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This Session is a “Disaster”

January 12, 2021

Doug Erickson, CEO, Facility Guidelines Institute

Heather Livingston, Director of Operations, Facility Guidelines Institute





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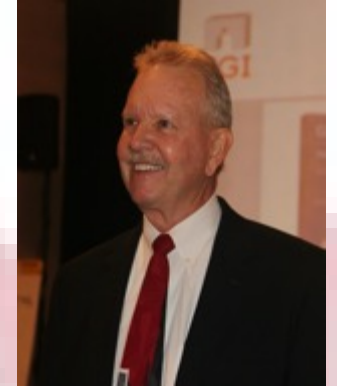
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Beyond the Basics

As part of the Academy's multi-channel, on-line approach, these sessions are tailored to mid-level design professionals with enough exposure to jump-start interest in wanting to learn more.



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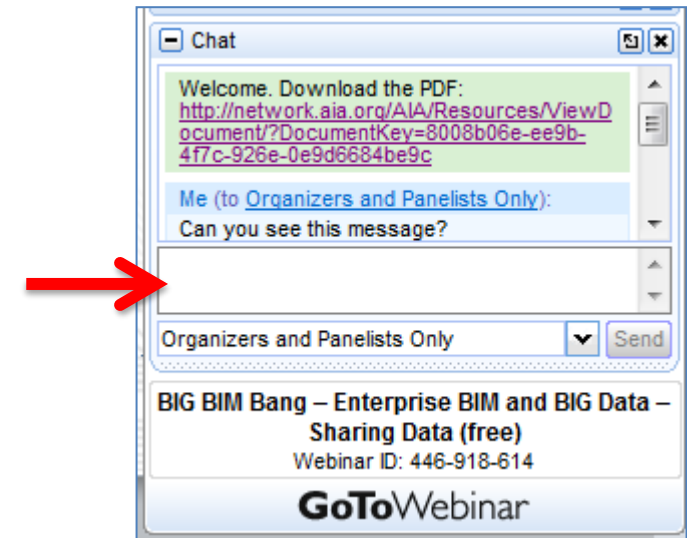
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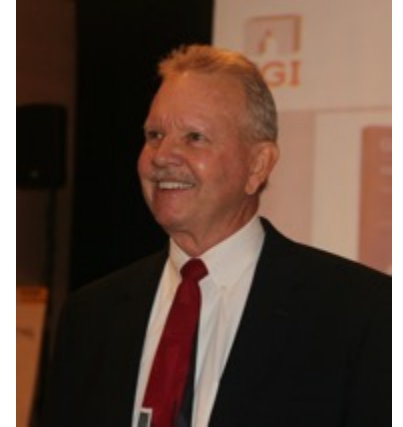




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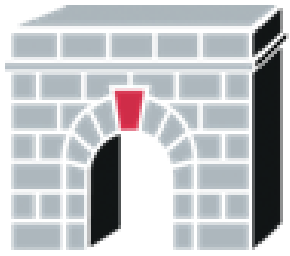
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Doug Erickson, CEO, Facility Guidelines Institute



**Heather Livingston, Director of Operations, Facility
Guidelines Institute**





FGI



*FGI Guidelines on
Emergency Conditions
and
2022 Edition Major
Changes*

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Topics

Topics to Cover:

1. Project Scope
2. Risk Assessment
3. Subcommittee Recommendations
4. Major Changes in 2022 *Guidelines*
5. Questions



How do we present these new requirements?

- New standards in the 2022 *Guidelines*?
- A freestanding Emergency Conditions *Guideline*?
- As a supplement to the 2022 *Guidelines*?



July 2020

White Paper Development

Committees and editor create white paper.

September 2020

White Paper Release

FGI releases white paper and opens public proposal period to solicit feedback on proposed Emergency Conditions Guidelines requirements.

March 2021

Public Comment Period Opens

FGI opens public comment period to solicit feedback on draft

Content Development

Subcommittees meet via web conferences and gather and submit content for white paper development.

August 2020

White Paper Editing and Layout

- FGI editors review and edit white paper and send to layout.
- FGI staff prepares proposal system for white paper proposal period.

November - February

Emergency Guidelines

Proposed system

Project Overview

1. Assemble design guidance for facilities during the following emergency situations:
 - a) Weather
 - b) Pandemics
 - c) Wildfires
 - d) Other emergency situations
2. Establish baseline planning and design standards for health and long-term care facilities.
3. Create a white paper with best practices and draft *Guidelines* requirements for public review.
4. Create new Emergency Conditions *Guidelines* with baseline requirements.

