

Excerpted from the Facility Guidelines Institute's *Guidance for Designing Health and Residential Care Facilities that Respond and Adapt to Emergency Conditions* (4/1/21), available at fgiguideines.org

To submit comments on the draft language in this file, please go to <https://emergencyconditions.fgiguideines.net>.

Draft *Guidelines for Emergency Conditions in Health and Residential Care Facilities*

The recommended guidelines presented here have been consolidated from the independently developed recommendations at the end of the chapters in this white paper. Because experience from the field is critical to developing requirements and recommendations that are neither too restrictive nor too permissive, users of the *Guidelines* are encouraged to comment on the proposed changes using FGI's online comment platform. For more about the draft FGI Emergency Conditions *Guidelines* and the comment period, please read the preface at the beginning of this white paper.

The proposed new language shows changes to the 2018 FGI *Guidelines* recommended by the Emergency Conditions Committee. Additions are underlined, and deletions indicated with a ~~strikethrough~~. Where an appendix item (i.e., a non-enforceable recommendation or guidance on applying a requirement) has been provided, an asterisk (*) precedes the section number (e.g., *1.2-4 Safety Risk Assessment). Appendix items can be identified by the letter "A" that precedes the correlating section number (e.g., A1.2-4 SRA). The text shown has been excerpted from the 2018 *Guidelines* and is not comprehensive.

Proposed Language Based on the 2018 Hospital *Guidelines*

Chapter 1.1 Introduction

***1.1-2 New Construction**

Projects with any of the following scopes of work shall be considered new construction and shall comply with the requirements in the *Guidelines for Design and Construction of Hospitals*:

A1.1-2 Resiliency in new construction. Incorporation of design elements for resiliency should be considered for new construction projects where continuity of patient care services is required in the event of an emergency. Refer to Section 1.2-4.9 (Disaster, Emergency, and Vulnerability Assessment) for applicability.

1.1-3 Renovation

1.1-3.1 General

1.1-3.1.1 Compliance Requirements

***1.1-3.1.1.1** Where renovation or replacement work is done in an existing facility, all new work or additions or both shall comply with applicable sections of the *Guidelines* and local, state, and federal codes.

A1.1-3.1.1.1 Resiliency in renovation projects. Incorporation of design elements for resiliency should be considered when renovating an existing facility where continuity of patient care services is required in the event of an emergency. Refer to Section 1.2-4.9 (Disaster, Emergency, and Vulnerability Assessment) for applicability.

Chapter 1.2 Planning, Design, Construction, and Commissioning

1.2-2 Functional Program

...

1.2-2.2 Functional Program Content

The functional program for a project shall include the following:

...

1.2-2.2.7 Operational Requirements

The operational requirements, which include but are not limited to the following, shall be described:

1.2-2.2.7.1 Projected operational use for project components

1.2-2.2.7.2 Relevant operational circulation patterns, including movement of staff, patients and their companions, members of the public, and materials and equipment

1.2-2.2.7.3 Departmental operational relationships and required adjacencies

1.2-2.2.7.4 Projected operational use and surge capacity of project components during emergency conditions

A1.2-2.2.7.4 Projections for operational use and surge capacity during emergency conditions are identified in these facility-specific assessments: safety risk assessment (infection control risk assessment and disaster, emergency, and vulnerability assessment portions) and hazard vulnerability assessment.

***1.2-4 Safety Risk Assessment (SRA)**

A1.2-4 SRA. The safety risk assessment is an interdisciplinary, documented assessment process used to proactively identify hazards and risks and mitigate underlying conditions of the built environment that may contribute to adverse safety events. These adverse events include infections, falls, medication errors, immobility-related outcomes, security breaches, and musculoskeletal or other injuries. [The SRA also includes assessment of the hazards and risks from natural and man-made emergency conditions.](#)

The SRA process includes evaluation of the population at risk and the nature and scope of the project; it also takes into account the models of care, operational plans, sustainable design elements, and performance improvement initiatives of the health care organization. The SRA proposes built environment solutions to mitigate identified risks and hazards.

***1.2-4.1 General**

A1.2-4.1 More information and online tools to assist in the development of an SRA can be found on the websites of the Facility Guidelines Institute and the Center for Health Design. [As well, information about the SRA and the disaster, emergency, and vulnerability assessment can be found in the FGI white paper *Guidance for Designing Health and Residential Care Facilities that Respond and Adapt to Emergency Conditions.*](#)

1.2-4.1.1 SRA Requirement

1.2-4.1.1.1 All hospital projects shall be designed and constructed to facilitate the safe delivery of care.

1.2-4.1.1.2 To support this goal, a multidisciplinary team shall develop a safety risk assessment.

1.2-4.1.2 SRA Components

See Table 1.2-1 (Safety Risk Assessment Components) to determine if the following SRA components are required for a project:

1.2-4.1.2.1 Infection control risk assessment (ICRA)

1.2-4.1.2.2 Patient handling and movement assessment (PHAMA)

1.2-4.1.2.3 Fall prevention assessment

1.2-4.1.2.4 Medication safety assessment

1.2-4.1.2.5 Behavioral and mental health risk assessment

1.2-4.1.2.6 Patient immobility assessment

1.2-4.1.2.7 Security risk assessment

[1.2-4.1.2.8 Disaster, emergency, and vulnerability assessment \(DEVA\)](#)

1.2-4.1.3 SRA Responsibility and Scope

[1.2-4.1.3.1](#) The safety risk assessment shall be initiated and managed by the governing body during the planning phase of the project, **and**

[1.2-4.1.3.2](#) [The safety risk assessment](#) shall evolve with additional levels of detail as needed to support the creation of a safe environment throughout the design, construction, and commissioning phases of a project.

*1.2-4.1.5 SRA Process

A1.2-4.1.5 SRA tools and methods. A range of high-priority activities to improve patient and caregiver safety

outcomes should be considered during the predesign, design, and construction phases of a project.

***1.2-4.1.5.1 Identify hazards and potential risks.** The governing body shall provide an assessment of the potential ~~harm to~~ hazards for patients, caregivers, and other users for the ~~risks~~ components listed in Table 1.2-1 (Safety Risk Assessment Components), identifying ~~the following:~~ ^{*(1)} ~~H~~ hazards specific to the project.

A1.2-4.1.5.1 (1) Hazards

a. Hazards include circumstances, processes, human activities, physical obstacles, and underlying conditions that may directly or indirectly contribute to harm to patients, staff, or other users or contribute to damage or loss. See appendix section A1.2-4.1.5.2 (Evaluation of underlying conditions that can cause adverse safety events) for more information.

b. Some hazards may be more anticipated than others (e.g., regionally associated weather events). Anticipated hazards may come with some level of advance notice (e.g., minutes or hours for a tornado watch/warning or days for a potential hurricane landfall). Other hazards may be unanticipated (e.g., an explosion of stored chemicals, a terrorist attack). Some hazards may start as unanticipated and evolve into an anticipated event (e.g., a global pandemic).

~~(2) Historical data and/or national patient and caregiver safety trends relevant to the identified hazards~~

~~(3) Prioritization of the degree of potential harm to patients and/or caregivers from the identified hazards~~

***1.2-4.1.5.2 Evaluate hazards and risks from identified hazards.** The SRA team shall evaluate underlying conditions that contribute to an unsafe environment for the components listed in Table 1.2-1

(Safety Risk Assessment Components) and estimate associated risk considering both of the following:

(1) Likelihood (vulnerability), using historical data and/or national patient and caregiver safety trends relevant to the identified hazards

(2) Consequence (estimated degree of potential harm to patients and/or caregivers from identified hazards)

A1.2-4.1.5.2 Evaluation of underlying conditions that can cause adverse safety events

a. Underlying conditions include the physical environment, organizational and social factors, and task characteristics that can be affected by the design of a space, including the following:

- Noise
- Vibration
- Visual distraction and disorganization of space
- Light type, quality, and quantity for each location
- Surface characteristics for different spaces
- Indoor air characteristics for different spaces
- Sources of infection
- Ergonomics
- Staff fatigue
- Space required to accommodate functions
- Standardized locations for equipment (e.g., medical gas outlets on patient room headwalls, emergency call buttons)

- Opportunities for, and barriers or disincentives to, mobilization of patients
- Impediments to movement, maneuvering, and flow
- Communication systems
- Visibility of patients
- Automation (where possible)
- Support for family involvement in patient care

b. For additional information, see the Center for Health Design report “Designing for Patient Safety: Developing Methods to Integrate Patient Safety Concerns in the Design Process,” which identifies 10 environmental factors as “latent conditions that can be designed to help eliminate harm.” Such “built environment latent conditions [holes and weaknesses] that adversely impact patient safety” should be identified and eliminated during the planning, design, and construction of outpatient facilities. The report can be found on the Center for Health Design website.

[b. In the category of emergency preparedness, a hazard can include earthquakes, hurricanes, tornadoes, and other “natural” events. Hazards can also include terrorism, chemical spills, explosions, or other “man-made” events.](#)

[*1.2-4.1.5.3 Generate solutions.](#) The SRA team shall document proposed solutions that mitigate risks from the identified hazards.

[A1.2-4.1.5.3 In the context of disaster and emergency preparedness, the solutions should be integrated into the organization’s hazard vulnerability assessment.](#)

***1.2-4.1.6 SRA Report**

After completing the SRA process, the governing body shall provide the following information and recommendations, which shall be incorporated into the planning and design documentation:

A1.2-4.1.6 SRA report:

- [a.](#) Time and effort should be dedicated to patient and caregiver safety issues during the predesign phase (e.g., strategic planning, master planning, operational planning, and programming) of a hospital design project. The decisions made during predesign significantly affect the design parameters going forward and the safety outcomes of the project following occupancy. The safety risk assessment should be an important part of the continuous safety improvement program in any health care organization.
- [b.](#) Requirements for submission may vary by AHJ and the SRA may not be required until permitting, but this does not preclude the benefit of early planning and documentation to ensure inclusion of integrated solutions that mitigate risk in the built environment.
- [c.](#) Health care organizations are required by CMS and others to conduct hazard vulnerability assessments (HVAs). Design solutions that support the safe delivery of care during disasters and emergencies should be coordinated with and supplement existing mandated HVAs. The intent of the disaster, emergency, and vulnerability assessment (DEVA) portion of the SRA report is to proactively identify built environment solutions (beyond critical infrastructure) that mitigate risk from potential hazards.

1.2-4.1.6.1 Patient and caregiver safety hazards and risks identified by the safety risk assessment. See Section 1.2-4.1.5.1 (Identify hazards and potential risks).

1.2-4.1.6.2 Design features that contribute to the identified hazards and risks

1.2-4.1.6.3 Design strategies to reduce, mitigate, or eliminate identified hazards and risks

***1.2-4.2 Infection Control Risk Assessment (ICRA)...**

***1.2-4.3 Patient Handling and Movement Assessment (PHAMA)...**

***1.2-4.4 Fall Prevention Assessment...**

***1.2-4.5 Medication Safety Assessment...**

***1.2-4.6 Behavioral and Mental Health Risk (Psychiatric Patient Injury and Suicide Prevention) Assessment...**

***1.2-4.7 Patient Immobility Assessment...**

***1.2-4.8 Security Risk Assessment...**

A1.2-4.8.2.1 Security elements of the safety risk assessment

a. *Security considerations for project design....*

b. *Security for emergency management.* Hospitals frequently provide both scheduled and emergency services, serve as part of local emergency response networks, and are expected to be functional, safe, and secure for patients, visitors, and staff while remaining prepared for natural and man-made emergencies 24 hours a day.

—The design of the facility should address the facility's role in responding to internal and external emergencies on its own or in coordination with local emergency

response or public health authorities based on assessed risks. All other regulations for emergency operations should be considered when developing the design.

~~An all-hazards approach to design should be applied to help the facility prepare for, respond to, and recover from man-made events and natural disasters.~~

*1.2-4.9 Disaster, Emergency, and Vulnerability Assessment (DEVA)

A1.2-4.9 Disaster, emergency, and vulnerability assessment

- a. The DEVA should include information developed as part of any facility-based hazard vulnerability assessment, but it should more specifically address the emergency preparedness program as it pertains to proactive design or renovation of the facility.
- b. An all-hazards approach to design should be applied to help the **facility health care organization** prepare for, respond to, and recover from man-made events and natural disasters. [Moved from A1.2-4.8.2.1 in the security risk section (see above).]

*1.2-4.9.1 Disaster, Emergency, and Vulnerability Elements of the Safety Risk Assessment

A1.2-4.9.1 A range of hazards and vulnerabilities should be considered in performing a facility-based disaster, emergency, and vulnerability assessment. The DEVA should include, but is not limited to, identification and review of the following:

- a. Anticipated hazards (e.g., earthquake, hurricane)

b. Unanticipated hazards (e.g., explosion, infectious disease, hazardous material)

c. Patient population (e.g., acuity, functional needs)

d. Facility type

e. Potential surrounding community assets (assets in a rural area will differ from those in a large metropolitan area)

1.2-4.9.1.1 Anticipated hazards

*(1) The multidisciplinary team shall review the organization's hazard vulnerability assessment (HVA) in conjunction with the development of the DEVA.

A1.2-4.9.1.1 (1) The hazard vulnerability assessment should be shared with the design team at the earliest stages of planning to confirm what has been established and which decisions should be reviewed with the design team.

(2) The DEVA shall identify anticipated hazards specific to a facility based on its geographic location.

1.2-4.9.1.2 Design features. Design features that provide resilience, hardening, flexibility, and adaptability during a disaster or emergency event shall be identified.

***1.2-4.9.2 Disaster, Emergency, and Vulnerability Response**

The design team shall incorporate identified disaster and emergency-related design features in the project design documents.

A1.2-4.9.2 Health care organizations should consider which areas of the hospital are likely to be converted to patient care in the event of a disaster. These spaces are not intended for provision of routine patient care, resolution of capacity issues that result from poor planning, or anticipated surge events (e.g., seasonal flu).

***1.2-5.4.3 Wayfinding**

How clarity of access will be provided for the entire campus or facility using a wayfinding system. See Section 1.2-6.3 (Wayfinding) for more information.

