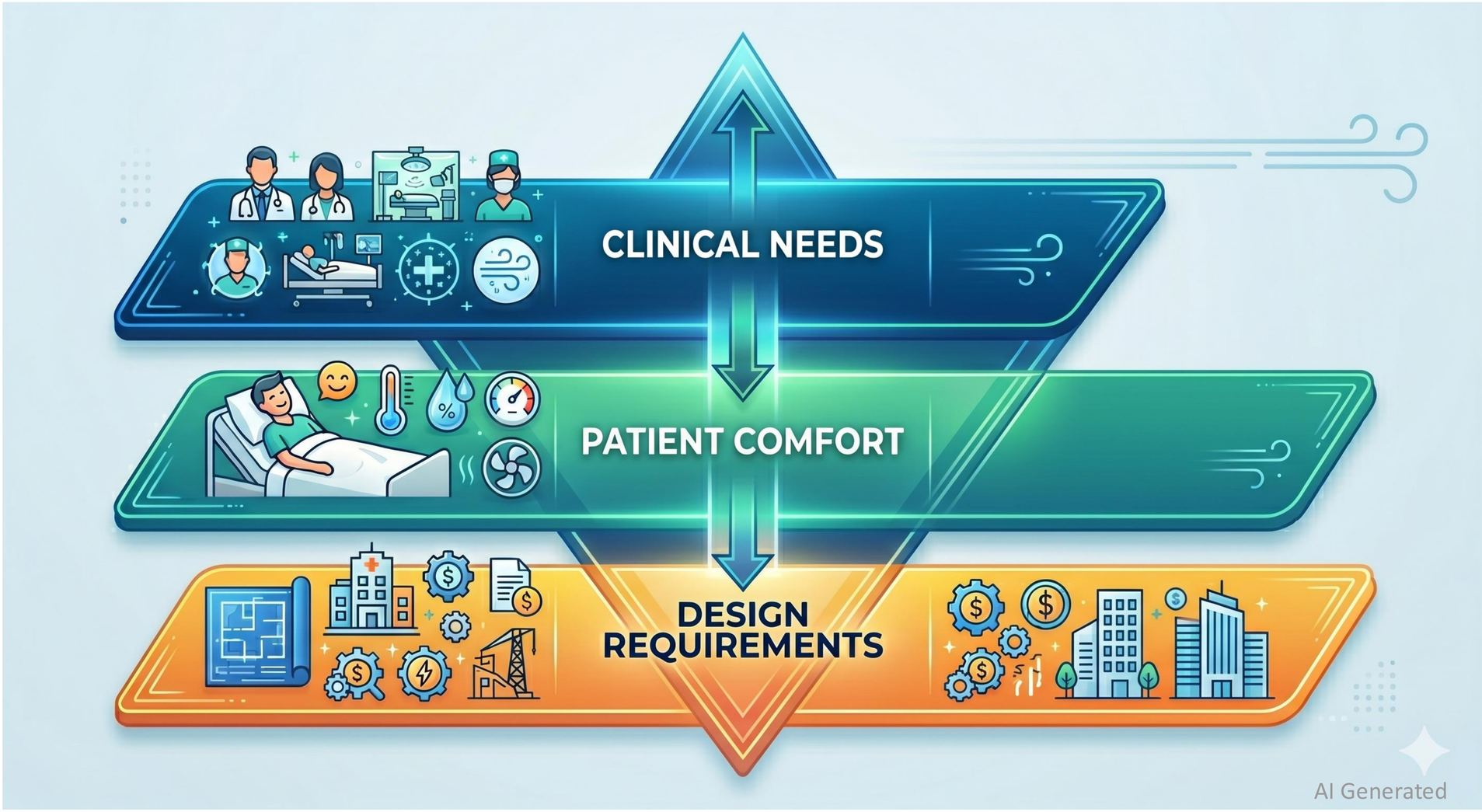
The first gap: Design Vs Clinical Need

- ASHRAE Standard 170 is a **DESIGN** Standard
- ASHRAE Standard 170 is **NOT** an **OPERATIONS** standard
- Example : Operating Room temperature in Std 170 : 68 ˚F to 75 ˚F
- Operating Room at 95 ˚F ?
- Operating room at 64 ˚F?