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subcommittees

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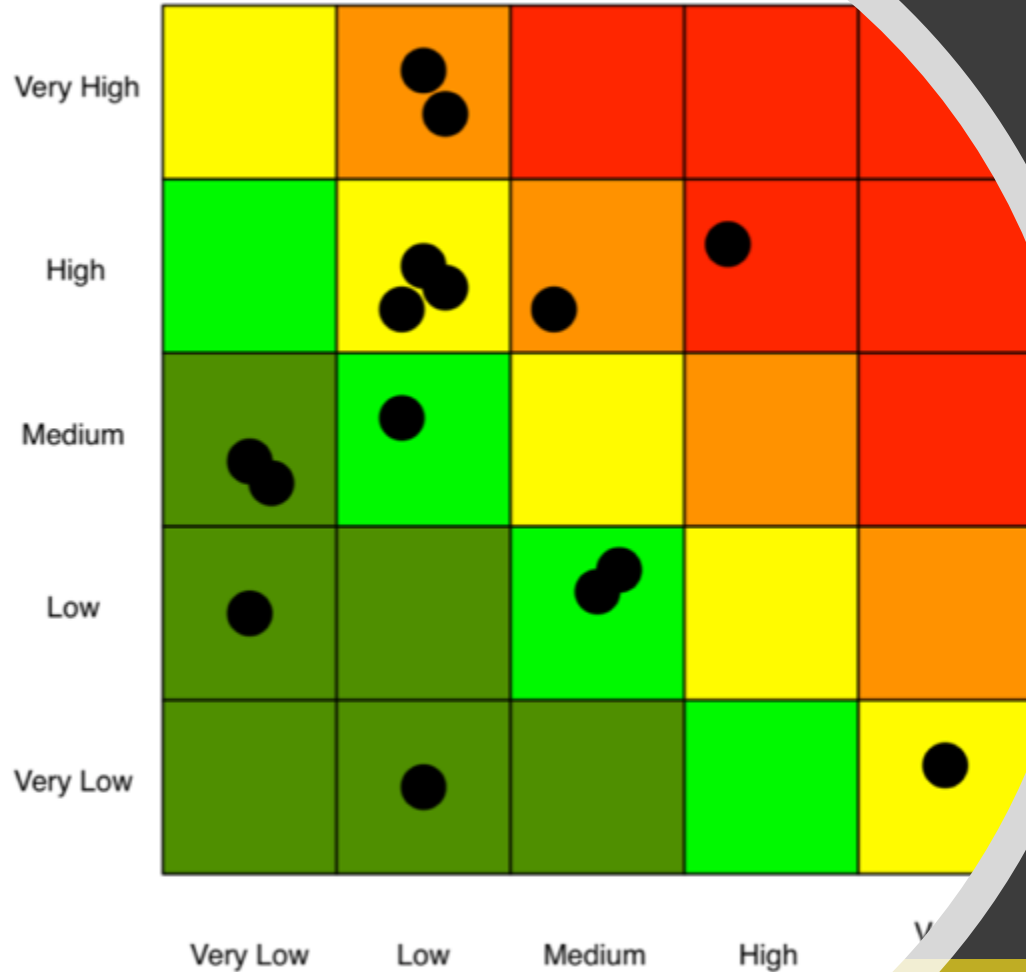
Prop
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Project Timeline



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Risk



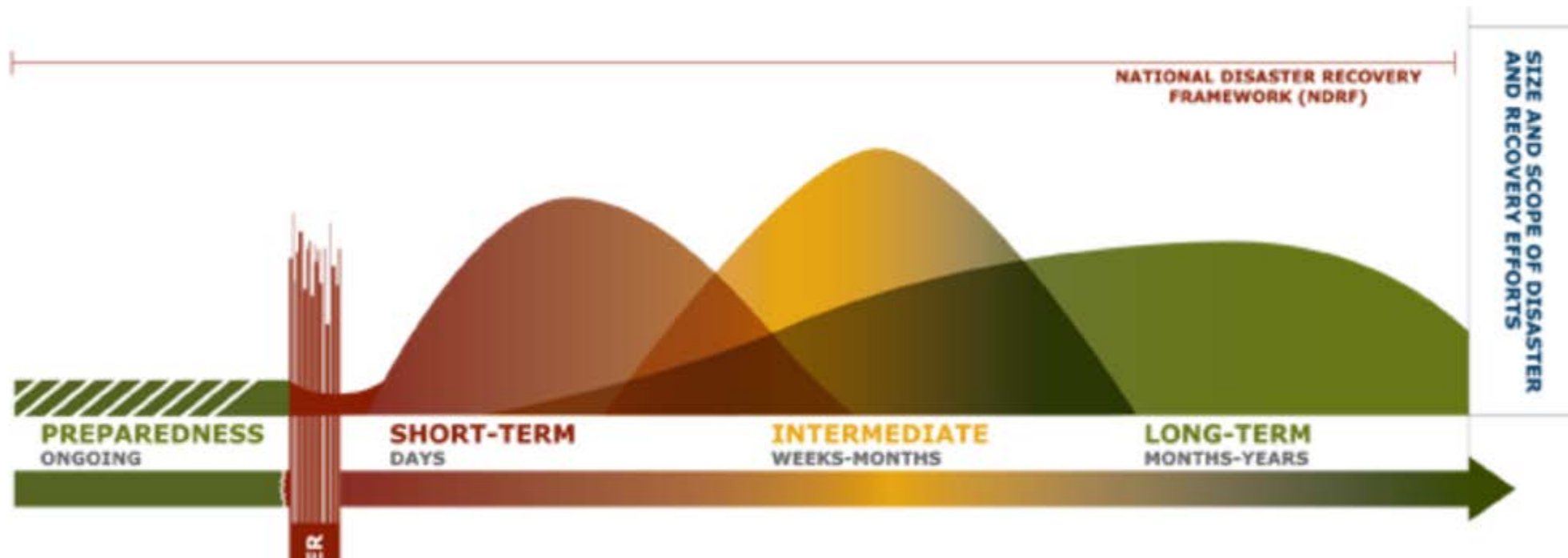
- d. Information management
- e. Patient privacy
- f. Infection control
- g. Staff safety / personal provisions / areas of respite
- 2. Operations protecting patient health and life safety
 - a. Transporting / pre-positioning resources for response
 - b. Emergency access and exiting
 - c. Patient transport
 - d. Availability of supplies and commodities
 - e. Safety inspections / precautions
 - f. Security protocols / check-points
- Operations protecting public health and life safety
 - a. Minimize threat to health and safety of occupants or general public
 - i. Isolation of patients
 - ii. Containment of hazardous materials
 - iii. Disposal of contaminated waste
 - b. Emergency access and exiting
 - c. Maintain operations
 - d. Additional hours (FTE / Consultant / ...)