A1.2-5.4.3 Wayfinding

- a. Hospital entry points should be clearly identified from all major exterior circulation modes (e.g., roadways, bus stops, vehicular parking).
- b. Clearly visible and understandable signage, icons, universal symbols, visual landmarks (including views to the outside), and/or cues for orientation (including views to the outside) should be provided.
- c. Boundaries between public and private areas should be well marked or implied and clearly distinguished.
- d. A system of interior “landmarks” should be developed to aid occupants in cognitive understanding of destinations. To be effective, landmarks should be unique and used only at decision points. Landmarks may include sealed water features, major art, distinctive color, or decorative treatments. These features should attempt to involve tactile, auditory, and language cues as well as visual recognition. When color is used as a wayfinding device, it should support the primary wayfinding system elements and be clearly distinguished from color palette decisions unrelated to wayfinding.
- e. Signage systems should be flexible, expandable, adaptable, and easy to maintain. Signage should be consistent with other patient communications and supporting print, Web, and electronic media.

f. Health care organizations should consider how signage and wayfinding can be adapted during a disaster to provide meaningful real-time information for patients and staff. Consider a temporary signage plan that identifies the following:

—New uses and functions

—Zones of use, including but not limited to:

- Staff zones
- Public zones
- “Clean” vs. “contaminated” zones

1.2-6.5 Emergency Preparedness and Management

1.2-6.5.1 Planning and Design Considerations

During project planning and design, the following shall be considered:

***1.2-6.5.1.1** The likelihood that a facility will experience events that go beyond a facility’s normal operations

A1.2-6.5.1.1 Emergency preparedness assessments

The likelihood that a facility will experience events that go beyond normal operations should be assessed and detailed in an annual hazard vulnerability assessment (HVA) ~~emergency preparedness assessment~~. These events could include natural disasters; utility failures; acts or threats of human violence; biological, nuclear or chemical exposures; surge capacity; evacuation; and mass casualties.

a. *Infrastructure assessment.* The ~~assessment~~ HVA should consider performance of structural and critical

nonstructural building systems during an adverse event and the likelihood of loss of externally supplied power, gas, water, and communications from such a disaster.

- b. *Hospital facility planning.* Ideally, the ~~emergency preparedness assessment~~ [HVA](#) results will be used to ~~implement practices and plans~~ [develop or revise an emergency operations plan \(EOP\)](#) that will help the health care organization prevent, mitigate, and expediently recover from an event. Hospital facility master planning should consider mitigation measures required to address conditions that may be hazardous to patients and conditions that may compromise the ability of the hospital to fulfill its planned post-emergency medical response.

Resiliency requires a plan to absorb and recover from adverse events by preparing, preventing, protecting, mitigating, and responding. The [EOP plan](#) should outline a hospital's ability [through mitigation and planning](#) to:

- [—Handle patient influx due to a public health emergency or mass casualty event.](#)
- [—Coordinate and communicate effectively with community partners.](#)
- Adapt to changing conditions.
- Recover from disruptions.
- Resist probable deliberate attacks.
- Improve technical and organizational capabilities.
- Focus on reducing damage and disruptions to public health and safety.

- c. *Wind- and earthquake-resistant design for new buildings...*

- d. *Flood protection...*

***1.2-6.5.1.2** Space needs in the event of an emergency for operations to:

A1.2-6.5.1.2 Space needs in an emergency. The location of the facility and the type of event in the community may require a hospital to act as a shelter or support other health care system needs. If so, the following should be considered during planning:

- a. Space where patients, staff, and visitors can be safe
- b. Provision of **space storage** for resources needed to respond in an emergency, such as medical supplies, materials, personal protective equipment, pharmaceuticals, communications equipment, transportation, food, water, utilities, and waste storage. Some of these resources could be accommodated through mutual aid agreements between the health care organization and other local providers or vendors. Such storage capacity or plans should be sufficient for at least four continuous days of operation or longer if indicated by the facility's disaster, emergency, and vulnerability assessment (DEVA).

(1) 1.2-6.5.2.1 Protect facility occupants during the event

***(2) 1.2-6.5.2.2** Continue providing services as outlined in the health care organization's emergency operations plan (EOP).

A1.2-6.5.1.2 (2) A1.2-6.5.2.2 Design for continued building system operation. For those facilities that must remain operational, special design is required to protect systems and essential building services such as power, water, medical gas systems, and, in certain areas, air conditioning. In addition, special consideration must be given to the likelihood of temporary loss of externally supplied power, gas, water, and communications.

*1.2-6.5.1.3 Infrastructure needed to convert a non-clinical space for use as a patient care area, including:

A1.2-6.5.1.3 The building system infrastructure needed to increase capacity for areas of the hospital likely to be converted to patient care in the event of a disaster should meet the requirements in Section 2.1-8.1.2 (Building Systems—Surge Capacity Locations).

- (1) Essential electrical system power
- (2) Access to medical gases
- (3) Ventilation
- (4) Environmental controls

*1.2-6.5.2 Hospital Incident Command System (HICS)

A1.2-6.5.2 Hospital incident command system (HICS). The health care organization should assemble a multidisciplinary management team to develop a hospital incident command system in preparation for surge events with a large influx of patients as a result of natural and man-made disasters and emergencies. The HICS management team would be responsible for planning for an organization's emergency response, including development of an emergency operations plan (EOP). Consideration of the following elements is recommended:

- a. Site preparation for surge capacity
 - Identify locations for temporary structures (including access to the site and staging areas).
 - Evaluate the need for additional utility services to accommodate temporary or transportable structures.

mass casualty equipment, and/or expansion to designated areas outside the building.

—Consider parking overflow locations to handle increases in staff, patients, vendors, and visitors during an event.

—Determine the need for event-specific storage for emergency equipment, medical supplies and equipment, portable trailers or mobile units, portable mechanical units (for temporary increase in positive and negative pressure rooms), and temporary partitions to accommodate altered patient flow.

b. Transportation accommodations

—Plan site accessibility to accommodate the increased number of delivery vehicles during a surge event.

—Identify docking and parking needs for daily and temporary supply vehicles.

—Identify ambulance and emergency vehicle docking, parking, and housing needs (including helicopter and plane access).

c. Enhanced communications

—Consider provision of enhanced communications systems to facilitate communication among the incident command center, health care facility staff, and state and local emergency management agencies.

—Identify a location for the incident command center and determine if this location should be permanent or ad hoc. Plan for adequate utility support services and safe storage of communications equipment when not in use. Consider proximity to toilet facilities, nourishment areas, and private offices and meeting rooms.

- Provide telemedicine spaces, equipment, and staff training to accommodate virtual visits and reduce the number of patients and staff on-site during crisis events. Ensure the telemedicine system has the ability to operate uninterrupted in emergency mode.
- Make provisions for a reliable, safe, and secure telecommunications support system with the ability to operate uninterrupted in emergency mode should the need arise.
- Ensure communications systems are able to handle additional needs during an emergency, including telemedicine and work-at-home support systems for non-frontline staff.

d. Access points control and security

- Develop a facility safety and security strategy to control unrestricted access and protect and preserve assets during a crisis.
- Identify access points in the facility for potentially infectious patients (e.g., emergency department and ambulance entrances) and for non-infectious patients (e.g., main entrance and selected entrances for specialty services).
- Identify potential locations of security stations for personnel to monitor and allow access into the facility. Provide a secure location with adequate communication resources to initiate alarms.
- Develop emergency wayfinding plans. Successful wayfinding planning will address alternate use of spaces and campus facilities necessitated by an emergency condition. Signage and electronic wayfinding methodologies should be simple, easy to understand, and capable of adapting to changes in function.

e. Staff services

- Consider the impacts of expanded staff services during a crisis. Plan to accommodate staff needs during prolonged shifts of 12 hours or more.
- Provide accessible locker rooms for staff to secure their belongings and change attire. Ensure availability of such lockers for all essential personnel, including doctors, nurses, maintenance staff, environmental services staff, pharmacists, laboratorians, technicians, etc.
- Evaluate areas in the facility and/or nearby lodging to accommodate overnight stays for staff and their families.

***1.2-6.5.2.1 Incident command center.** At least one room that can be used as an incident command center shall be provided in the hospital.

A1.2-6.5.2.1 Incident command center. Widespread adoption of the hospital incident command system (HICS) into health care emergency operations plans necessitates allocating sufficient space to house the HICS management team during an emergency. Commonly, the space used for an incident command center is a conference room located in a securable staff area that can be repurposed as needed. The room should be sized based on maximum space needed and provide lighting and connection to the essential electrical system and the facility's IT infrastructure.

(1) General. This room shall be permitted to serve other functions (e.g., a conference or training room) during normal conditions.

(2) Space requirements. This room shall meet one of the following requirements:

(a) The room shall have a minimum clear floor area of 200 square feet.

(b) The room shall be sized to provide the number of seats necessary for all critical positions stipulated in the hospital incident command system (HICS) structure.

(3) Building systems

(a) HVAC system

(i) Provisions shall be made to ensure a controlled environment in the incident command center for occupant comfort.

(ii) The ventilation system for the room shall be on the equipment branch of the essential electrical system.

(b) Electrical system

(i) Provisions shall be made for emergency power capabilities in the room as required in Article 708 (Critical Operations Power Systems) in NFPA 70: *National Electrical Code*.

(ii) All systems required for continuous emergency communications and to maintain continuity of service shall be on the essential electrical system.

(c) Communications systems. Provisions shall be made to support cell phone and first responder radio transmission communications.

1.2-6.5.2.2 Storage for the incident command center

- (1) Storage for emergency supplies shall be provided immediately adjacent to the incident command center.
 - (2) The amount of storage shall be determined by the disaster, emergency, and vulnerability assessment.
-

1.2-6.5.3 Critical Function Areas and Equipment

1.2-6.5.3.1 New construction

- (1) Function areas. The following critical function areas shall be located at an elevation above the 100-year floodplain and storm surge level:
 - (a) Pharmacy
 - (b) Laboratory
 - (c) Blood bank/storage
 - (d) Sterile processing facilities
 - (e) Elevator equipment rooms
- (2) Equipment. The following building service equipment shall be located at an elevation above the 100-year floodplain and storm surge level:
 - (a) Essential electrical system generators, transfer switches, and main distribution switchgear
 - (b) Telecommunications and information systems incoming service and distribution equipment rooms
 - (c) Vacuum pumps and medical air compressors

1.2-6.5.3.2 Renovations. In renovations of existing facilities, critical function areas shall be relocated above the floodplain or storm surge

elevation except where infeasible or space does not permit. In this situation, the health care organization shall create a mitigation plan to ensure continuity of service.

Chapter 1.3 Site

1.3-3.1 Signage

Site signage shall be provided to direct people unfamiliar with the facility to parking areas and entrances.

A1.3-3.1 Temporary signage for emergency conditions. Plans should be considered for temporary signage (including digital) to be installed during emergency conditions to facilitate new circulation and alternate arrival or pickup locations for vehicles and pedestrians.

*1.3-3.2 Lighting

Site lighting shall be provided for the patient path of travel.

A1.3-3.2 Site lighting:

a. *Lighting controls.* Lighting controls should permit zoned operation, allowing facilities to provide multiple lighting levels or to designate night parking nearer the building. Lighting design for the site, roadway, and parking lots should control glare and minimize light pollution of the night sky or surrounding properties.

b. *Lighting for emergency conditions.* Mobile lighting solutions that can be deployed quickly should be planned for implementation during emergency conditions.

1.3-3.3.2 Pedestrian Walkways

Paved walkways shall be provided for pedestrian traffic.

[A1.3-3.3.2 Pedestrian access during emergency conditions.](#) Consideration should be given to how pedestrian access will be handled during a disaster/pandemic scenario. Supplementary pedestrian access routes may be activated or pedestrian access may be more limited. A second public entrance may be opened. Site design should be able to accommodate these possible changes.

1.3-3.4 Parking

*1.3-3.4.1 General

A1.3-3.4.1 Parking

[a. Dedicated parking areas.](#) Dedicated patient and staff parking should be provided where possible. Additional parking considerations should be provided for emergency services patients.

[b. Alternate use of parking areas during emergency conditions.](#) During an emergency, parking areas may be used for alternate purposes, such as drive-through testing or a decontamination station. Parking areas should be designed to facilitate planned alternate uses.

*1.3-3.8 Exterior Surge Capacity Locations

[A1.3-3.8 Exterior surge capacity locations.](#) Health care organizations should plan for adaptation of site features

during an emergency event. This includes spaces for mobile or modular units and for temporary structures like tents or vehicles.

Typically, infrastructure-intensive, overnight care is provided within the existing walls of a hospital during a surge event. Transitory, outpatient care may be housed in temporary structures with little infrastructure and limited environmental controls. Other functions that may be augmented by use of temporary mobile units include support spaces for services such as laundry, cleaning, soiled materials decontamination, morgue, and food preparation. Storage and other less critical functions can also be relocated from the hospital to make it possible for patient care to remain in the hospital during an event. Staff staging can also be accommodated outside the hospital.

Health care organizations should be thoughtful about how temporary external assets are arranged so proximity to utility and infrastructure hookups can be provided. Careful attention should be paid to security, crowd control, and access, including visual observation of sensitive functions (e.g., morgue and body transport, access to hospital leadership).

1.3-3.8.1 Health care organizations shall identify in the emergency operations plan (EOP) locations that can be used for temporary or mobile structures during an emergency condition.

1.3-3.8.2 The EOP shall include the following:

1.3-3.8.2.1 Identified locations and planned uses for temporary surge structures

1.3-3.8.2.2 Provisions for utility connections

1.3-3.8.2.3 Potential traffic disruptions and crowd control concerns

Chapter 1.4 Equipment

1.4-1.2 Equipment List

An equipment list shall be developed and maintained throughout the design development process and included in the contract documents to assist in overall coordination of the acquisition, installation, and relocation of equipment.

*1.4-1.2.1 The equipment list shall include all items of equipment necessary to operate the facility during normal operations and during emergency conditions.

A1.4-1.2.1 When determining equipment needed for operations during emergency conditions, consider additional equipment procurement, storage, and deployment needs.

Chapter 2.1 Common Elements for Hospitals

2.1-2 Patient Care Units and Other Patient Care Areas...

*2.1-2.2 Patient Room

...

2.1-2.2.9 Building System Components

2.1-2.2.9.1 Patient room requirements

(1) Electrical receptacles. See Table 2.1-1 (Electrical Receptacles for Patient Care Areas in Hospitals).

(2) Call systems. See Table 2.1-2 (Locations for Nurse Call Devices in Hospitals).

(3) Medical gas systems. See Table 2.1-3 (Station Outlets for Oxygen, Vacuum, Medical Air, and Instrument Air Systems in Hospitals).

2.1-2.2.9.2 Surge requirements. Patient rooms intended to accommodate double occupancy during a surge event shall meet the requirements for critical care patient rooms in the tables listed in Section 2.1-2.2.9.1 (Building System Components: Patient room requirements).

***2.1-2.4.2 Airborne Infection Isolation (AII) Room**

...

2.1-2.4.2.1 General

...

(3) Location-

*(a) AII rooms shall be permitted to be located in individual patient care units or grouped as a separate isolation patient care unit.

A2.1-2.4.2.1 (3)(a) AII unit. Consider compartmenting patient spaces and/or units to develop a self-contained AII patient care unit.

a. Entry/exit. An entry/exit transition space, similar to that for a bone marrow transplant unit, should be provided for an isolation unit.

b. Staff transition zone. Consider providing a defined staff entry/egress point into each isolation unit for donning

PPE and hand-washing. Consider locating staff lockers and a changing area so they are readily accessible to the staff transition zone.

(b) When determined by an ICRA or the health care organization's disaster, emergency, and vulnerability assessment, a designated patient care unit or portion of a patient care unit shall be designed as an airborne infection isolation unit or sub-unit.