The second gap: Design Vs Patient Comfort

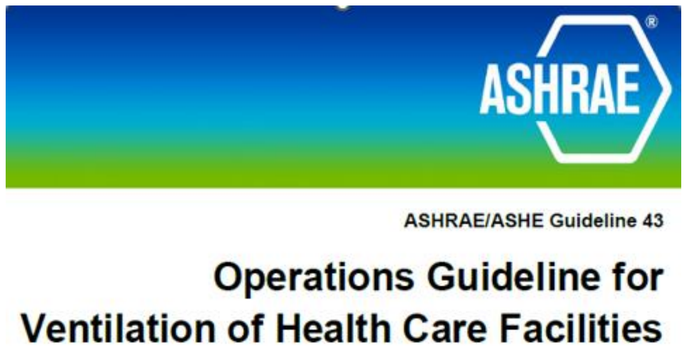
- Comfortable patients heal faster!
- Example : Patient Room temperature in Std 170 : 70 ˚F to 75 ˚F
- Many patients with blankets
- Why can’t we have a patient room at 78 ˚F?

The Hierarchy of Importance

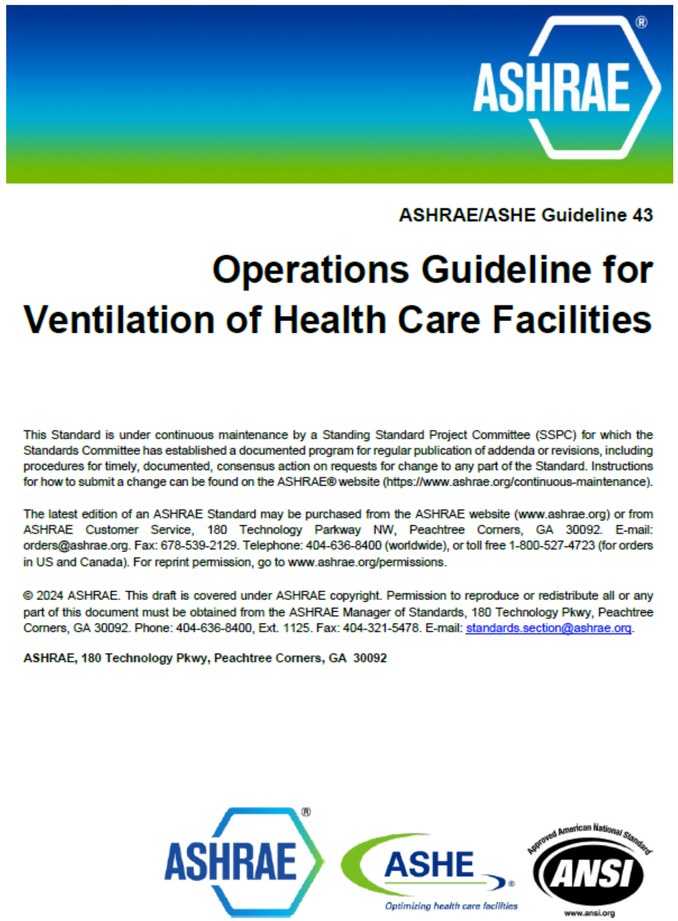


The missing link : Guideline 43

Standard 170	Guideline 43
Design standard	Operational guideline
Prescriptive values	Risk-based approach
New construction focus	Existing systems focus
Static requirements	Dynamic management
Compliance at turnover	Continuous compliance



ASHRAE/ASHE Guideline 43 - Introduction



ASHRAE/ASHE Guideline 43

Operations Guideline for Ventilation of Health Care Facilities

This Standard is under continuous maintenance by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the Standard. Instructions for how to submit a change can be found on the ASHRAE® website (https://www.ashrae.org/continuous-maintenance).

The latest edition of an ASHRAE Standard may be purchased from the ASHRAE website (www.ashrae.org) or from ASHRAE Customer Service, 180 Technology Parkway NW, Peachtree Corners, GA 30092. E-mail: orders@ashrae.org. Fax: 678-539-2129. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada). For reprint permission, go to www.ashrae.org/permissions.

ASHRAE, 180 Technology Pkwy, Peachtree Corners, GA 30092

ASHRAE ASHE Optimizing health care facilities Approved American National Standard ANSI www.ansi.org

The purpose

To provide *recommendations* for the *operations of HVAC systems* in health care facilities for the *safety and comfort* of occupants.