Risk Assessment for Implementation

Likelihood is the keystone to planning, design, and construction

Timeframes:

1. Short-term—Immediate
2. Short-term—Temporary
3. Intermediate
4. Long-term/Permanent



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Risk Assessment Recommendations

- Builds hazard vulnerability assessment into development of safety risk assessment
- Requires identification of anticipated hazards specific to geographic location
- Disaster, Emergency, and Vulnerability Assessment (DEVA) prompts assessment of hazards specific to the project, risk/likelihood of emergency events, consequences of such events, and potential solutions.
- “Design features that provide resilience, hardening, flexibility and adaptability during a disaster/emergency shall be identified.”



Resiliency Recommendations

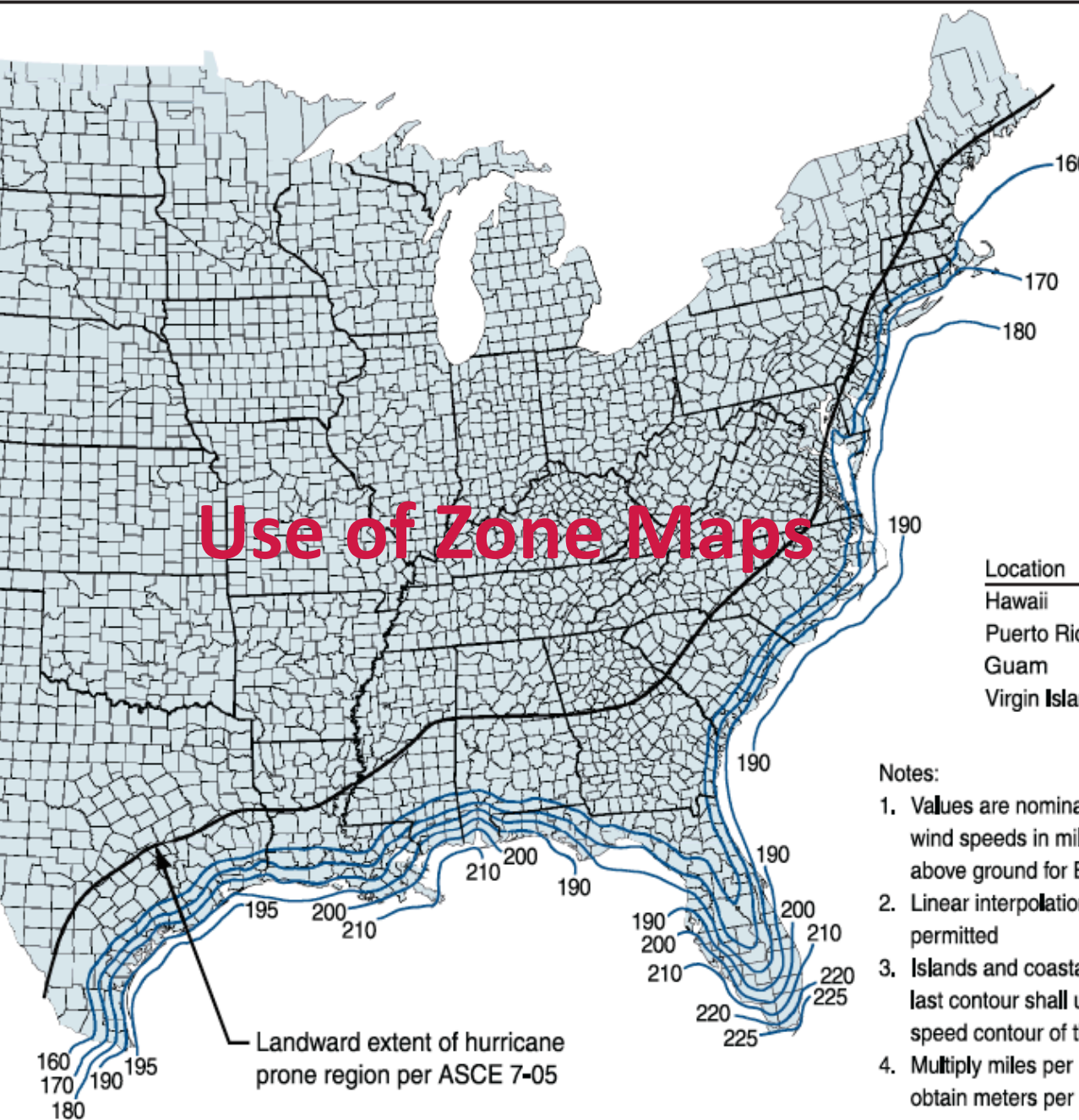
- Hospital
- An incident command center (ICS) room
 - 200 sq. ft. minimum
 - Accommodate the number of seats necessary for critical positions
 - Be supplied with essential electrical power
- Critical function areas located above floodplain
 - Pharmacy
 - Laboratory
 - Blood bank/storage
 - Sterile processing facilities