2.1-2.4.2.2 AII room requirements. Each airborne infection isolation room shall comply with the requirements in sections 2.1-2.2 (Patient Room) and 2.2-2.2.2 (Medical/Surgical Patient Care Unit: Patient Room) as well as the following requirements:

- (1) Capacity. Each AII room shall contain only one bed.
- (2) PPE storage. Provision shall be made for personal protective equipment (PPE) storage at the entrance to the room.
- (3) Hand-washing station. Section 2.1-2.2.5.3 (Hand-washing station in the patient room—Renovation) shall not apply to AII rooms.
- (4) Patient toilet room
 - (a) The patient toilet room shall serve only one AII room.
 - (b) (5) The patient toilet room shall have a bathtub or shower.
- (5) Door. A door from the AII room directly to the corridor shall be permitted.

*(6) Means for communication

(a) The design of AII rooms shall provide for verbal and visual communication between patient and staff without the staff member having to be in the room with the patient.

(b) Doors that open directly into the AII room, either from the corridor or from the anteroom, shall have a view panel that allows staff to see the patient.

A2.1-2.4.2.2 (6) Means for communication in an AII room. The goal is to reduce the number of times staff must enter a patient room, reducing exposure to airborne disease as well as the need to don and doff PPE. One solution is to provide windows so staff can maintain visual contact with the patient. Verbal communication can be achieved with a nurse call system, cellular phones, or other electronic means.

2.1-2.4.2.3 Anteroom:

(1) Whether an **An** anteroom is **not** required shall be determined by the infection control risk assessment (ICRA). See Section 1.2-4.2.2.1 (2) (ICRA Considerations—Design elements) for requirements. ~~;~~ ~~however, where~~

(2) Where an anteroom is provided, it shall meet the following requirements:

(a) ~~(1)~~ The anteroom shall provide space for persons to don personal protective equipment (PPE) before entering the patient room and doff PPE before leaving.

(b) ~~(2)~~ All doors to the anteroom shall have self-closing devices or an audible alarm arrangement that can be activated when the AII room is in use as an isolation room.

(c) ~~(3)~~ The anteroom shall be equipped with at least the following:

(i) ~~(a)~~ Hand-washing station

(ii) ~~(b)~~ Storage for unused PPE

(iii) ~~(c)~~ Disposal/holding container for used PPE

2.1-2.8 Support Areas for Patient Care Units and Other Patient Care Areas...

2.1-2.8.7 Hand-Washing Station

*2.1-2.8.7.1 Location

- (1) Hand-washing stations shall be provided in each room where hands-on patient care is provided.
- (2) For location and number requirements, see other common element sections in this chapter and the facility chapters.

[A2.1-2.8.7.1 Consideration should be given to providing hand sanitation stations in all meeting rooms or education/training rooms to support infection prevention during a pandemic or epidemic.](#)

***2.1-2.8.10 Ice-Making Equipment**

A2.1-2.8.10 Noise from ice-making equipment. The location of and space for ice-making equipment in a patient care unit should be designed to mitigate noise. This can be achieved through various means, including considering its placement in relation to patient rooms or locating it in an enclosed space. See Table 1.2-6 (Design Criteria for Minimum Sound Isolation Performance Between Enclosed Rooms) for information about sound for patient rooms.

~~2.1-2.8.10.1 In public areas, a~~ All ice-making equipment shall be of the self-dispensing type.

~~2.1-2.8.10.2 In areas restricted to staff only, use of storage bin-type equipment for making and dispensing ice shall be permitted.~~

2.1-2.8.11 Clean Workroom or Clean Supply Room

***2.1-2.8.11.1 General.** The clean workroom or clean supply room shall be separate from and have no direct connection with the soiled workroom or soiled holding room.

[A2.1-2.8.11.1 If more than one clean workroom or clean supply room is provided in a patient care unit, consideration should be given to locating one of them so restocking/resupply can be performed without entering the unit. A room with a door that opens into the unit and another door that opens into the corridor outside the unit would serve this purpose.](#)

*2.1-2.8.12 Soiled Workroom or Soiled Holding Room

A2.1-2.8.12 Functions for soiled workroom and soiled holding room

- a. *Soiled workroom.* Soiled items may be handled in a soiled workroom to prepare them for subsequent cleaning, disposal, or reuse (e.g., emptying and rinsing bedpans or emesis basins, emptying or solidifying suction canisters, rinsing and gross cleaning of medical instruments). As well, this room provides temporary storage for soiled items prior to their removal from the unit.
- b. *Soiled holding room.* This location is used exclusively for temporary storage of soiled materials and/or supplies prior to their removal from the unit.

***2.1-2.8.12.1 General.** Soiled workrooms and soiled holding rooms shall be separate from and have no direct connection with either clean workrooms or clean supply rooms.

[A2.1-2.8.12.1 Soiled workrooms/holding rooms. If more than one soiled workroom or soiled holding room](#)

is provided in a patient care unit, consideration should be given to locating one of them so removal of materials and equipment can be accomplished without entering the unit.

2.1-2.8.13.1 Clean linen storage. This storage shall meet the following requirements:

(1) Clean linen shall be permitted to be stored in the clean workroom, in a separate closet, or using a covered cart distribution system on each floor.

*(2) Where a covered cart distribution system is used, storage of clean linen carts in a corridor alcove shall be permitted.

A2.1-2.8.13.1 (2) In an AII patient care unit, clean supplies of any type—including linen—should not be kept in alcoves exposed to general unit circulation, regardless of cart type.

2.1-2.8.14 Environmental Services Room

2.1-2.8.14.1 General

*(1) Application. One environmental services room shall be permitted to serve more than one patient care unit on a floor.

A2.1-2.8.14.1 (1) Limiting an environmental services room to serving one patient care unit will provide greater ability to isolate the unit if required during a pandemic or other emergency condition.

*(2) Location. An environmental services room shall be readily accessible to the unit or floor it serves.

A2.1-2.8.14.1 (2) Environmental services room. Some departments or areas may need individually assigned environmental services rooms. Examples include:

- Patient care units
 - Clinical areas: Pre- and post-procedure patient care areas, examination rooms, blood draw areas, dialysis treatment areas, infusion areas, and other areas likely to come into contact with blood or body fluids
 - Sterile areas: Operating rooms, corridors in the semi-restricted area of the surgery suite, sterile labs, and sterile storage
 - Endoscopy services rooms: Endoscopy procedure room and endoscope processing room
 - Public and administrative areas: Waiting areas, offices, and hallways
 - Compounding pharmacy
 - [Any functional areas identified as potential surge spaces by the disaster, emergency, and vulnerability assessment](#)
-

***2.1-2.9 Support Areas for Staff**

A2.1-2.9 Support areas for staff

- a. *Location.* Support areas for staff should be restricted from public access as defined in section 02: Buildings and the Internal Environment in the IAHSS *Security Design Guidelines for Healthcare Facilities*. Wherever possible, staff lounge facilities should have access to daylight and views of the outdoors.
- b. *Staff shower room.* [Staff showers should be provided, either on all patient care units or shared between units or services. These showers are intended to accommodate staff who may have to stay at the hospital for several days during an emergency event or who desire to wash](#)

[up prior to exiting the facility to moderate potential infectious exposure of the general public.](#)

c. b. *Staff rest areas.* Staff rest areas should be provided for every unit that has overnight patient care activities....

***2.1-2.9.1 Staff Lounge Facilities**

Lounge facilities of no less than 100 square feet (9.29 square meters) shall be provided.

[A2.1-2.9.1 Designation of separate areas for activity and quiet respite is recommended.](#)

2.1-2.9.2 Staff Toilet Room...

2.1-2.9.3 Staff Storage Facilities...

2.1-3.2 Examination Room or Emergency Department Treatment Room

2.1-3.2.1 General

...

2.1-3.2.1.3 Building system components. See the following tables for exam room requirements:

- (1) Table 2.1-1 (Electrical Receptacles for Patient Care Areas in Hospitals)
- (2) Table 2.1-2 (Locations for Nurse Call Devices in Hospitals)
- (3) Table 2.1-3 (Station Outlets for Oxygen, Vacuum, Medical Air, and Instrument Air Systems in Hospitals)

[2.1-3.2.1.4 Telemedicine.](#) All examination rooms shall meet the requirements in Section 2.1-3.3 (Accommodations for Telemedicine Services).

[2.1-3.2.1.5 Features to support isolation of patients.](#) At least one examination room per medical specialty shall be entered through an anteroom and shall have HVAC design equal to that for an airborne infection isolation (AII) room.

2.1-3.2.4 Sexual Assault Forensic Examination Room

Where a sexual assault forensic examination room is provided, it shall meet the requirements in Section 2.1-3.2.2 (Single-Patient Examination or Treatment Room) and the following:

...

[2.1-3.2.4.3](#) The room shall have ventilation controls to convert the room to negative pressure.

[*2.1-3.2.5 Acuity-Adaptable Examination Room](#)

[Where an acuity-adaptable examination room is provided, it shall meet the requirements in Section 2.1-3.2.2 \(Single-Patient Examination or Treatment Room\) as amended in this section:](#)

[A2.1-3.2.5 Acuity-adaptable examination room.](#) These rooms are intended to accommodate high-acuity patients or to house two beds or three recliners when needed for surge capacity.

[2.1-3.2.5.1 General](#)

- (1) Number. The number of acuity-adaptable examination rooms of each type to be provided in a facility shall be determined by the expected patient population and services to be provided.
- (2) An exam room designed for an individual of size [see Section 2.1-2.3.7 (Accommodations for Care of Patients of Size—Single-Patient Examination or Treatment Room)] shall be permitted to serve as an acuity-adaptable room if it meets the ventilation requirements in this section.

2.1-3.2.5.2 Space requirements

- (1) Area. Acuity-adaptable rooms shall be sized to accommodate two patients.
- (2) Clearances. Room size shall permit a room arrangement with the following minimum clearances when the room is used as a single-patient examination room:
 - (a) 3 feet 6 inches (1.07 meters) on the provider side
 - (b) 5 feet (1.52 meters) on the transfer side
 - (c) 4 feet (1.23 meters) at the foot of the examination table
 - (d) 18 inches (45.72 centimeters) at the head of the bed

2.1-3.2.5.3 Ventilation. Acuity-adaptable exam rooms shall have switchable controls that allow conversion of the ventilation system from neutral pressure to either negative or positive pressure.

2.1-3.2.6 Airborne Infection Isolation (AII) Examination Room

2.1-3.2.6.1 General

- (1) The need for an AII exam room shall be determined by an ICRA.

(2) At least one AII exam room per medical specialty shall be entered through an anteroom.

2.1-3.2.6.2 AII exam room requirements. Where an AII exam room is provided, it shall meet the requirements in the following sections:

(1) Section 2.1-3.2.2 (Single-Patient Examination or Treatment Room)

(2) Section 2.1-2.4.2.1 (1) (AII Room—General)

(3) Section 2.1-2.4.2.3 (Anteroom)

(4) Section 2.1-2.4.2.4 (1) (AII Room—Architectural details)

(5) Section 2.1-2.4.2.5 (Pressure alarm)

***2.1-3.3 Accommodations for Telemedicine Services**

A2.1-3.3 Patient experience. Remote communications via electronic equipment, although not a replacement for in-person care, may be offered as a supplement where in-person care is not available or medically necessary. To assist in the adoption of telemedicine and maximize its benefits for elderly patients, those unaccustomed to electronic communication, and those with vision, hearing, or cognitive impairments, care should be given to remove technological barriers and provide telemedicine endpoints that facilitate natural communication for the widest range of participants. Facilities and systems used for telemedicine communications should strive to maintain the level of safety, privacy, quality of care, and patient experience that would be expected for in-person communication.

***2.1-3.3.1 General**

Where clinical telemedicine services are provided in a health care facility, telemedicine spaces to accommodate those services shall meet the requirements in this section.

A 2.1-3.3.1 Telemedicine service types

- a. Services may include one-on-one interactions, consultations with a patient and family members (e.g., pediatric or elderly patients), examinations supported by a telemedicine presenter located with the patient, or specialty services such as dermatology or orthopedics. Each type of service may have specific needs for lighting and space to support the clinical function; for example, evaluation of patient gait requires unobstructed space to walk from one end of the bay, cubicle, or room to the other. Therefore, to achieve a functional design, it is important to know what services will be provided.
- b. The requirements in this section are not intended to apply to virtual visits that do not require a physical examination of the patient or visits that originate from a physician's or patient's home.

***2.1-3.3.2 Telemedicine Bay, Cubicle, or Room**

A bay, cubicle, or room shall be provided for telemedicine services.

A2.1-3.3.2 Design considerations for telemedicine. [Any space that is HIPAA-compliant is suitable as a telemedicine health care provider environment. Following are recommendations for the telemedicine patient environment:](#)

a. Equipment

- Camera placement should be set so recipients perceive the exchange as happening eye-to-eye. The discrepancy between gaze angle should be minimal.

- Temperature control should be considered based on the amount of electronic equipment that may generate significant amounts of heat.
- Depending on the complexity of equipment used, multiple outlets may be required for equipment. Outlets should be located near the unit to avoid wires/cables on the floor.

b. *Architectural details*

- Doors in view of the main camera should be able to be closed to assure maximum privacy during the telemedicine appointment.
- Placement of doors behind the patient should be avoided as this can make patients uncomfortable.

2.1-3.3.2.1 General

- (1) A bay, cubicle, or room where clinical telemedicine services are provided shall meet the requirements of the section of the *Guidelines* that directly relates to the services provided and the patient population served.
- (2) Where patient volume does not justify provision of a dedicated telemedicine room, the telemedicine room shall be permitted to serve other functions such as physician's office, exam room, or conference room.
- (3) [Locations where clinical telemedicine services are provided shall include capability for remote monitoring of vitals and pumps, etc., from staff stations.](#)

2.1-3.4 Pre- and Post-Procedure Patient Care

2.1-3.4.1 General...

2.1-3.4.2 Patient Care Station Design

2.1-3.4.2.1 General

- (1) Bays, cubicles, or single-patient rooms that meet the requirements in this section shall be permitted to serve as patient care stations.
- (2) Pre- and post-procedure patient care stations shall be designed in pods that can be independently accessed and managed, including access to building system elements.
- (3) Space shall be provided around the perimeter of the pre- and post-procedure patient care area that can be converted into an area for donning and doffing of personal protective equipment when needed.

2.1-3.4.2.2 Space requirements

- (1) Area. When determining the area for a patient care station, space needed for equipment shall be identified.
- *(2) Clearances

A2.1-3.4.2.2 (2) Clearances in patient care stations

a. Two bays may be used to accommodate non-standard equipment (e.g., an expanded-capacity patient bed), but clearances do not include any area that would have to be shared to meet the standard. Clearances noted around gurneys are between the normal use position of the gurney and any adjacent fixed surface or between adjacent gurneys.

b. Sizing all pre- and post-procedure patient care stations with the largest clearances is recommended to provide flexibility for use during an emergency or for unanticipated future uses.