The scope

Guidance for operational parameters and preventative maintenance, *based on the capabilities of the infrastructure*, and the *risks incurred* in the systems and spaces.

Ventilation Management Program (VMP)

Guideline 43 Chapter Overview

1. Purpose
2. Scope
3. Definitions
4. Operating Practices
5. Monitored Spaces
6. VMP Implementation

Informative Appendixes

Chapter 4 – Operating Practices

Reference & Planning Docs

Collect and organize as-builts, O&M manuals, descriptions of spaces (Keep them current)

Environmental Conditions

Daily protocols to sustain ventilation, temperature, humidity & pressure with acceptable ranges

Risk-Based Maintenance

Adjust maintenance based on criticality, condition and potential patient impact. (FDD tools)

Excursion Response

Documented excursion response process based on risk level and duration of excursion.

Construction and Renovation

Strategies to maintain ventilation compliance during renovation or constructing projects.

Chapter 5 – Monitored Spaces

Space Classification

Identify & document space use & risk of harm: i.e.“ Critically Ventilated” vs. “Generally Ventilated” spaces.
(NFPA 99 Ch. 4)

Verification of Space Conditions

Process measuring and documenting space conditions, BMS, CMMS, IoT device, (or manually)

Frequency of Space Verification

Verify using “prescribed frequencies” or using risk-based frequencies” as determined by the VMP

Enhanced Monitoring Process

Where conditions or equipment create additional risk requiring more frequent verification

Example: Risk Ranking of Spaces

Function of Space	Pressure Relationship to Adjacent Areas (n)	Pressure Risk Category	Relative Humidity (k),%	Humidity Risk Category	Design Temperature (l) F°/°C	Temperature Risk Category
SURGERY AND CRITICAL Care						
Classes B and C operating room, (m), (n), (o)	Positive	1	30-60	1	68-75	1
Operating/surgical cystopic rooms, (m), (n), (o)	Positive	1	30-60	1	68-75	1
Delivery room (Caesarean) (m), (n), (o)	Positive	1	30-60	1	68-75	1
Critical and intensive care	Positive	2	30-60	3	70-75	4
Newborn intensive care	Positive	2	30-60	3	70-75	4
Treatment Room (p)	N/R	-	30-60	4	70-75	4
Trauma room (crisis or shock) (c)	Positive	1	30-60	1	70-75	3
Medical/anesthesis gas storage (r)	Negative	1	N/R	-	N/R	-
ER waiting room (q)	Negative	3	max 65	-	70-75	4
Triage	Negative	3	max 60	-	70-75	4
ER decontamination	Negative	3	N/R	-	N/R	-
Radiology waiting rooms (q)	Negative	2	max 60	3	70-75	3
Class A Operating/Procedure room (o), (d)	Positive	2	30-60	2	70-75	2
INPATIENT NURSING						
Patient rooms (s)	N/R	-	max 60	4	70-75	4
Toilet room	Negative	4	N/R	-	N/R	-
Protective environment room (f), (n), (t)	Positive	1	max 60	4	70-75	4
All room (e), (n), (u)	Negative	1	max 60	4	70-75	4
All isolation room (t), (u)	N/R	1	N/R	-	N/R	-

Category 1 Risks
Category 2 Risks
Category 3 Risks
Category 4 Risks

Chapter 6 – Creating the VMP

1. Form a Committee
2. Determine a Source of Truth
3. Establish your Maintenance Plan
4. Develop Excursion & Outage and Response Plan
5. Create & Approve the VMP Documents
6. Educate Staff & Leaders
7. Maintain the Plan

Chapter 6 – Creating the VMP

#1 Form a Committee

Utilize a multidisciplinary group of leaders across your org; include leaders from all applicable campuses and buildings; determine code reference(s). Consider sub-committees to divide responsibilities.

- **Accreditation**
- **Design & Construction**
- **Engineering**
- **Infection Prevention**
- **Nursing**
- **Perioperative Services**
- **Pharmacy**
- **Site Leaders**

Chapter 6 – Creating the VMP

#2 Determine a Source of Truth

Establish a Consistent Source of Data and a comprehensive list of all the spaces with ventilation requirements; ensure room usage and room name in this list align to those in life safety plans.