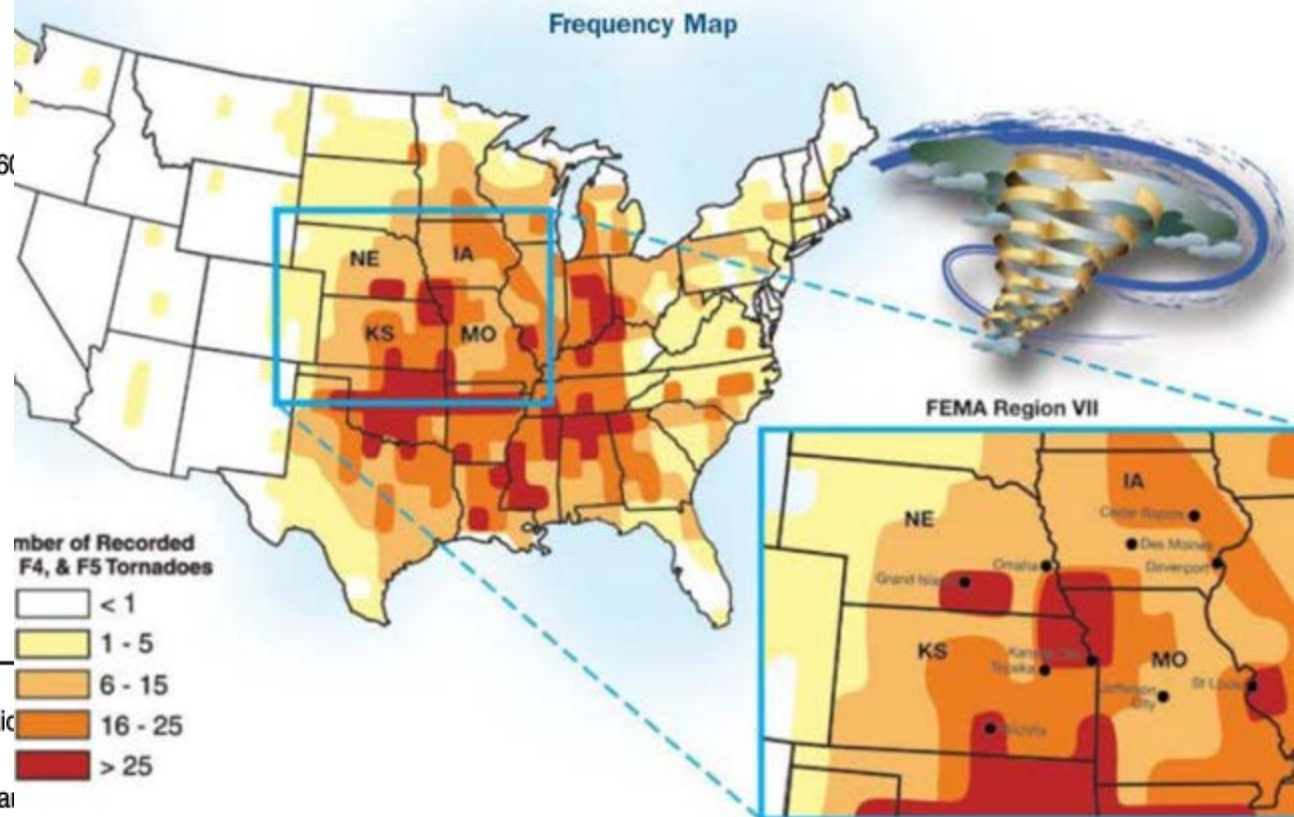
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Use of Zone Maps



Landward extent of hurricane prone region per ASCE 7-05



SOURCE: FEMA 361, Design and Construction Guidance for Community Shelters, July 2000

Notes:

1. Values are nominal wind speeds in miles per hour above ground for Exposure Category B.
2. Linear interpolation is permitted.
3. Islands and coastal areas: the last contour shall be the speed contour of the nearest land area.
4. Multiply miles per hour by 1.609 to obtain meters per second.

Risk for High-Wind Events

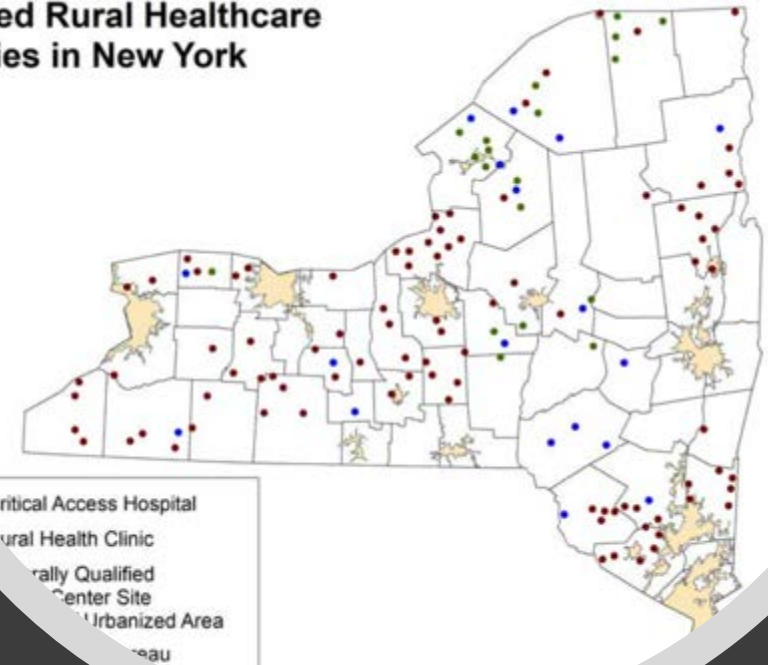
Tornadoes Zone Map)	Wind Zone (see Frequency Map)			
	I	II	III	IV
1	LOW Risk	LOW Risk	LOW Risk	MODERATE Risk
5	LOW Risk	MODERATE Risk	HIGH Risk	HIGH Risk
10	LOW Risk	MODERATE Risk	HIGH Risk	HIGH Risk
15	HIGH Risk	HIGH Risk	HIGH Risk	HIGH Risk
25	HIGH Risk	HIGH Risk	HIGH Risk	HIGH Risk

- LOW Risk** – Sheltering from high winds is a matter of preference.
- MODERATE Risk** – Shelter should be considered for protection from high winds.
- HIGH Risk** – Shelter is the preferred method of protection from high winds.