(a) Where bays are used, the following minimum clearances shall be provided:

- (i) 5 feet (1.52 meters) between the sides of patient beds/gurneys/lounge chairs
- (ii) 3 feet (91.44 centimeters) between the sides of patient beds/gurneys/lounge chairs and adjacent walls or partitions
- (iii) 2 feet (60.96 centimeters) between the foot of patient beds/gurneys/lounge chairs and the cubicle curtain

(b) Where cubicles are used, the following minimum clearances shall be provided:

- (i) 3 feet (91.33 centimeters) between the sides of patient beds/gurneys/lounge chairs and adjacent walls or partitions
- (ii) 2 feet (60.96 centimeters) between the foot of patient beds/gurneys/lounge chairs and the cubicle curtain
- (iii) Where bays or cubicles face each other, an aisle with a minimum clearance of 8 feet (2.44 meters) independent of the foot clearance between patient stations or other fixed objects shall be provided.

(c) Where single-patient rooms are used, 3 feet (91.44 centimeters) shall be provided between the sides and foot of beds/gurneys/lounge chairs and adjacent walls or partitions.

2.1-3.4.2.3 Provisions shall be made for the isolation of infectious patients.

- (1) An airborne infection isolation ([AII](#)) room is not required in pre- and post-procedure patient care areas.
- (2) Provisions for the recovery of a potentially infectious patient with an airborne infection shall be determined by an infection

control risk assessment (ICRA). The ICRA shall determine requirements for the following:

(a) Percentage of pre- and post-procedure patient care areas to be provided with controls to convert the area to negative pressure

(b) Percentage of patient care stations that are AII-ready single-patient rooms, including an anteroom or space for a portable anteroom, in pre- and post-procedure patient care areas

2.1-3.4.2.4 Patient privacy. Provisions shall be made for patient privacy in accordance with Section 2.1-2.1.2 (Patient Privacy).

2.1-3.4.2.5 Hand-washing stations. See Section 2.1-2.8.7 (Hand-Washing Station) for requirements.

2.1-3.4.2.6 Other design requirements

A2.1-3.4.2.6 Equipment monitoring. Patient care station design should support use of equipment capable of remote monitoring of patient vitals, including blood oxygen saturation (SPO), and of pumps and other medical equipment. When the patient care station is a single-patient room, at minimum the equipment should be visible from outside the room through a window or view panel.

- (1) For electrical receptacle requirements, see Table 2.1-1 (Electrical Receptacles for Patient Care Areas in Hospitals).
 - (2) For nurse call requirements, see Table 2.1-2 (Locations for Nurse Call Devices in Hospitals).
 - (3) For oxygen and vacuum requirements, see Table 2.1-3 (Station Outlets for Oxygen, Vacuum, Medical Air, and Instrument Air Systems in Hospitals).
-

2.1-4.1 Laboratory Services

...

2.1-4.1.3 Specimen Collection Facilities

2.1-4.1.3.1 General

(1) Space shall be provided for specimen collection.

*(2) Specimen collection facilities shall be permitted to be outside the laboratory work area.

A2.1-4.1.3.1 (2) Alternate specimen collection sites. Planning for emergency conditions should include consideration of what is needed in the physical environment to support specimen collection sites located in the lobby and outside the facility, possibly in tents or parking structures.

2.1-4.2 Pharmacy Services...

*2.1-4.2.2 Pharmacy Areas

A2.1-4.2.2 Security. Pharmacies should be considered vulnerable areas during emergencies, including times of civil unrest. Whether or not a pharmacy contains narcotics, intruders could be seeking medications. Although pharmacies located inside a hospital may be relatively secure from intruders, possible increased security needs for emergency conditions should be considered.

Security recommendations include providing bulletproof glass in pharmacy transaction windows and perimeter security features such as full-height walls with anti-breach measures (e.g., plywood, security mesh). External windows should be given the same considerations.

2.1-4.2.8 Support Areas for the Pharmacy...

***2.1-4.2.8.2 Office.** A separate room or area shall be provided for office functions.

A2.1-4.2.8.2 Office

- a. When sizing this room, consider the space needed to accommodate a desk, filing capabilities, communication equipment, and reference materials.
- b. Consider providing data outlets and sound attenuation to support increased consultation regarding medications during an emergency condition.

2.1-4.2.8.3 A room for education and training. A multipurpose room shared with other departments shall be permitted to serve this purpose.

***2.1-4.2.8.4 Outpatient medication consultation area.** If medication is dispensed to outpatients from the hospital pharmacy, an area for consultation and patient education shall be provided.

A2.1-4.2.8.4 Considerations for medication consultation during emergency conditions. Consider providing data outlets and sound attenuation to support increased consultation regarding medications that may become necessary during an emergency condition. Because consultation often requires face-to-face communication, configurations to support safe interaction with an infectious patient should be considered.

2.1-4.3 Food and Nutrition Services

2.1-4.3.1 General

***2.1-4.3.1.1 Application.** Facilities and equipment shall be provided to support food services provided for staff, visitors, and patients.

A2.1-4.3.1.1 Food services

a. Typical food services. Food service in a hospital may be provided in special dining areas (e.g., a physicians' dining room, conference center, boardroom, training facilities) and in retail serving areas for staff, ambulatory patients, and visitors. In addition, snacks between scheduled meals may be provided.

b. Food service considerations for emergency conditions. As dining is a key component of ongoing operations even during emergency conditions, the food service supply chain and storage capacity and corresponding ability to support meals for caregivers, patients, and the public during an emergency condition should be reviewed as part of the disaster, emergency, and vulnerability assessment. Physical environment supports needed for provision of continuous food service during an emergency should be determined.

2.1-4.3.2 Food Preparation Areas...

2.1-4.3.2.5 Hand-washing stations

(1) Hand-washing stations shall be provided within 20 feet (6.10 meters) of each food preparation or serving area.

(2) Hand-washing stations may be shared between adjacent food preparation stations.

(3) Hand-washing stations shall be located to eliminate the need to reach, touch, or cross over to a hand-washing station at another food preparation area.

*2.1-4.3.5 Dining Areas

A2.1-4.3.5 Alternate uses of dining areas during an emergency condition. During a natural disaster or other emergency condition, dining areas may need to be repurposed to non-food service uses such as emergency care or inpatient care. Therefore, project planning should include consideration of the features and services (e.g., medical gases, power, privacy, HVAC controls) that would be required for such an alternate use arrangement to be functional. In addition, use of movable seating and tables in dining areas should be considered to facilitate provision of additional space when needed.

2.1-4.3.5.1 Dining space(s) shall be provided for ambulatory patients, staff, and visitors.

2.1-4.3.5.2 A minimum aisle spacing and chair clearance of 3 feet (91.5 centimeters) shall be provided, but it shall be expandable to accommodate physical distancing as needed during an infectious disease event.

2.1-4.3.5.3 The design of aisles, tables/chairs, and casework used for self-service shall accommodate wheelchair access. See Section 1.1-4.1 (Design Standards for Accessibility).

2.1-4.3.8.13 Food and supply storage...

(2) Refrigeration equipment

(a) Refrigeration equipment shall be on an uninterruptible power source.

~~(a)~~ (b) Refrigerators and freezers shall be thermostatically controlled to maintain temperature settings in increments of 2 degrees or less.

~~(b)~~ (c) Commercial-grade refrigeration shall be provided to hold chilled and frozen food at temperatures in accordance with local, state, and federal requirements, including “HACCP [Hazardous Analysis Critical Control Point] Principles & Application Guidelines” and the FDA “Food Code.”

...

(4) Emergency storage. The following shall be provided ~~as for 96~~ hours or additional time as determined in the design phase:

(a) Storage space to hold water and food to feed the entire patient and staff population, along with their families

~~(a)~~ (b) Storage for ~~emergency or disaster food~~ disposable dishes, cutlery, and trays

(c) Storage for personal protective equipment needed by food service staff

~~(b)~~ (d) Emergency utility support for refrigerated storage and food preparation and serving areas

***2.1-5.3 Materials Management...**

2.1-5.3.3 Central Storage Facilities

***2.1-5.3.3.1 General**

- (1) In addition to supply storage facilities located in individual departments, a central facility for general storage shall be provided.
- (2) Location of central storage facilities in a separate building on-site shall be permitted as long as provisions are made for protection against inclement weather during transfer of supplies to the hospital.

(3) The impact of disasters on available supplies caused by product shortages and other supply chain interruptions shall be considered when sizing facility storage.

A2.1-5.3.3.1 Supplies for emergencies. During planning for central storage facilities, consideration for storage of emergency preparedness supplies, linens, etc., should be included. Emergency preparation storage may be located off-site provided a transportation plan is in place for accessing the supplies.

Health care organizations should carefully consider disaster risk factors for each location, structure, and supply path when designing storage facilities to ensure supply continuity in an emergency. Additional considerations include a connection to the essential electrical system for storage facilities, location of floodplains, and the structural integrity of warehouses and bridges, overpasses, and other structures along the supply path.

2.1-5.7 Morgue Services...

2.1-5.7.2 Autopsy Facilities

If autopsies are performed in the hospital, the following elements shall be provided:

***2.1-5.7.2.1 Refrigerated facilities for body holding.** Body-holding refrigerators shall be equipped with temperature-monitoring and alarm signals that annunciate at a 24-hour staffed location.

A2.1-5.7.2.1 Consideration should be given to placing body-holding refrigerators on the essential electrical system.

2.1-6 Public and Administrative Areas

*2.1-6.1 General

A2.1-6.1 Public and administrative areas are those non-patient care areas where the public is received into the hospital and where administrative functions in support of hospital operations take place.

These areas should be designed with consideration for security principles involving zones of protection as defined in Section 02: Buildings and the Internal Environment in the IAHS *Security Design Guidelines for Healthcare Facilities*. [As well, during project planning and design, means for supporting a one-way path of travel for those entering the facility during a pandemic or mass casualty event should be identified.](#)

2.1-6.1.1 Application

Where required by the facility chapters, public and administrative areas shall be designed according to the requirements in Section 2.1-6 (Public and Administrative Areas).

2.1-6.1.2 Location

Public areas shall be clearly identified and located to accommodate persons with disabilities.

2.1-6.2 Public Areas

The following shall be provided:

*2.1-6.2.1 Vehicular Drop-Off and Pedestrian Entrance

A2.1-6.2.1 Climate, patient acuity, and community standards may influence whether a covered or canopied entrance is desired.

[2.1-6.2.1.1](#) A minimum of one drop-off or entrance shall be reachable from grade level.

[2.1-6.2.1.2](#) Where the vehicular drop-off and pedestrian entrance will be used for outdoor staging during an emergency condition, see Section 2.1-8.1.3.1 (2) (Building System Considerations for Emergency Conditions—General) for building system requirements.

[2.1-6.2.1.3](#) Means for an alternate point of access for potentially infectious patients shall be provided.

2.1-6.2.2 Reception Area or Lobby

2.1-6.2.2.1 This space shall include the following:

- (1) Access to information
- (2) Public waiting area(s)
- (3) Public toilet room(s)
- (4) Provisions for telephone access
- (5) Provisions for drinking water
- (6) [Outlets for charging cell phones and mobile devices](#)

2.1-6.2.2.2 Emergency provisions. [The following accommodations for emergency response shall be located in or readily accessible to the reception area or lobby:](#)

- (1) [Sanitizing stations](#)
- (2) [Power/data ports for deployment of temporary scanners and other equipment](#)
- (3) [Signage or other cues indicating changes in patient, staff, and visitor flow](#)

[\(4\) Storage for screening equipment](#)

[2.1-6.2.2.3](#) ~~2.1-6.2.2.2~~ Shared lobbies shall be permitted in multi-occupancy buildings.

2.1-6.3 Administrative Areas...

2.1-6.3.4 Multipurpose Room

2.1-6.3.4.1 Several services or departments shall be permitted to share one multipurpose room.

2.1-6.3.4.2 Shared use of an office or interview room for this purpose shall be permitted.

[2.1-6.3.4.3](#) Multipurpose rooms shall be designed for conversion to a staff respite space, space for donning and doffing personal protective equipment, a control center, or other use during an emergency as determined by a disaster, emergency, and vulnerability assessment.

2.1-6.4 Support Areas for Staff and Volunteers

2.1-6.4.1 Lockers, lounges, [showers](#), and toilets shall be provided for employees and volunteers.

2.1-6.4.2 Lockers, lounges, [showers](#), and toilets for staff shall be separate from those provided for the public.

2.1-7 Design and Construction Requirements...

2.1-7.2.2.3 Doors and door hardware. Door and door hardware finishes shall be selected to withstand impact damage and cleaning with EPA-registered hospital disinfectants.

*(1) Door type

[A2.1-7.2.2.3 \(1\) Hands-free doors. Patients, caregivers, and visitors should be able to open doors without using their hands.](#)

- (a) All doors between corridors, rooms, or spaces subject to occupancy shall be of the swing type or shall be sliding doors.

*(b) Sliding doors

A2.1-7.2.2.3 (1)(b) Sliding doors. Use of sliding doors rather than swing doors is highly recommended for airborne infection isolation rooms, protective environment rooms, and other spaces for which an ICRA has identified infection control as an issue. Research has shown that swinging door motion induces up to six times more possible contaminates than sliding door motion and can significantly affect contaminant control.

- (i) Use of manual or automatic sliding doors shall be permitted where fire and other emergency exiting requirements are not compromised.
- (ii) Sliding doors with emergency breakaway features in the full open position shall be permitted to temporarily restrict the minimum corridor width required by applicable building codes.

*(iii) Sliding doors shall not have floor tracks.

A2.1-7.2.2.3 (1)(b)(iii) Eliminating floor tracks and using breakaway door hardware minimizes the possibility of jamming.

...

*(4) Door hardware. ~~Lever hardware or push/pull latch hardware shall be provided.~~

(a) Where hands-on patient care will be provided, push/pull hardware shall be required.

(b) Lever hardware shall be permitted in all other locations.

A2.1-7.2.2.3 (4) Door protection should be provided where a door is subject to impact.

***2.1-7.2.2.8 Hand-washing stations...**

(5) Provisions for drying hands. Provisions for hand drying shall be required at all hand-washing stations (except hand scrub facilities).

(a) Hand-washing stations shall include a hand-drying device that does not require hands to contact the dispenser.

(b) These provisions shall be enclosed to protect against dust or soil and to ensure single-unit dispensing.

~~(c) Hot air dryers shall be permitted.~~

~~(c)~~ ~~(d) Where provided,~~ Single-use towels shall be provided directly accessible to sinks and located to prevent contact with splash from the sink.

***2.1-7.2.3 Surfaces**

A2.1-7.2.3 Characteristics and criteria for selecting surface and furnishing materials and products. The effect of surface materials, colors, textures, and patterns on patient, staff, and visitor safety and on maintenance and life cycle performance should be considered in the overall planning and design of the facility....

c. Patient safety risk assessment issues addressed by

surfaces and furnishings performance characteristics and criteria

—*Reduction of surface contamination linked to health care-associated infections (HAIs).* Surfaces and furnishings selected should have clear, written manufacturer-provided cleaning protocols that will ensure the product remains durable and can meet CDC cleaning standards for health care facilities.

- [Verify that cleaning techniques in the manufacturer’s use instructions for all surfaces are consistent with the cleaning products and techniques specified in the ICRA.](#)
- Surfaces should be easy to clean, with no surface crevices, rough textures, joints, or seams.
- Surfaces should be non-absorptive, nonporous, and smooth.
- Manufacturer-recommended cleaning and disinfection methodologies should be easy to use and effective for meeting CDC and other clinical bacterial elimination requirements.