- **As-builts, O&M Documents**
- **Space Classification List**
- **Verification Sources (BAS, FDD, CMMS)**
- **Risk Ranking Ontology**
- **Code references**

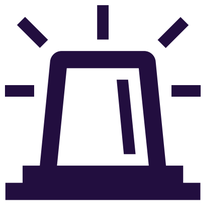
Chapter 6 – Creating the VMP

#3 Establish your Maintenance Plan

Establish a clear plan for inspection, verification and preventative maintenance with intervals that align with risk.

- **Equipment classification**
- **Baseline maintenance tasks/frequency**
- **Critical maintenance tasks/frequency**
- **Responsibility Matrix**
- **Verification of Vendor Maintenance**
- **Identify Condition Indicators (FDD)**

Chapter 6 – Creating the VMP



#4 Develop Excursion & Outage and Response Plan

Determine excursion thresholds and duration along with response plan for each space and possible excursion. Document procedures for major outages ie. AHU, Chiller, BAS failures.

- **Notification Procedures**
- **Event Documentation Process**
- **Mitigation Procedures**
- **Escalation Process**
- **Restoration Procedures**

Example: Excursion Plan

Table 6.8.1 Thresholds for Response to Temporary Increase in Rh

Relative humidity ≤5% over upper limit		
> 6 hours continuously	> 12 hours continuously	> 4 hours continuously
• Facility engineer will take *corrective action* and adjust the mechanical system to bring the Rh down within acceptable range.	• Facility engineer will take *corrective action* and notify the leader or designee of the respective departments of the involved space. • The leader or designee will convene with the key	• Facility engineer will take *corrective action* and notify the leader or designee of the respective departments. • The leader or designee and key stakeholders will

Table 6.8.2 Thresholds for Response to Temporary Decrease in Rh

Relative humidity up to 5% below lower limit		Relative humidity >5% below lower limit
> 6 hours continuously	> 12 hours continuously	> 4 hours continuously
• Facility engineer will take *corrective action* and adjust the mechanical system to bring the Rh up	• Facility engineer will take *corrective action* and notify the leader or designee of the respective departments. • The leader or designee will	• Facility engineer will take *corrective action* and notify the leader or designee of the respective departments.

Chapter 6 – Creating the VMP

#5 Create and Approve the VMP Documents

Committee members (or sub-committees) author the documents and seek approval for initial working version.

- **Modify existing policies to reference the VMP**
- **Review Existing Policies for conflicts**
- **Make VMP easily accessible for reference**

Chapter 6 – Creating the VMP

#6 Educate Staff & Leaders

Explain the purpose of the VMP and the role that ventilation management plays in patient safety and compliance.

- **Make technical data easy to understand**
- **Use signage for pressure maps**
- **Standard room identification signage (red, yellow, green)**
- **Communicate often and keep the VMP processes highly visible**

Chapter 6 – Creating the VMP

#7 Maintain the Plan

Use performance data to determine where adjustments are needed and update condition indicators and space use

- **Use captured data as basis for change**
- **Approve changes at committee meetings**
- **Maintain full version history**
- **Update supporting VMP documents (room/equipment list)**
- **Verify space usage regularly**
- **Adjust to maintain adoptions by TJC and related AHJs.**

The VMP is a “living document”

The Informative Appendixes

These are not guidelines, but rather optional notes

Informative Appendixes

Appendix A - Recommended System Condition Indicators
Appendix B - Sources of Program Objectives
Appendix C - Situations Requiring Review of the Maintenance Plan
Appendix D - Reasons for Adjusting Maintenance Task Frequency
Appendix E - Facility Observations That May Influence Baseline Inspection Frequencies
Appendix F - Ventilation Management Program Plan
Appendix G - Ventilation Management Program Plan Baseline Inspection and Maintenance Tasks

What’s next for Guideline 43

- Published on 6/15/25 – available through the ASHRAE bookstore
  - ASHE link https://www.ashe.org/ashrae-ashe-guideline-43
- ASHRAE 170 Updates – 2025 edition – addendum will reference Guideline 43
- NFPA 99 – 2027 edition – potential references to VMP

In Summary

Guideline 43 and the VMP

What it IS

- Operational guidance for managing ventilation compliance & patient safety
- Your operational standard for your specific facility
- Working in collaboration with 170 and related codes
- Maintained and updated regularly
- Your reference standard for accreditation surveys

What it is NOT

- An ASHE or ASHRAE Standard (yet)
- A replacement for existing standards
- An alternative to code compliance
- The same for each Healthcare facility

Thank you for attending

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