Small and/or Rural Healthcare Recommendations

- Multidisciplinary team to develop Incident Command System
- Allow percentage of patient rooms to be converted to negative pressure
- Flexible triage/intake space to accommodate unidirectional flow
- Appendix considerations for site preparations, such access control, communications, etc.

Selected Rural Healthcare Facilities in New York



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Residential/Senior Living Recommendations

Fundamental Requirements

- Single-bedded resident rooms
- Maximum of 10% of resident rooms can be double
- Negative pressure visitation room – divided into zones
- Shower and changing area for staff use

Appendix

- Dedicated staff entrance physically separated from other entrances
- Technologies enabling e-visits
- Real-time locating systems to track residents



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Modular Construction Recommendations

- Modular subcommittee recommendations have been rolled into Alternate Care Sites.
- Modular subcommittee created recommendation for pre-approved prototype that could be quickly deployed for emergency use.

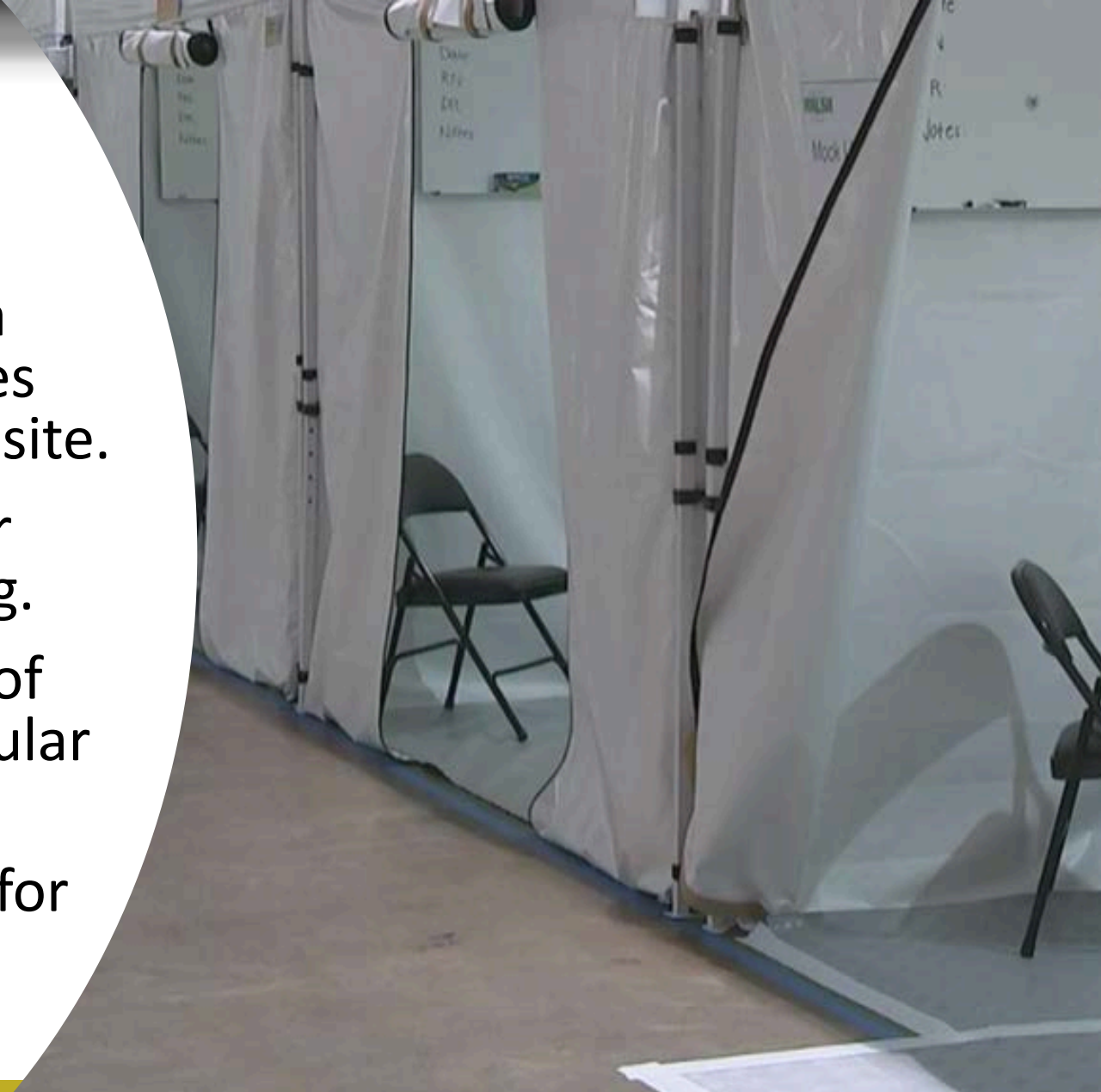
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Alternate Care Sites

- The ACS subcommittee addressed strategies for compliance and created a compliance matrix tool to assist facilities that need to surge to an alternate care site.
- Recommends addressing potential for ACS deployment in emergency planning.
- Discusses advantages/disadvantages of tents, repurposed structures, and modular buildings.
- Includes technical recommendations for building systems operating in ACSs.