***2.1-7.2.4.3 Privacy curtains in patient rooms and other patient care areas.** Use of fabric privacy curtains shall be permitted if the fabric is washable.

A2.1-7.2.4.3 Use of [disposable curtains](#) or a wipeable fabric with a smooth surface is preferable.

2.1-8 Building Systems

2.1-8.1 General

...

2.1-8.1.2 Surge Capacity Locations

In areas identified as surge capacity locations, medical gas outlets used to support surge capacity patient care shall be installed in a secured location or in a tamper-resistant housing.

2.1-8.1.2.1 The tamper-resistant housing shall be designed for quick removal or entrance by facility maintenance staff to provide full and complete access to inspect, maintain, and use the outlets.

2.1-8.1.2.2 The housing shall not violate the outlet or fixture manufacturer's recommendations.

2.1-8.1.2.3 The housing shall not obstruct or intrude into the means of egress.

2.1-8.1.3 Building System Considerations for Emergency Conditions

Where required by the disaster, emergency, and vulnerability assessment (DEVA), the following requirements shall be met:

2.1-8.1.3.1 General

- (1) Patient bed headwalls shall be designed to meet power and medical gas requirements for more than one patient care station.
- (2) Locations identified for outdoor staging during pandemic or mass casualty events shall have power, data, and water connections on the exterior of the building.
- (3) Hookups shall be provided for temporary generators and supplemental bulk oxygen in a location accessible to emergency supply vehicles at all times.

2.1-8.1.3.2 HVAC systems

- (1) Air-handling unit fans, filters, and coils shall be oversized so they can operate at 100 percent outdoor air in locations indicated in the DEVA.
- (2) Patient rooms
 - (a) To allow conversion of the patient room to negative pressure, an exhaust grille shall be provided in the ceiling above patient beds to support unidirectional airflow or at the window.
 - (b) Ventilation systems serving standard patient rooms shall be designed so air changes per hour (ACH) can be increased on demand as indicated in the DEVA.
- (3) Negative pressure examination/treatment rooms
 - *(a) HVAC design shall permit switching the examination/treatment room pressure relationship to negative.

A2.1-8.1.3.2 (3)(a) Negative pressure examination/treatment room. Control of the switch to a negative pressure relationship can be accomplished using a local pressure monitor key switch, the building automation system, or a keypad device.
 - (b) HEPA filtration and/or 100 percent outside air shall be installed in conjunction with the negative pressure control settings.
- (4) HVAC design shall provide the ability to convert final filters to HEPA filters.
- (5) HVAC systems shall be designed to change from return air to exhaust air for designated areas when needed. A separate exhaust system, including exhaust fan with motorized dampers, shall be provided to close the return air path when a specific location is being exhausted.

2.1-8.3.4 Lighting...

2.1-8.3.4.3 Lighting for specific locations in the hospital

*(1) Patient rooms. Patient rooms shall have general lighting and night-lighting.

[A2.1-8.3.4.3 \(1\) Hands-free lighting controls. Hands-free functionality is preferable for lighting controls when this feature is available for light fixtures chosen. The goal is to avoid high-touch locations that might become transmission vectors for spreading infection.](#)

- (a) Lighting for reading shall be provided for each patient bed.
 - (i) Reading light controls shall be accessible to the patient(s) without the patient having to get out of bed.
 - (ii) Incandescent and halogen light sources that produce heat shall be placed or shielded to protect the patient from injury.
 - (iii) Unless the light source is specifically designed to protect the space below, the light source shall be covered by a diffuser or lens.
 - (iv) Flexible light arms, if used, shall be mechanically controlled to prevent the lamp from contacting the bed linen.
- *(b) At least one night-light fixture shall be located in each patient room. This requirement does not apply to critical care patient rooms where view panels are provided to the corridor.

A2.1-8.3.4.3 (1)(b) Night-lighting

- a. Night-lights with lamps that have a warm-up time or

a delay in reaching the intended light level should be avoided.

b. The night-light should be mounted on the wall near the floor to avoid disturbing the patient.

*(i) Central control of night-lights such as a common switch at the nurse station or time clock shall be prohibited.

A2.1-8.3.4.3 (1)(b)(i) The night-light should be controlled at the room entrance. Night-long use of night-lights is typically patient dependent. Some patients prefer dark rooms and are disturbed by night-lights. Patient control of the night-light may also be provided via three-way switching or low-voltage controls.

*(ii) The night-light shall be located for staff and patient use to illuminate both the path from the room entrance to the bedside and the path between the bed and the toilet room.

A2.1-8.3.4.3 (1)(b)(ii) Indirect lighting should be provided to reduce glare on surfaces to accommodate vision issues for patient comfort.

(c) Lighting for critical care bed areas shall permit staff observation of the patient while minimizing glare.

2.1-8.7.2 Elevators

***2.1-8.7.2.1 General.** Hospitals with patient facilities (e.g., patient rooms, dining rooms, recreation areas) or critical services (e.g., operating, delivery, diagnostic, therapeutic areas) located on floors other than the grade-level entrance floor shall have elevators.

A2.1-8.7.2.1 Consideration should be given to dedicating and separating elevator types by function, such as those for the public, patients, staff, and materials (e.g., clean vs.

soiled flows), as the diverse uses affect both operational efficiency and cross-contamination and infection control issues. [Separating elevator functions may be necessary during emergency conditions \(e.g., a pandemic\).](#)

2.1-8.7.2.2 Number

- (1) At least two hospital-type elevators shall be installed where 1 to 59 patient beds are located on any floor other than the main entrance floor.
- (2) At least two hospital-type elevators shall be installed where 60 to 200 patient beds are located on floors other than the main entrance floor, or where the major inpatient services are located on a floor other than those containing patient beds. (Reduction in elevator service shall be permitted for those floors providing only partial inpatient services.)
- (3) At least three hospital-type elevators shall be installed where 201 to 350 patient beds are located on floors other than the main entrance floor, or where the major inpatient services are located on a floor other than those containing patient beds. (Reduction in elevator service shall be permitted for those floors providing only partial inpatient services.)
- * (4) For hospitals with more than 350 beds, the number of elevators shall be determined from a study of the hospital plan and the expected vertical transportation requirements.

A2.1-8.7.2.2 (4) Methods for conducting a traffic study are described in George R. Strakosch and Robert S. Caporale, *Vertical Transportation Handbook*. [Possible emergency events identified in the disaster, emergency, and vulnerability assessment should be included in all vertical transportation studies.](#)

Chapter 2.2 Specific Requirements for General Hospitals

*2.2-2.2 Medical/Surgical Patient Care Unit...

*2.2-2.2.2 Patient Room

A2.2-2.2.2 Telemetry systems. Health care organizations should consider the addition of telemetry infrastructure in patient rooms to enable quick conversion to critical care during an emergency event. During emergency conditions, patient rooms may be converted to a higher acuity level to accommodate patient surge.

...

2.2-2.2.2.2 Space requirements

...

*(2) Clearances

- (a) The dimensions and arrangement of rooms shall provide a minimum clearance of 3 feet (91.44 centimeters) between the sides and foot of the bed and any wall or other fixed obstruction.
- (b) In multiple-patient rooms, a minimum clearance of 4 feet (1.22 meters) shall be available at the foot of each bed to permit the passage of equipment and beds.

A2.2-2.2.2.2 (2) Clearances for surge capacity. When designing medical/surgical patient rooms that can be converted to support an organization's ability to increase intensive care unit capacity, consider providing space to

accommodate clearances for two beds, including a 66-inch clearance on the transfer side of each bed.

...

***2.2-2.2.2.9 Infrastructure to support IV pumps and monitors.**

Means shall be provided to locate IV pumps and monitors outside of patient rooms.

A2.2-2.2.2.9 Location of IV pumps and monitors outside patient rooms. During an epidemic, providing staff a means to monitor patients without entering the patient room supports the need to protect staff health and conserve personal protective equipment (PPE). The solution should include consideration of the location of a connection to the essential electrical system for monitors and IV pumps as well as fluid tubing from pumps or ventilators. The design should also make it possible to keep the required air balance in the patient room. A preferred solution would be a rated device (for applicable fire, smoke, acoustic, and air leakage requirements) installed through the wall for passage of the equipment cables and tubing.

2.2-3.1.3 Emergency Department

2.2-3.1.3.1 General

(1) Application. Hospitals that offer more than basic emergency care services shall have facilities that meet the requirements in this section for the services they provide.

(2) Security:

*(a) Perimeter security. The emergency department shall be designed to ensure that access control can be maintained at all times.

A2.2-3.1.3.1 (2)(a) Perimeter security. A2.2-3.1.3.3

The exterior perimeter of the emergency department should have the capability to be secured to control access and provide safety in the event of a disaster or situations requiring a higher level of security.

- (b) Means to detect weapons, such as a metal detector, shall be provided at each point of entry to the emergency department.
- (c) A video surveillance system shall be provided for each emergency department entrance.
- (d) Where entrances may be locked, a visible duress alarm system shall be provided.

*(3) Path of travel for infectious patients

A2.2-3.1.3.1 (3) Non-infectious and infectious patients are likely to be treated simultaneously, although the population percentages will vary by facility.

- (a) Means to support a split-flow point of entry shall be provided to separate different patient populations (e.g., fever/influenza, enteric, non-infectious).
- (b) A clear path of travel shall be provided for infectious patients arriving by ambulance either through the exterior decontamination facility or straight to the trauma/resuscitation room.
- (c) The path of travel for infectious patients shall be a negative pressure environment that is 100 percent exhausted.

***2.2-3.1.3.3 Reception and triage areas:**

~~**A2.2-3.1.3.3** The exterior perimeter of the emergency department should have the capability to be secured to control access and provide safety in the event of a disaster~~

~~or situations requiring a higher level of security.~~ [Moved to A2.2-3.1.3.1 (2)(a).]

***2.2-3.1.3.6 Treatment room or area**

A2.2-3.1.3.6 Provision of all single-patient treatment rooms, rather than inclusion of some multiple-patient treatment areas, should be considered to help limit the potential for infection transmission. Even if these rooms are not designed as airborne infection isolation rooms, their use can provide the opportunity to separate airflow and enable focused cleaning of the space between patients.

Chapter 2.4 Specific Requirements for Critical Access Hospitals

***2.4-1.3 Site**

A2.4-1.3 Flexible site considerations for emergency events. Provision of flexible open spaces that are strategically located on-site can support additional functional and programmatic needs that may be required during emergency events. To maximize functionality, design of a flexible site must factor in appropriate building system components (e.g., additional electrical receptacles, medical gas sources, communications equipment) to support potential added functions and programmatic requirements. In isolated, remote, or rural locations and urban locations with limited outside resources, support, or connectivity, the following should be considered:

- a. Identification of on-site locations that can be used for disaster preparedness, response, and recovery. These

areas may include paved parking and roads, open canopy and garage structures, gravel laydown areas, mobile unit pads, future expansion areas, and loading docks. Ambulance bays or garages should not be considered for this purpose.

b. Provision of utility services to the identified locations for quick, convenient use when needed

2.4-1.3.5 Hospital Incident Command System (HICS)

See Section 1.2-6.5.2 (Hospital Incident Command System) for requirements.

2.4-2.2 Critical Access Patient Care Unit...

2.4-2.2.2 Patient Room...

***2.4-2.2.8.13 Equipment and supply storage.** Equipment and supply storage shall be provided. For requirements, see Section 2.1-2.8.1.3 (Equipment and Supply Storage).

A2.4-2.2.8.13 Equipment and supply storage considerations for emergency events. An emergency event could disrupt the supply chain for items needed to support a surge event, including provision of patient care services. In isolated, remote, or rural locations and urban locations with limited outside resources, support, or connectivity, consider providing supplemental storage spaces—on-site or off-site, if easily accessible—to accommodate specialized needs prior to, during, and after a disaster event. Additional storage may be needed for items such as medical equipment (e.g., ventilators), medical gas cylinders, PPE, food, medical supplies, and generator diesel fuel.

2.4-3.2 Emergency Services...

***2.4-3.2.2 Additional Emergency Services Requirements**

A2.4-3.2.2 Space considerations. When performing a disaster, emergency, and vulnerability assessment, health care organizations should identify available flexible space in the facility. Space considerations include accommodations for:

- a. Layout and clearances to accommodate one-way flow patterns
- b. Segregation of patient populations during and after an emergency event
- c. Potential adaptability of rooms or spaces to alternate functions during an emergency event (e.g., planning a patient room so it could function as a negative pressure room)

***2.4-8 Building Systems**

A2.4-8 See appendix section A2.4-1.3 (Flexible site considerations for emergency events) for building system considerations for flexible site use during an emergency condition.

***2.4-8.5.2 Telecommunications and Information Systems**

A2.4-8.5.2 Telecommunications and information systems considerations for disaster events

- a. Consideration should be given to location, access,

availability, and placement of telecommunication and broadband access points (hard-wired and WiFi) to support flexibility prior to, during, and after a disaster event. Strategically locating telecommunication and broadband access points can support additional functional and programmatic requirements during an emergency event.

b. Surge locations identified during planning should have access to telecommunication and broadband access points so they can properly function as an extension of the facility and connect to outside support services.

c. See appendix section A2.4-1.3 (Flexible site considerations for emergency events) for parking and site planning considerations.

2.4-8.5.2.1 Location

(1) Locations for terminating telecommunications and information system devices shall be provided.

(2) Telecommunications distribution rooms (TDRs) and telecommunications equipment rooms (TECs) shall be located at an elevation above the 100-year floodplain and storm surge levels.

2.4-8.5.2.2 A central equipment space shall be provided that meets manufacturer requirements for the following:

- (1) Temperature range
- (2) Air filtration
- (3) Humidity control
- (4) Voltage regulation

Chapter 2.8 Specific Requirements for Mobile/ Transportable Medical Units

2.8-1.1.1 Applicable Medical Units...

2.8-1.1.1.23 ~~This~~ The requirements of this chapter shall not be applied to federally funded mobile/transportable medical units designed for and placed into service ~~as a result of~~ to respond to a civil or local emergency or catastrophe.

*2.8-1.1.1.34 This chapter shall not be applied to modular/relocatable medical units that are prefabricated off-site and finished on-site and transported to a permanent foundation. ~~on-site that cannot be readily moved.~~

*2.8-1.3 Site

A2.8-1.3 Disaster planning. Health care organizations should consider the use of mobile and relocatable unit utilities and unit pads during a disaster event to allow space for additional patient care capacity in the facility.