Surge Capacity Recommendations

Hospitals

- Additional storage for remote facilities
- Considerations for infrastructure needed to convert from a non-clinical space to a patient space
- In areas identified as surge capacity locations, any added med gas outlets or electrical outlets shall be in a secured tamper-resistant housing
- Exterior surge locations shall be identified, and a risk assessment performed
- Impact of emergency events on supply chain, supply storage
- Means to locate IV pumps and monitors outside patient rooms



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Renovations and Future Facilities

- Recommend inclusion of “acuity adaptable exam rooms”
- All exam rooms “telemedicine-capable”; recommendation that requirement is HIPAA, not space-based
- % of PACU capable of negative pressure (ICRA based)
- % of PACU All conversion-ready with an anteroom
- One EVS room per patient unit to improve ability to contain
- New staff shower room required
- Added oxygen and vacuum outlets for most patient care spaces



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Operational Issues

Provides considerations for new, renovated, and temporary facilities. Chapter addresses:

- Support services
- Staffing and staff support concerns
- Circulation patterns
- Flexible-use space
- Social and economic impact
- Considerations for airborne infection control



Proposed Changes
2022 *Guidelines* for
Hospitals
Outpatient Facilities
Residential Health, Care and
Support Facilities



Hospital *Guidelines*

Proposed Changes for Hospital Guidelines

Common Elements

- Safety Risk Assessment
 - Added a recommendation for an acoustics and noise assessment
- Acoustics for telemedicine rooms
 - 0.25 noise reduction coefficient (exam room is 0.15 NRC)
 - Interior space noise caused by building system 25 NC and 30 dBA (patient room is 40 NC and 45 dBA)



Proposed Changes for Hospital *Guidelines* Common Elements

- Emergency Access Site
 - Video surveillance system for public entrances
 - Duress alarm system where entrances are locked

(This is as a result of Laura's Law. Her husband believes his wife's avoidable death was caused by her inability to find an unlocked door to the emergency room due to poor signage and a lack of video monitoring of the area by hospital staff. She succumbed to an asthma attack just feet away from the hospital's front door.)

Proposed Changes for Hospital *Guidelines* Common Elements

- Airborne Infection Isolation Rooms
Analysis of number required in the hospital is based on emerging infectious diseases or a pandemic
- All Anterooms
 - ~~An anteroom is not required~~
 - Whether an anteroom is required shall be determined by the ICRA
 - Added space in the anteroom for doffing PPE before leaving



Proposed Changes for Hospital *Guidelines* Common Elements

- Window size in patient rooms
Still 8% of min. floor area but
struck out for renovations ~~not possible~~
and included impractical or impossible
- Handrails
Where features preclude
continuous handrails, handrails installed on
one side or the other shall be permitted.



Proposed Changes for Hospital *Guidelines* Common Elements

- Elevators
Minimum door opening
reduced from ~~54~~ to 48 inches
- WAGD systems
A lot of discussion about where
WAGD is deemed necessary, the
proposed language is anywhere
inhalation anesthesia is administered.
To me this is a red flag.



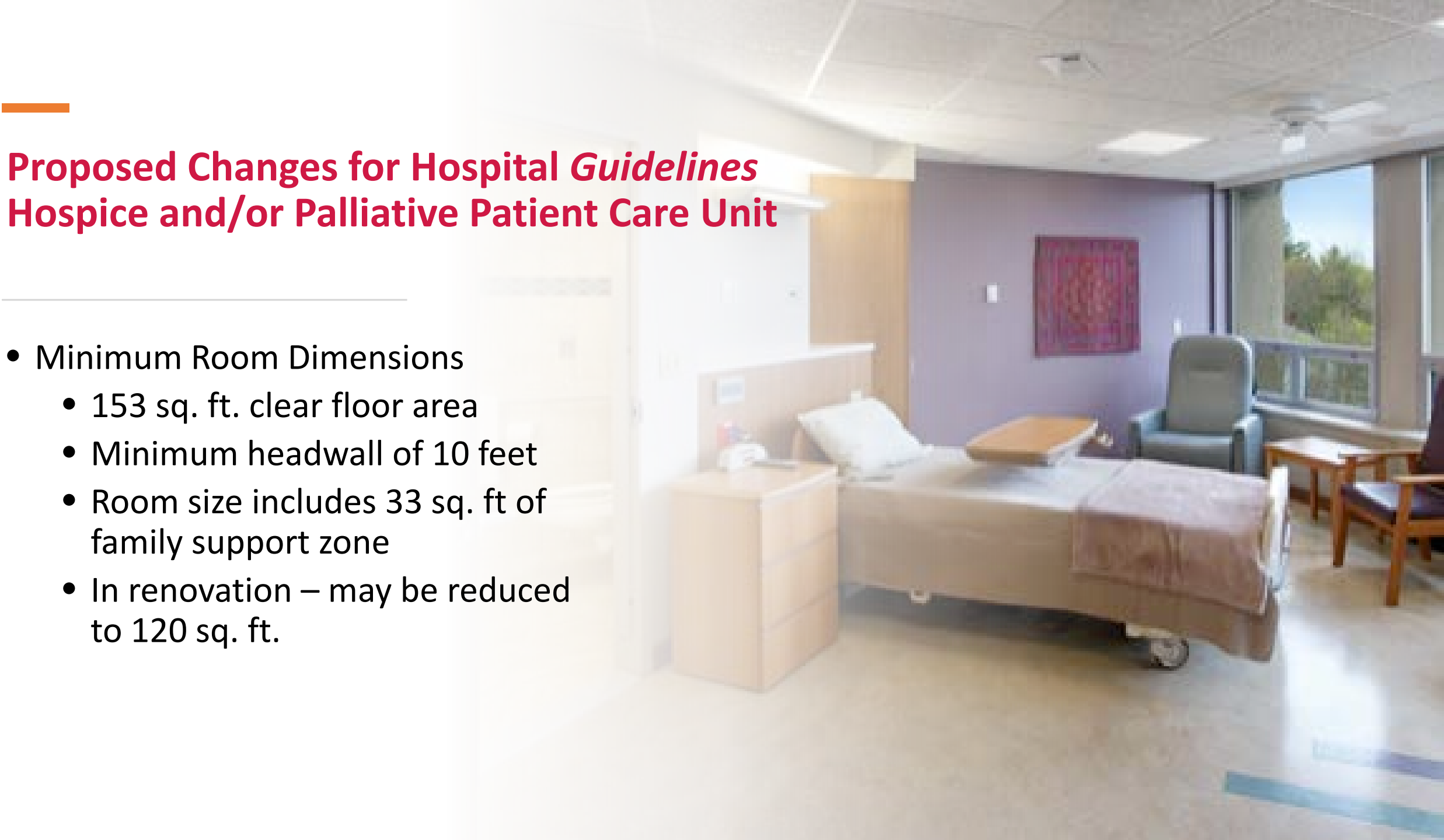
Proposed Changes for Hospital *Guidelines* General Hospital

- NICU room size
 - Multiple-infant rooms
 - Minimum clear floor area ~~120~~ to 150 sq. ft.
 - Single-infant rooms
 - Minimum clear floor area ~~165~~ to 180 sq. ft.
- Windows are not required in individual rooms if daylight can be viewed.



Proposed Changes for Hospital *Guidelines* Hospice and/or Palliative Patient Care Unit

- Minimum Room Dimensions
 - 153 sq. ft. clear floor area
 - Minimum headwall of 10 feet
 - Room size includes 33 sq. ft of family support zone
 - In renovation – may be reduced to 120 sq. ft.



Proposed Changes for Hospital *Guidelines* Burn Trauma Critical Care Unit

- Meet Critical Care Unit criteria
- Available OR with temp of 95 degrees
- Maximum of one patient per room
- Protective Environment (PE)
- Radiant heat panels over bed
- Direct access to a patient toilet room





Proposed Changes for Hospital *Guidelines* Emergency Services

- Duress system, as previously discussed
- Trauma/Resuscitation
 - When not in use for a T/R room can be subdivided with cubicle curtains
- Low acuity pods
 - 40 sq. ft. clear floor area
 - 5'-6" minimum clear dimension
- Decontamination Room
 - Increased from ~~80~~ sq. ft. to 100 sq. ft.

Proposed Changes for Hospital *Guidelines* Behavioral Health Crisis Unit

- Readily accessible to the emergency department
- Single patient observation room
 - Single patient room 100 sq. ft.
 - 10 ft. clear dimension
- Multiple-patient room
 - 40 sq. ft. per station
 - 5'-6" between stations
 - 3' clearance between walls or partitions



Proposed Changes for Hospital *Guidelines* Mobile/Transportable Medical Units



- “Temporary” is now defined as 6 months during any 12-month period.
- Does not apply to mobile/transportable units on site for less than 96 hours.

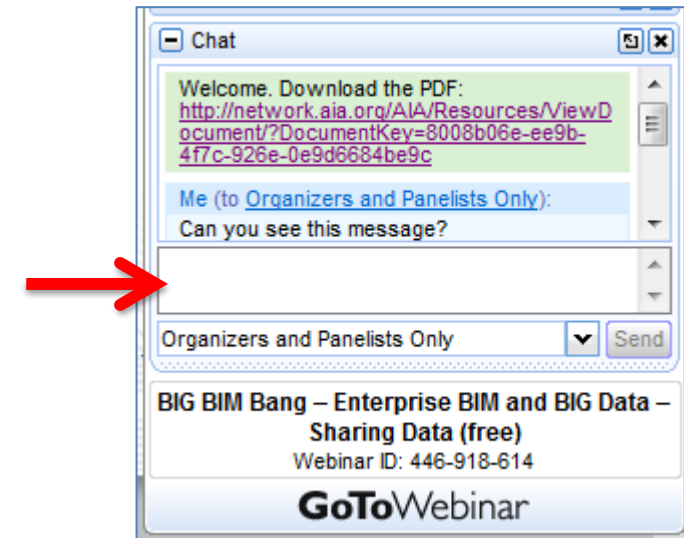


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Submit your questions and comments via the chat box.