Table 1.2-1: Safety Risk Assessment (SRA) Components

Assessment	Facility Type/ Area	Project Scope	Guidelines Reference
Infection control risk (ICRA)	All	1. New construction 2. All renovations	1.2-4.2
Patient handling and movement (PHAMA)	Areas where patient handling, transport, transfer, and movement occur	1. New construction 2. Major renovation and renovations changing functional use of space 3. Minor and minimal renovations where patient handling occurs	1.2-4.3
Fall prevention	Any area to which a patient or family member has access	1. New construction 2. Major renovation and renovations changing functional use of space 3. Minor and minimal renovations where patient falls may occur	1.2-4.4
Medication safety	Medication safety zones	1. New construction 2. Major renovation and renovations changing functional use of space 3. Minor and minimal renovations where medication preparation, processing, and distribution occurs	1.2-4.5
Behavioral and mental health risk	Any area where behavioral health patient care is provided	1. New construction 2. Major renovation and renovations changing functional use of space to include care of behavioral health patients 3. Minor and minimal renovations where behavioral health patient treatment occurs	1.2-4.6
Patient immobility	Inpatient locations	1. New construction 2. Major renovation and renovations changing functional use of space to inpatient use 3. Minor and minimal renovations where inpatient care occurs	1.2-4.7
Security risk	All	1. New construction 2. All renovations	1.2-4.8
Disaster, emergency, and vulnerability	All	1. New construction 2. Major renovation and renovations changing functional use of space	1.2-4.9

Appendix Table A1.2-a: Safety Risk Assessment Team Member Expertise

EXPERT	SAFETY COMPONENT							
	Infection control risk	Patient handling and movement	Fall prevention	Medication safety	Behavioral and mental health risk	Patient immobility	Security risk	Disaster, emergency, and vulnerability
Clinicians from services affected by the project	✓	✓	✓	✓	✓	✓	✓	✓
Facility management staff	✓	✓	✓	✓	✓	✓	✓	✓
Performance and/or quality improvement experts	✓	✓	✓	✓	✓	✓	✓	
Safety specialists	✓	✓	✓	✓	✓	✓	✓	✓
Security specialist(s)					✓		✓	✓
Infection preventionists	✓	✓		✓			✓	✓
Architects, interior designers, and/or engineers	✓	✓	✓	✓	✓	✓	✓	✓
Human factors specialists	✓	✓	✓	✓	✓	✓		
Emergency preparedness officer/representative								✓
Risk manager	✓	✓	✓	✓	✓	✓	✓	✓
Insurance provider							✓	✓
Other appropriate individuals based on nature of the project	As needed	As needed	As needed	As needed	As needed	As needed	As needed	As needed

Table 2.1-1 Electrical Receptacles for Patient Care Areas in Hospitals

Section	Location	Number of Single Receptacles ¹	Receptacle Locations
PATIENT BED LOCATIONS			
2.1-2.4.2	All room ²	12	2 at each side of the head of the bed 2 on all other walls 1 for a television, if used 1 for each motorized bed 1 dedicated for ventilator
2.2-2.2.2	Medical/surgical unit patient room ²		
2.2-2.2.4.4	Protective environment room ²		
2.2-2.5.2	Intermediate care unit patient room		
2.2-2.9.2.2	Postpartum unit patient room ²		
2.2-2.11.2	Pediatric and adolescent unit patient room ²		
2.6-2.2.2	Rehabilitation unit patient room		
2.2-2.6.2	Intensive Critical care unit (ICU) patient room	16	Convenient ³ to head of bed with one on each wall 1 dedicated for ventilator
2.2-2.7.2	Pediatric intensive critical care unit patient room		
2.2-2.8.2	Neonatal intensive care unit (NICU) patient care station	16	Convenient ³ to head of bed with one on each wall
2.2-2.9.3	LDR/LDRP room	16	8 convenient ³ to head of mother's bed 1 dedicated for ventilator 4 convenient ³ to each bassinet with one on each wall

Table 2.1-1 Electrical Receptacles for Patient Care Areas in Hospitals (*continued*)

Section	Location	Number of Single Receptacles ¹	Receptacle Locations
DIAGNOSTIC AND TREATMENT AREAS			
2.1-3.2 Table 2.2-2	Examination room Class 1 imaging room	8	4 convenient ³ to head of gurney or bed or on each lateral side of the imaging gantry
2.2-2.9.11	Cesarean delivery room	304	16 convenient ³ to table placement 2 on each wall 6 in the infant care area
2.2-3.1.2.6	Treatment room for basic emergency services	12	Convenient ³ to head of gurney or bed
2.2-3.1.3.3	Triage room or area in the emergency department	6	Convenient ³ to head of gurney or bed (At least 50% of these outlets shall be connected to emergency system power and be so labeled.)
2.2-3.1.3.6 (2) and (3)	Emergency department treatment room	12	Convenient ³ to head of gurney or bed
2.2-3.1.3.6 (4)	Trauma/resuscitation emergency room	16	Convenient ³ to head of gurney or bed
2.2-3.2.2	Observation unit patient care station	8	4 convenient ³ to head of gurney or bed
2.2-3.3.2 Table 2.2-2	Procedure room (including endoscopy) Class 2 imaging room	12 ⁴	8 convenient ³ to table placement with at least one on each wall
2.2-3.3.3 Table 2.2-2	Operating room Class 3 imaging room	36 ⁴	16 convenient ³ to table placement 2 on each wall

Table 2.1-1 Electrical Receptacles for Patient Care Areas in Hospitals (*continued*)

Section	Location	Number of Single Receptacles ¹	Receptacle Locations
2.2-3.10.2	Hemodialysis patient care stations	8	4 on each side of a patient bed or lounge chair. (Two on each side of the bed shall be connected to emergency power.)
POST-ANESTHESIA CARE LOCATIONS			
2.1-3.4.4	Phase I post-anesthetic care (PACU) patient care station	8	Convenient ³ to head of gurney or bed
2.1-3.4.5	Phase II recovery patient care station	4	Convenient ³ to gurney, lounge chair, or bed

¹Permanently installed single, duplex, or fourplex receptacles or a combination of these shall be permitted. Receptacles in relocatable power taps or mounted on portable equipment shall not be counted as part of the total minimum requirement.

²Omission of receptacles from exterior walls in patient rooms shall be permitted where construction or room configuration makes installation impractical.

³"Convenient" in this table means the cords from the equipment to be used in the room can reach the receptacles without causing a trip hazard.

⁴The number of receptacles for these spaces is intended to agree with the number required in the governing edition of NFPA 99: *Health Care Facilities Code*.

Notes

1. Consideration shall be given to providing some outlets on emergency power and some on normal power at the head of patient beds and in operating rooms, cesarean delivery rooms, and trauma/resuscitation emergency rooms in case of transfer switch failure.
2. Each patient bed location or procedure room shall be supplied by at least two branch circuits, one from the essential electrical system and one or more from the normal system. Critical care locations served from two separate transfer switches on the essential electrical system shall not be required to have separate circuits from the normal system.
3. Branch circuits serving only special purpose receptacles or equipment in critical care areas shall be permitted to be served by other panelboards.
4. An additional outlet shall be provided for a television if one is furnished in the room.

5. A minimum of one dedicated circuit shall be provided to each critical care patient location.
6. Open heart post-anesthesia recovery spaces require more receptacles than those specified in this table; the number should be determined during the planning phase.

Table 2.1-3 Station Outlets/Inlets for Oxygen, Vacuum (Suction), Medical Air, and Instrument Air Systems in Hospitals¹ [table excerpts]

Section	Location	Oxygen	Vacuum	Medical Air	WAGD ²	Instrument Air
PATIENT CARE UNITS						
2.1-2.4.2	Airborne infection isolation (AII) room	1/bed ^X	1/bed ^X	—	—	—
2.2-2.2.2	Patient room (medical/surgical)	1/bed ^X	1/bed ^X	— ³	—	—
2.2-2.2.4.4	Protective environment room	1/bed ^X	1/bed ^X	—	—	—
2.2-2.5.2	Intermediate care room	2/bed ^X	2/bed ^X	1/bed ^X	—	—
2.2-2.6.2	Critical care patient room	3/bed ^X	3/bed ^X	1/bed ^X	—	—
2.2-2.6.4.2	Critical care All room					
2.2-2.7.2	Pediatric critical care room					
2.2-2.8.2	Neonatal intensive care unit (NICU) infant care bed	3/infant care bed	3/infant care bed	3/infant care bed	—	—

Table 2.1-3 Station Outlets/Inlets for Oxygen, Vacuum (Suction), Medical Air, and Instrument Air Systems in Hospitals¹ [table excerpts] (continued)

Section	Location	Oxygen	Vacuum	Medical Air	WAGD ²	Instrument Air
2.2-2.9.2	Antepartum and postpartum unit	1/bed ^X	1/bed ^X	—	—	—
2.2-2.9.3	Labor/delivery/recovery (LDR)					
2.2-2.9.3	Labor/delivery/recovery/postpartum (LDRP)					
2.2-2.9.11.1	Infant resuscitation space	3/ bassinet	3/ bassinet	3/ bassinet	—	—
2.2-2.9.11	Cesarean delivery room	2/room ^X	4/room ^X	1/room ^X	—	—
2.2-2.9.11.11	Recovery space for cesarean delivery	1/bed ^X	3/bed ^X	1/bed ^X	—	—
2.2-2.10.3.1	Newborn nursery	1/ bassinet ⁵	1/ bassinet ⁵	1/ bassinet ⁵	—	—
2.2-2.10.3.2	Continuing care nursery	1/ bassinet	1/ bassinet	1/ bassinet	—	—
2.2-2.11.2	Pediatric and adolescent patient room	1/bed ^X	1/bed ^X	1/bed ^X	—	—
DIAGNOSTIC AND TREATMENT LOCATIONS						
2.1-3.2	Examination room or emergency department treatment room	1/room ^X	1/room ^X	—	—	—

Table 2.1-3 Station Outlets/Inlets for Oxygen, Vacuum (Suction), Medical Air, and Instrument Air Systems in Hospitals¹ [table excerpts] (*continued*)

Section	Location	Oxygen	Vacuum	Medical Air	WAGD ²	Instrument Air
2.1-3.4.4	Phase I post-anesthesia (PACU) patient care station	2/ station ^X	3/ station ^X	1/ station ^X	—	—
2.1-3.4.5	Phase II recovery patient care station	1/ station ^X	1/ station ^X 6	—	—	—
2.2-3.1.2.6	Treatment room for basic emergency services	1/ gurney ^X	1/ gurney ^X	—	—	—
2.2-3.1.3.3	Triage area (emergency department)	1/ station ^X	1/ station ^X	—	—	—
2.2-3.1.3.6	Emergency department treatment room or area	1/ gurney ^X	1/ gurney ^X	1/ gurney ^X	—	—
2.2-3.1.3.6 (4)	Trauma/resuscitation room	2/ gurney ^X	3/ gurney ^X	1/ gurney ^X	—	—
	Plaster and cast room	1/room ^X	1/room ^X	—	—	—
2.2-3.2.2	Observation unit patient care station	1/ station ^X	1/ station ^X	—	—	—
Table 2.2-2	Class 1 imaging room	1/room ^X	1/room ^X	—	—	—

Table 2.1-3 Station Outlets/Inlets for Oxygen, Vacuum (Suction), Medical Air, and Instrument Air Systems in Hospitals¹ [table excerpts] (continued)

Section	Location	Oxygen	Vacuum	Medical Air	WAGD ²	Instrument Air
2.2-3.3.2	Procedure room	2/room ^X	2/room ^X	1/room ^X	—	—
Table 2.2-2	Class 2 imaging room					
2.2-3.3.3	Operating room	2/room ^X	5/room ^X	1/room ^X	1/room	1/room
Table 2.2-2	Class 3 imaging room					
2.2-3.11.2	Endoscopy procedure room	1 ^X	3 ^X	—	—	—
2.2-3.11.3	Endoscopy pre- and post-procedure patient care area	0 ^{X,7}	0 ^{X,7}	—	—	—
2.2-3.13.4	Hyperbaric suite pre-procedure patient care area	2 ^X	2 ^X	—	—	—
2.5-3.4.2.2	Electroconvulsive therapy treatment room	1 ^{X,9}	1 ^{X,9}	—	—	—

¹For any area or room not included in this table, the facility clinical staff shall determine station outlet requirements after consultation with the authority having jurisdiction.

^X[Provision of an additional station outlet shall be considered to accommodate ventilator use during an emergency condition and future equipment that may require more access to medical gases.](#)

²WAGD stands for “waste anesthesia gas disposal” system.

³Medical air outlets may be required in patient rooms.

⁴When infant resuscitation takes place in a room such as a cesarean delivery room or an LDRP room, infant resuscitation services must be provided in that room in addition to the minimum service required for the mother.

⁵Four bassinets may share one outlet that is accessible to each bassinet.

⁶If the Phase II recovery area is combined with the PACU, three vacuum outlets per bed or station shall be provided.

⁷A portable source shall be available for the space.

⁸Vacuum and/or instrument air shall be provided if needed for the cleaning methods used.

⁹Use of portable equipment in lieu of a piped gas system shall be permitted.

¹⁰In the one-room sterile processing facility and the clean workroom of the two-room sterile processing facility, an instrument air outlet or portable compressed air shall be provided as required by the equipment used. In the decontamination room of the two-room sterile processing facility, an instrument air outlet or portable compressed air is required.

¹¹NFPA 99 permits the use of portable medical compressed air for single applications. Where cylinders are used for non-respiratory purposes, such as air for blowing down scopes and/or running decontamination equipment, NFPA 99 should be consulted for cylinder air quality, placement, and handling.

Proposed Language Based on the 2018 Outpatient *Guidelines*

Chapter 1.1 Introduction

***1.1-2 New Construction**

Projects with any of the following scopes of work shall be considered new construction and shall comply with the requirements in the *Guidelines for Design and Construction of Outpatient Facilities*:

[A1.1-2 Resiliency in new construction. Incorporation of design elements for resiliency should be considered for new construction projects where continuity of patient care services is required in the event of an emergency. Refer to Section 1.2-4.9 \(Disaster, Emergency, and Vulnerability Assessment\) for applicability.](#)

1.1-3 Renovation

1.1-3.1 General

1.1-3.1.1 Compliance Requirements

***1.1-3.1.1.1** Where renovation or replacement work is done in an existing facility, all new work or additions or both shall comply with applicable sections of the *Guidelines* and local, state, and federal codes.

[A1.1-3.1.1.1 Resiliency in renovation projects. Incorporation of design elements for resiliency should be considered when renovating an existing facility where continuity of patient care services is required in the event of an emergency. Refer to Section 1.2-4.9](#)

[\(Disaster, Emergency, and Vulnerability Assessment\) for applicability.](#)

Chapter 1.2 Planning, Design, Construction, and Commissioning

1.2-2 Functional Program

...

1.2-2.2 Functional Program Content

The functional program for a project shall include the following:

...