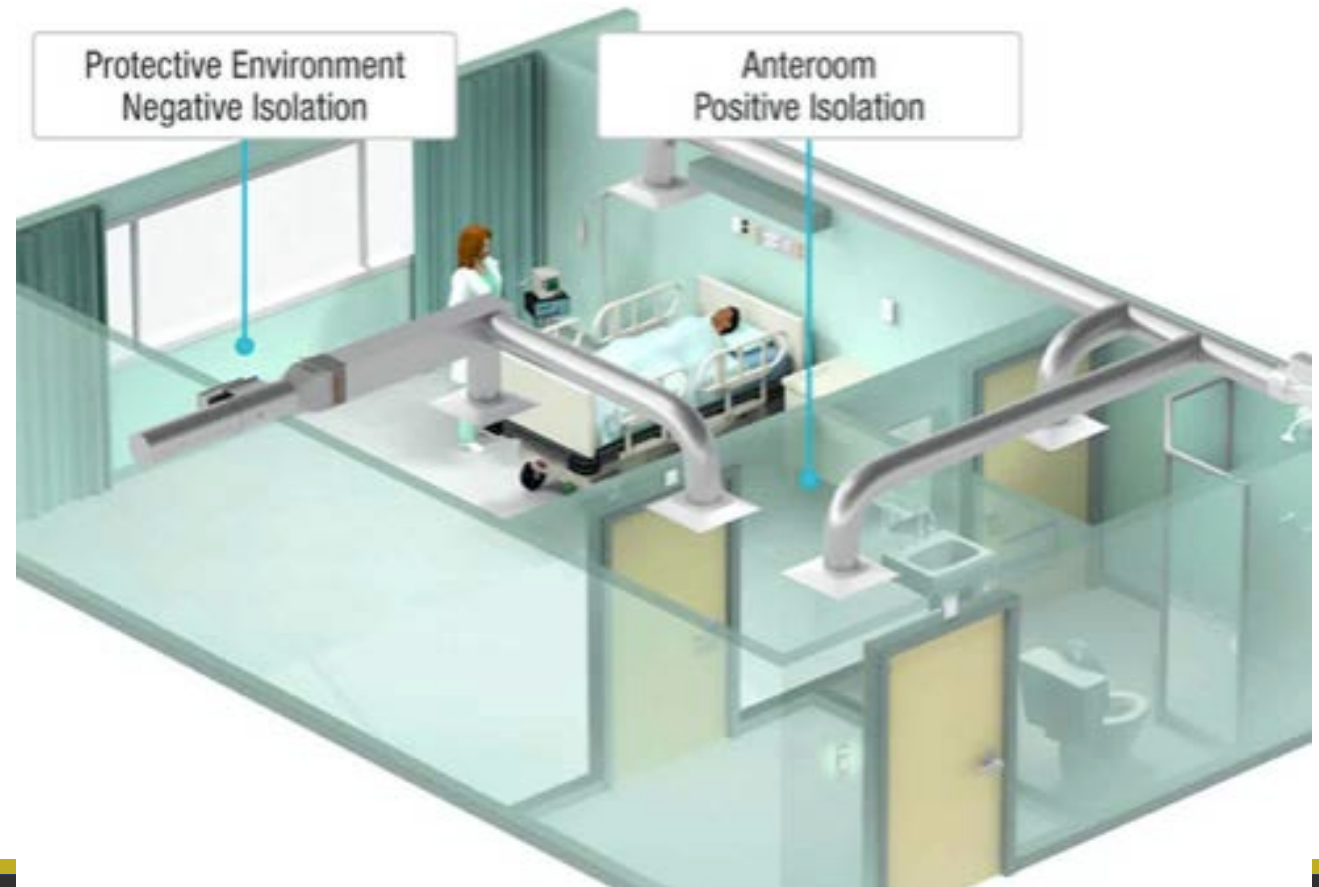


Outpatient *Guidelines*

Proposed Changes for Outpatient *Guidelines*

PDC and Commissioning

- Strengthened Functional Program requirements
- Airborne Infection Isolation room anteroom considerations
 - Define intended use
 - Facility location
 - Long-range infection prevention planning



Proposed Changes for Outpatient *Guidelines* PDC and Commissioning

- Safety Risk Assessment

Added Behavioral and Mental Health to the list





Proposed Changes for Outpatient *Guidelines* Common Elements

Single-patient exam/observation room with dual entry

- Each room shall be 100 sq. ft.
- Min. clearance of 2'-8" at each side of the patient station and at the foot

Proposed Changes for Outpatient *Guidelines* Common Elements

New section on hyperbaric oxygen therapy facilities

- Multiplace facilities
- Monoplace facilities
- Pre-procedure area
- Support areas for staff
- Support areas for patients



Proposed Changes for Outpatient *Guidelines* Freestanding Emergency Care

New requirements:

- Low-acuity pods are permitted
- Flexible secure treatment room (can be used as a single-patient treatment room if appropriately designed)
 - Hand-washing station can be located outside the room
 - Room shall have a max. wall length of 12 feet
- If provided, the behavioral health crisis unit would be equivalent to that in the Hospital *Guidelines*.



Proposed Changes for Outpatient *Guidelines* Extended Stay Centers

New chapter for 2022

Extended stay centers are intended for patients who are stable and don't need intensive monitoring or hospital-level care.





Residential *Guidelines*

Proposed Changes for Residential *Guidelines* General Statements

- Designed with provisions for inclusive environments
- Telemedicine services
- Commercial kitchens shall not serve as a household, social activity or outpatient therapy kitchen
- Social activity kitchens are not central to regular meal delivery
- Telecommunications



The background image shows a typical nursing home resident room. It features a hospital bed with a patterned blue and white blanket, a black leather armchair, a wooden chair, and a nightstand with a lamp. The wall is decorated with several framed portraits and a large, colorful quilt hanging on the right side. The room is well-lit and appears clean and organized.

Proposed Changes for Residential *Guidelines* Nursing Homes

Resident Rooms

- Single-resident room
 - 120 sq. ft.
 - Min. clear dimension of 11 feet
- Multiple-resident room
 - 108 sq. ft. per bed
 - Min. clear dimension of 9'-6"
- Clearances
- Need to take into account the type of program and need for circulation and arrangement of furniture

Proposed Changes for Residential *Guidelines* Nursing Homes

Generators

Centers for Medicare & Medicaid (CMS) Emergency Preparedness (EP) final rule states that a facility must develop and implement policies and procedures that address the alternate sources of energy to maintain temperatures to protect resident health and safety and maintain safe and sanitary storage for supplies and provisions.



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Time for Questions and Comments





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The survey closes **Friday, January 15th** at 12:30am ET.

For questions, please email knowledgecommunities@aia.org



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Upcoming Webinars

Date	Series	Topic
2/9	Healthcare Essentials	Designing with Virtual Reality
3/9	Case Study	Cardiac Vascular Space Case Study-UPMC
4/13	Outside the Box	Community-Based Health Center

Dates & topics are subject to change