1.2-2.2.7 Operational Requirements

The operational requirements, which include but are not limited to the following, shall be described:

1.2-2.2.7.1 Projected operational use for project components

1.2-2.2.7.2 Relevant operational circulation patterns, including movement of staff, patients and their companions, members of the public, and materials and equipment

1.2-2.2.7.3 Departmental operational relationships and required adjacencies

[1.2-2.2.7.4 Projected operational use and surge capacity of project components during emergency conditions](#)

[A1.2-2.2.7.4 Projections for operational use and surge capacity during emergency conditions are identified in](#)

[these facility-specific assessments: safety risk assessment \(infection control risk assessment and disaster, emergency, and vulnerability assessment portions\) and hazard vulnerability assessment.](#)

***1.2-4 Safety Risk Assessment (SRA)**

A1.2-4 SRA. The safety risk assessment is a multidisciplinary, documented assessment process used to proactively identify hazards and risks and mitigate underlying conditions of the built environment that may contribute to adverse safety events. These adverse events include infections, falls, medication errors, security breaches, and musculoskeletal or other injuries. [The SRA also includes assessment of the hazards and risks from natural and man-made emergency conditions.](#)

The SRA process includes evaluation of the population at risk and the nature and scope of the project; it also takes into account the models of care, operational plans, sustainable design elements, and performance improvement initiatives of the health care organization. The SRA proposes built environment solutions to mitigate identified risks and hazards.

***1.2-4.1 General**

A1.2-4.1 More information and online tools to assist in the development of a safety risk assessment can be found on the websites of the Facility Guidelines Institute and the Center for Health Design. [As well, information about the SRA and the disaster, emergency, and vulnerability assessment can be found in the FGI white paper *Guidance for Designing Health and Residential Care Facilities that Respond and Adapt to Emergency Conditions.*](#)

1.2-4.1.1 SRA Requirement

1.2-4.1.1.1 All outpatient facility projects shall be designed and constructed to facilitate the safe delivery of care.

1.2-4.1.1.2 To support this goal, an interdisciplinary team shall develop a safety risk assessment.

1.2-4.1.2 SRA Components

See Table 1.2-1 (Safety Risk Assessment Components) to determine if the following SRA components are required for a project.

1.2-4.1.2.1 Infection control risk assessment (ICRA)

1.2-4.1.2.2 Patient handling and movement assessment (PHAMA)

1.2-4.1.2.3 Fall prevention assessment

1.2-4.1.2.4 Medication safety assessment

1.2-4.1.2.5 Behavioral and mental health risk assessment

1.2-4.1.2.6 Security risk assessment

[1.2-4.1.2.7 Disaster, emergency, and vulnerability assessment \(DEVA\)](#)

***1.2-4.1.3 SRA Responsibility and Scope**

[1.2-4.1.3.1](#) The safety risk assessment shall be initiated and managed by the governing body during the planning phase of the project, **and**

[1.2-4.1.3.2](#) The safety risk assessment shall evolve with additional levels of detail as needed to support the creation of a safe environment throughout the design, construction, and commissioning phases of a project.

A1.2-4.1.3 SRA responsibility and scope for small facility projects. Risks such as infection prevention and security should be considered even for small projects, including tenant improvement projects. The safety risk assessment, which may be initiated by the governing body or the care provider, should identify the basic aspects of risk associated with the project early in the planning phase. These identified risk areas and related solutions will evolve over the course of project design, construction, and commissioning.

*1.2-4.1.5 SRA Process

A1.2-4.1.5 SRA tools and methods. A range of high-priority activities to improve patient and caregiver safety outcomes should be considered during the predesign, design, and construction phases of a project.

***1.2-4.1.5.1 Identify hazards and potential risks.** The governing body shall provide an assessment of the potential ~~harm to~~ hazards for patients, caregivers, and other users for the ~~risks~~ components listed in Table 1.2-1 (Safety Risk Assessment Components), identifying ~~the following:~~ ^{*(1)} H hazards specific to the project.

A1.2-4.1.5.1 ~~(1)~~ Hazards

a. Hazards include circumstances, processes, human activities, physical obstacles, and underlying conditions that may directly or indirectly contribute to harm to patients, staff, or other users or contribute to damage or loss. See appendix section A1.2-4.1.5.2 (Evaluation of underlying conditions that can cause adverse safety events) for more information.

b. Some hazards may be more anticipated than others (e.g., regionally associated weather events). Anticipated

hazards may come with some level of advance notice (e.g., minutes or hours for a tornado watch/warning or days for a potential hurricane landfall). Other hazards may be unanticipated (e.g., an explosion of stored chemicals, a terrorist attack). Some hazards may start as unanticipated and evolve into an anticipated event (e.g., a global pandemic).

~~(2) Historical data and/or national patient and caregiver safety trends relevant to the identified hazards~~

~~(3) Prioritization of the degree of potential harm to patients and/or caregivers from the identified hazards~~

***1.2-4.1.5.2 Evaluate ~~hazards and risks~~ from identified hazards.**

The SRA team shall evaluate underlying conditions that contribute to an unsafe environment for the components listed in Table 1.2-1 (Safety Risk Assessment Components) and estimate associated risk considering the following:

(1) Likelihood (vulnerability), using historical data and/or national patient and caregiver safety trends relevant to the identified hazards

(2) Consequence (estimated degree of potential harm to patients and/or caregivers from identified hazards)

A1.2-4.1.5.2 Evaluation of underlying conditions that can cause adverse safety events

a. Underlying conditions include the physical environment, organizational and social factors, and task characteristics that can be affected by the design of a space, including the following:

—Noise

—Vibration

- Visual distraction and disorganization of space
- Light type, quality, and quantity for each location
- Surface characteristics for different spaces
- Indoor air characteristics for different spaces
- Sources of infection
- Ergonomics
- Staff fatigue
- Space required to accommodate functions
- Standardized locations for equipment (e.g., medical gas outlets, emergency call buttons)
- Opportunities for, and barriers or disincentives to, mobilization of patients
- Impediments to movement, maneuvering, and flow
- Communication systems
- Visibility of patients
- Automation (where possible)
- Support for family involvement in outpatient care
- Multi-use areas (e.g., a clinic located within a retail grocery store)

e. For additional information, see the Center for Health Design report “Designing for Patient Safety: Developing Methods to Integrate Patient Safety Concerns in the Design Process,” which identifies 10 environmental factors as “latent conditions that can be designed to help eliminate harm.” Such “built environment latent conditions [holes and weaknesses] that adversely impact patient safety” should be

identified and eliminated during the planning, design, and construction of outpatient facilities. The report can be found on the Center for Health Design website.

- b. The multidisciplinary project team should carefully consider how outpatient facilities are sited, particularly as venues for outpatient care become more diverse and integrated with other functions. Retail settings provide additional opportunities and challenges that should be studied during the planning phases. For example, when designing a clinic within a larger retail environment, the project team should consider how access to the location might impact patients and other users. Venues with incongruent features (e.g., a site adjacent to a tobacco products display) should be avoided.

c. In the category of emergency preparedness, a hazard can include earthquakes, hurricanes, tornadoes, and other “natural” events. Hazards can also include terrorism, chemical spills, explosions, or other “man-made” events.

1.2-4.1.5.3 Generate solutions. The SRA team shall document proposed solutions that mitigate risks from the identified hazards.

***1.2-4.1.6 SRA Report**

After completing the SRA process, the governing body shall provide the following information and recommendations, which shall be incorporated into the planning and design documentation:

A1.2-4.1.6 SRA report:

- a. Time and effort should be dedicated to patient and caregiver safety issues during the predesign phase (e.g., strategic planning, master planning, operational planning, and programming) of an outpatient facility

design project. The decisions made during predesign significantly affect the design parameters going forward and the safety outcomes of the project following occupancy. The safety risk assessment should be an important part of the continuous safety improvement program in any health care organization.

[b. Requirements for submission of an SRA may vary by AHJ and the SRA may not be required until permitting, but this does not preclude the benefit of early planning and documentation to ensure inclusion of integrated solutions that mitigate risk in the built environment.](#)

[c. Health care organizations are required by CMS and others to conduct hazard vulnerability assessments \(HVAs\). Design solutions that support the safe delivery of care during disasters and emergencies should be coordinated with and supplement existing mandated HVAs. The intent of the disaster, emergency, and vulnerability assessment \(DEVA\) portion of the SRA report is to proactively identify built environment solutions \(beyond critical infrastructure\) that mitigate risk from potential hazards.](#)

***1.2-4.2 Infection Control Risk Assessment (ICRA)...**

***1.2-4.3 Patient Handling and Movement Assessment (PHAMA)...**

***1.2-4.4 Fall Prevention Assessment...**

***1.2-4.5 Medication Safety Assessment...**

***1.2-4.6 Behavioral and Mental Health Risk (Psychiatric Patient Injury and Suicide Prevention) Assessment...**

*1.2-4.7 Security Risk Assessment...

A1.2-4.7.2.1 Security elements of the safety risk assessment

- a. *Security considerations for project design....*
- b. *Emergency management security considerations.* Some outpatient facilities may provide both scheduled and emergency services, serve as part of local emergency response networks, and be expected to be functional, safe, and secure for patients, visitors, and staff while remaining prepared for natural and man-made emergencies 24 hours a day.
 - The design of the facility should address the facility’s role in responding to internal and external emergencies on its own or in coordination with local emergency response or public health authorities based on assessed risks. All other regulations for emergency operations should be considered when developing the design.
 - ~~An all-hazards approach to design should be applied to help the facility prepare for, respond to, and recover from man-made events and natural disasters.~~

*1.2-4.8 Disaster, Emergency, and Vulnerability Assessment (DEVA)

A1.2-4.8 Disaster, emergency, and vulnerability assessment

- a. The DEVA should include information developed as part of any facility-based hazard vulnerability assessment, but it should more specifically address the emergency preparedness program as it pertains to proactive design or renovation of the facility.

- b. An all-hazards approach to design should be applied to help the health care organization prepare for, respond to, and recover from man-made events and natural disasters. [Moved from A1.2-4.7.2.1 in the security risk section (see above).]

***1.2-4.8.1 Disaster, Emergency, and Vulnerability Elements of the Safety Risk Assessment**

A1.2-4.8.1 A range of hazards and vulnerabilities should be considered in performing a facility-based disaster, emergency, and vulnerability assessment. The DEVA should include, but is not limited to, identification and review of the following:

- a. Anticipated hazards (e.g., earthquake, hurricane)
- b. Unanticipated hazards (e.g., explosion, infectious disease, hazardous material)
- c. Patient population (e.g., acuity, ability levels)
- d. Facility type
- e. Potential surrounding community assets (assets in a rural area will differ from those in a large metropolitan area)

1.2-4.8.1.1 Anticipated hazards

*(1) The multidisciplinary SRA team shall review the organization's hazard vulnerability assessment (HVA) in conjunction with the development of the DEVA.

A1.2-4.8.1.1 (1) The hazard vulnerability assessment should be shared with the design team at the earliest stages of planning to confirm what has been established and which decisions should be reviewed with the design team.

(2) The DEVA shall identify anticipated hazards specific to a facility based on its geographic location.

1.2-4.8.1.2 Design features. Design features that provide resilience, hardening, flexibility, and adaptability during a disaster or emergency event shall be identified.

1.2-4.8.2 Disaster, Emergency, and Vulnerability Response

The design team shall incorporate identified disaster and emergency-related design features in the project design documents.

1.2-5.4 Physical Environment Elements

...

***1.2-5.4.3 Wayfinding**

How clarity of access will be provided for the entire campus or facility using a wayfinding system. See Section 1.2-6.3 (Wayfinding) for more information.

A1.2-5.4.3 Wayfinding

- a. Outpatient facility entry points should be clearly identified from all major exterior circulation modes (e.g., roadways, bus stops, vehicular parking).
- b. Clearly visible and understandable signage, icons, universal symbols, visual landmarks (including views to the outside), and/or cues for orientation (including views to the outside) should be provided.
- c. Boundaries between public and private areas should be well marked or implied and clearly distinguished.
- d. A system of interior “landmarks” should be developed to aid occupants in cognitive understanding of

destinations. To be effective, landmarks should be unique and used only at decision points. Landmarks may include sealed water features, major art, distinctive color, or decorative treatments. These features should attempt to involve tactile, auditory, and language cues as well as visual recognition. When color is used as a wayfinding device, it should support the primary wayfinding system elements and be clearly distinguished from color palette decisions unrelated to wayfinding.

- e. Signage systems should be flexible, expandable, adaptable, and easy to maintain. Signage should be consistent with other patient communications and supporting print, Web, and electronic media.

f. Health care organizations should consider how signage and wayfinding can be adapted during a disaster to provide meaningful real-time information for patients and staff. Consider a temporary signage plan that identifies the following:

—New uses and functions

—Zones of use, including but not limited to:

- Staff zones
- Public zones
- “Clean” vs. “contaminated” zones

***1.2-6.3 Wayfinding**

A1.2-6.3 Wayfinding

- a. During the functional programming process, input from frontline staff, facility managers, visitors, families, and

patients should be sought regarding wayfinding. This should include evaluation of the most common and problematic scenarios to identify shortcomings and help develop design criteria to address them. Consideration should be given to the following:

- Needs of first-time users
 - Stress experienced by patients and families while finding their way to unfamiliar areas in a facility
 - Populations served (e.g., the elderly; children; and cognitively impaired, visually impaired, and other particularly vulnerable populations, including those with Alzheimer’s and dementia)
 - Needs of limited English proficient (LEP) individuals, speakers of other languages, and those with limited reading ability. Where possible, use the Universal Symbols in Health Care.
 - Use of unique landmarks (e.g., design elements such as color, artwork, texture, change in architecture, exterior views, plants)
 - Varied presentation of the same information to accommodate different cognitive processes (e.g., those used by different individuals or by the same individuals at different points during the wayfinding process)
 - Integration of the wayfinding plan with relevant security plans
 - [—If indicated by the safety risk assessment, wayfinding strategies that can be temporarily deployed during disaster/pandemic scenarios \(e.g., storage for temporary signage or installation of digital signage\)](#)
-

1.2-6.5 Emergency Preparedness and Management

1.2-6.5.1 Planning and Design Considerations

During project planning and design, the following shall be considered:

***1.2-6.5.1.1** The likelihood a facility will experience events that go beyond the facility's normal operations

A1.2-6.5.1.1 Emergency preparedness assessments

The likelihood of a facility experiencing events that go beyond normal operations should be assessed and detailed in an annual [hazard vulnerability assessment \(HVA\)](#) ~~emergency preparedness assessment~~. These events could include natural disasters; utility failures; acts or threats of human violence; biological, nuclear or chemical exposures; surge capacity; evacuation; and mass casualties.

- a. *Infrastructure assessment.* The ~~assessment~~ [HVA](#) should consider performance of structural and critical nonstructural building systems during an adverse event and the likelihood of loss of externally supplied power, gas, water, and communications from such a disaster.
- b. *Facility planning.* Ideally, the ~~emergency preparedness assessment~~ [HVA](#) results will be used to ~~implement practices and plans~~ [develop or revise an emergency operations plan \(EOP\)](#) that will help the health care organization prevent, mitigate, and expediently recover from an event. Facility master planning should consider mitigation measures required to address conditions that may be hazardous to patients and conditions that may compromise the ability of the health care organization to fulfill its planned post-emergency medical response.

Resiliency requires a plan to absorb and recover from adverse events by preparing, preventing, protecting,

mitigating, and responding. The **EOP plan** should outline a health care facility's ability through mitigation and planning to:

- Handle patient influx due to a public health emergency or mass casualty event
- Coordinate and communicate effectively with community partners
- Adapt to changing conditions
- Recover from disruptions
- Resist probable deliberate attacks
- Improve technical and organizational capabilities
- Focus on reducing damage and disruptions to public health and safety

***1.2-6.5.1.2** Space needs in the event of an emergency for operations to:

A1.2-6.5.1.2 Space needs in an emergency. The location of the facility and the type of event in the community may require a health care facility to act as a shelter or support other health care system needs; if so, this must be considered in planning.

- a. Space where patients, staff, and visitors can be safe in an emergency should be identified.
- b. Provision of **space storage** for resources needed to respond in an emergency, such as medical supplies, materials, personal protective equipment, pharmaceuticals, communications equipment, transportation, food, water, utilities, and waste storage should be considered during project planning and design. Some of these resources could be accommodated

through mutual aid agreements between the health care organization and other local providers or vendors. Such storage capacity or plans should be sufficient for at least four continuous days of operation [or longer if indicated by the facility's disaster, emergency, and vulnerability assessment \(DEVA\)](#).

(1) **1.2-6.5.2.1** Protect facility occupants during the event

*(2) **1.2-6.5.2.2** Continue providing services [as outlined in the health care organization's emergency operations plan \(EOP\)](#).

[A1.2-6.5.1.2 \(2\) A1.2-6.5.2.2](#) Design for continued building system operation. For facilities that have been designated by a recognized federal, state, regional, or local mandate—[or if determined by the DEVA for the facility](#)—to remain operational in the aftermath of a disaster, special designs [are is](#) required to protect systems and essential building services such as power, water, medical gas systems, and, in certain areas, air conditioning. In addition, special consideration must be given to the likelihood of temporary loss of externally supplied power, gas, water, and communications.

Chapter 1.3 Site

[*1.3-1](#) General

[A1.3-1 Flexible site considerations for emergency events.](#) Provision of flexible open spaces that are [strategically located on-site can support additional functional and programmatic needs that may be required during emergency events. To maximize functionality, design of a flexible site must factor in appropriate building systems and components, such as additional electrical](#)

outlets and communication systems, to support potential added functions and programmatic requirements. In isolated, remote, or rural locations and urban locations with limited outside resources, support, or connectivity, the following should be considered:

- a. Identification of on-site locations that can be used for disaster preparedness, response, and recovery. These areas may include paved parking and roads, open canopy and garage structures, gravel laydown areas, mobile unit pads, future expansion areas, and loading docks.
- b. Provision of utility services to the identified locations for quick, convenient use when needed.

***1.3-2.3 Availability of Utilities**

Outpatient facilities shall have access to utilities (water, gas, sewer, electricity) to meet requirements in the facility chapters in this document.

A1.3-2.3 Outdoor utility connections for emergency use. Consideration should be given to providing, at minimum, capped utility connections (power, data, water, sewer) that are available from outside the building in areas designated for potential tent deployment in case of a disaster/pandemic.

1.3-3.1 Signage

Site signage shall be provided to direct people unfamiliar with the facility to parking areas and entrances.

A1.3-3.1 Temporary signage for emergency conditions. Plans should be considered for temporary signage.

(including digital) to be installed during emergency conditions to facilitate new circulation and alternate arrival or pickup locations for vehicles and pedestrians.

***1.3-3.2 Lighting**

Site lighting shall be provided for the patient path of travel.

A1.3-3.2 Site lighting:

a. *Lighting controls.* Lighting controls should permit zoned operation, allowing facilities to provide multiple lighting levels or to designate night parking nearer the building. Lighting design for the site, roadway, and parking lots should control glare and minimize light pollution of the night sky or surrounding properties.

b. *Lighting for emergency conditions.* Mobile lighting solutions that can be deployed quickly should be planned for implementation during emergency conditions.

***1.3-3.3.2 Pedestrian Walkways**

Paved walkways shall be provided for pedestrian traffic.

A1.3-3.3.2 Pedestrian access during emergency conditions. Consideration should be given to how pedestrian access will be handled during a disaster/pandemic scenario. Supplementary pedestrian access routes may be activated or pedestrian access may be more limited. A second public entrance may be opened. Site design should be able to accommodate these possible changes.

1.3-3.4 Parking

*1.3-3.4.1 General

A1.3-3.4.1 Parking

a. *Dedicated parking areas.* Dedicated patient and staff parking should be provided where possible. Additional parking considerations should be provided for emergency services patients.

b. *Alternate use of parking areas during emergency conditions.*
During an emergency, parking areas may be used for alternate purposes, such as drive-through testing or a decontamination station. Parking areas should be designed to facilitate planned alternate uses.

1.3-3.4.1.1 Outpatient facilities shall provide parking capacity to meet the needs of patients, personnel, and the public.

1.3-3.4.1.2 Parking needs shall be evaluated for each new facility, major addition, or major change in function.

1.3-3.4.2 In the absence of local parking standards or ordinances, refer to individual chapters governing specific facility types for required parking capacity. In all instances, review individual chapters for requirements for dedicated emergency vehicle, patient transfer, and service parking.

***1.3-3.4.3** Unless otherwise prohibited by individual chapters, reduction of parking requirements shall be permitted; as acceptable to local authorities having jurisdiction.

A1.3-3.4.3 Parking requirements may be reduced in locations convenient to pedestrians, public transportation, or public parking facilities or where carpool, shuttle bus, or other alternative transportation arrangements have been developed.

Chapter 1.4 Equipment

1.4-1.2 Equipment List

An equipment list shall be developed and maintained throughout the design development process and included in the contract documents to assist in overall coordination of the acquisition, installation, and relocation of equipment.

*1.4-1.2.1 The equipment list shall include all items of equipment necessary to operate the facility during normal operations and during emergency conditions.

A1.4-1.2.1 When determining equipment needed for operations during emergency conditions, consider additional equipment procurement, storage, and deployment needs.

Chapter 2.1 Common Elements for Outpatient Facilities

*2.1-1 General

~~A2.1-1 Common elements for outpatient facilities.~~ Outpatient facility functions

a. This chapter contains design elements that are common to most types of outpatient facilities. The outpatient facilities included in the *Guidelines for Design and Construction of Outpatient Facilities* are used primarily by patients who are able to travel or be transported to a facility for treatment, including those confined to wheelchairs. These facilities may be an outpatient unit

of a hospital, a freestanding facility, or an outpatient facility in a multiple-use building.

b. During a pandemic or other emergency event when patient services may be more limited, outpatient facilities may continue to provide post-acute, low-acuity medical/surgical, and observation-level care; dialysis, infusion, and other services that may serve those with chronic disease; and possibly critical care in an outpatient surgery center.

2.1-1.1 Application

2.1-1.1.1 Application of Part 1

All projects shall meet the standards in Part 1 of these *Guidelines* as amended in Section 2.1-1 (Common Elements for Outpatient Facilities—General).

2.1-1.1.2 Approaches to Application of Parts 2 and 3

Two approaches to applying the requirements in Parts 2 and 3 of the Outpatient *Guidelines* shall be permitted—Approach 1 and Approach 2....

2.1-1.1.2.2 Approach 2

*(1) If a project is for a facility type that is not listed in Section 2.1-1.1.2.1 (Approach 1) but will include elements in one or more of those facility chapters and/or elements in this common elements chapter (Chapter 2.1), those specific requirements shall be applied to the project.

A2.1-1.1.2.2 (1) Projects suited to Approach 2. Approach 2 is intended to be used for projects where the scope of services is not adequately described in only one of the outpatient facility chapters listed in Section 2.1-1.1.2.1. This approach identifies minimum requirements found in

the common elements chapter and in any facility chapters that are relevant to the project.

- *(a) The requirements in the common elements chapter and in the facility chapters in Part 2 that support the services to be included in the project shall be identified during the planning phase.
- *(b) The common element and specific facility chapter requirements identified as part of the project during the planning phase shall be documented in the basis of design.

A2.1-1.1.2.2 (1)(a) and (1)(b) Approach 2 process for identifying and documenting relevant requirements.

Development of specialty outpatient facilities that are not included in the Outpatient *Guidelines* will depend on a detailed and specific functional program to establish physical environment requirements. Thus, Approach 2 is based on the performance assessment for the project space that underpins the functional program as well as practical application of relevant standards.

- a. *Identification of services for Approach 2.* The project team using Approach 2 should identify the services to be included in the project, including both clinical and support services [during normal operations and emergency conditions](#).
- b. *Identification of sections of the Guidelines that apply to the project....*

***2.1-1.4 Facility Layout**

Facility layout shall preclude unrelated traffic through patient care areas.

A2.1-1.4 Facility layout-

- a. In general, public traffic should not go through patient care areas.
- b. Consideration should be given to avoiding mixing patient populations from one clinical service with patient populations from another clinical service, although this is permissible when services are shared (e.g., imaging services).
- c. Emergency conditions considerations. For outpatient facilities that may be open during an emergency condition, particularly a pandemic, the following should be considered in planning the facility:
 - Means to control access that facilitates one-way flow for entry and exit and space for donning/doffing PPE
 - Means to provide separate access points to different clinical services, with boundaries configured so each service can operate independently if necessary
 - Means to convert a suite(s) into a negative pressure environment for treatment of infectious patients

For outpatient facilities that may be repurposed during emergency conditions, provision of a layout with increased visibility from patient care team work areas (e.g., racetrack design) should be considered.

***2.1-3.2.1 Examination Rooms**

Where an examination room is provided, it shall meet the requirements in this section.

A2.1-3.2.1 Offices and/or practitioner consultation rooms may be combined with examination rooms.

2.1-3.2.1.1 General

...

(2) [Building system components](#)

(a) See the following tables for exam room requirements:

(i) ~~(a)~~ Table 2.1-1 (Electrical Receptacles for Patient Care Areas in Outpatient Facilities)

(ii) ~~(b)~~ Table 2.1-2 (Station Outlets for Oxygen, Vacuum, Medical Air, and Instrument Air Systems in Outpatient Facilities)

(iii) ~~(c)~~ Table 2.1-3 (Locations for Nurse Call Devices in Outpatient Facilities)

(b) [For exam rooms that are to be repurposed for 24/7 use during emergency conditions, additional infrastructure \(e.g., electrical outlets for additional monitors and in-room charging, oxygen outlets and vacuum inlets\) shall be provided.](#)

(3) [Telemedicine. All exam rooms shall meet the requirements in Section 2.1-3.4 \(Accommodations for Telemedicine Services\).](#)

2.1-3.2.1.2 Single-patient examination/observation room

(1) General

(a) Where an examination room is used as an observation room, it shall be immediately accessible to the nurse or control station and a toilet room.

(b) A room arrangement in which an examination table, recliner, or chair is placed at an angle, closer to one wall than another, or against a wall to accommodate the type of patient being served shall be permitted.

*(2) Space requirements

A2.1-3.2.1.2 (2) Considerations for exam room use during an emergency condition. Exam rooms in clinics that may be repurposed for 24/7 care during an emergency should have a clear floor area of 110 square feet (10.22 square meters) to 120 square feet (11.15 square meters) to accommodate stretchers.

(a) Single-patient exam/observation room

- (i) Area. Each single-patient examination/observation room shall have a minimum clear floor area of 80 square feet (7.43 square meters) as long as the clearances below can be met with the exam table or recliner that will be used.
- (ii) Clearances. Room size shall accommodate a minimum clearance of 2 feet 8 inches (81.28 centimeters) at each side and at the foot of the examination table or recliner.

*(b) Single-patient exam room for specialty clinical services

- (i) Area. Single-patient rooms for specialty clinical services that require larger examination rooms shall have a minimum clear floor area of 100 square feet (9.29 square meters).

A2.1-3.2.1.2 (2)(b) Specialty exam room. Rooms in specialty clinics such as rooms for eye or ear, nose, and throat (ENT) examinations, should be sized for the services provided, including necessary equipment.

- *(ii) Clearances. Room size shall accommodate the following minimum clearances:
 - 3 feet 6 inches (99.06 centimeters) at the side(s), head, or foot of the exam table or chair that correspond(s) with the care provider(s)' expected work position(s)

- 1 foot (30.48 centimeters) at all sides (side, head, or foot) of the exam table or chair other than the work position(s)

A2.1-3.2.1.2 (2)(b)(ii) Clearances at patient care positions in specialty exam rooms are not adequately or appropriately assured by centering the care position with clearances at sides and foot. The issue is adequate clearance at positions used by care providers, which may involve more than one provider and could include the head of the patient position. Where access to a patient position is unnecessary (e.g., at the head and on one side in eye exam lanes), smaller clearances are acceptable.

***2.1-3.2.1.3 Acuity-adaptable examination room.** Where an acuity-adaptable exam room is provided, it shall meet the requirements in Section 2.1-3.2.1.2 (Single-patient examination/observation room) as amended in this section:

A2.1-3.2.1.3 Acuity-adaptable exam room. These rooms are intended to accommodate high-acuity patients or to house two beds or three recliners when needed for surge capacity.

(1) General

- (a) The number of acuity-adaptable exam rooms of each type to be provided in a facility shall be determined by the expected patient population and services to be provided.
- (b) An exam room designed for an individual of size [see Section 2.1-2.7 (Single-Patient Examination/Observation Room)] shall be permitted to serve as an acuity-adaptable room if it meets the ventilation requirements in this section.

(2) Space requirements

(a) Area. Acuity-adaptable rooms shall be sized to accommodate two patients.

(b) Clearances. Room size shall permit a room arrangement with the following minimum clearances when the room is used as a single-patient examination room:

(i) 3 feet 6 inches (1.07 meters) on the provider side

(ii) 5 feet (1.52 meters) on the transfer side

(iii) 4 feet (1.23 meters) at the foot of the examination table

(iv) 18 inches (45.72 centimeters) at the head of the bed

(3) Ventilation. Acuity-adaptable exam rooms shall have switchable controls that allow conversion of the ventilation system from neutral pressure to either negative or positive pressure.

2.1-3.2.2 Procedure Room

2.1-3.2.2.1 General

(1) Application...

*(c) Where procedures that require a negative pressure environment are performed, a procedure room(s) with negative pressure shall be provided and identified with a sign. See Part 3 (ANSI/ASHRAE/ASHE 170: *Ventilation of Health Care Facilities*) for more information.

A2.1-3.2.2.1 (1)(c) Procedures that require different pressure relationships cannot be provided in the same procedure room. For example, procedure rooms where bronchoscopies will be performed require negative pressure; if these rooms are also used for other procedures, the other procedures must be able to be performed in a negative pressure environment. Signage identifying rooms with negative pressure can help

users choose appropriate rooms for procedures such as bronchoscopy [or other aerosolized procedures](#).

2.1-3.3.2 Airborne Infection Isolation (AII) Room

***2.1-3.3.2.1 General**

A2.1-3.3.2.1 For additional information, refer to the Centers for Disease Control and Prevention (CDC) publication “Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Settings” and “Guidelines for Environmental Infection Control in Health-Care Facilities,” both available on the CDC website.

*(1) In facilities that serve patients with known infectious disease, the need for and number of airborne infection isolation rooms shall be determined by an infection control risk assessment (ICRA).

[A2.1-3.3.2.1 \(1\) For facilities that will be used during emergency conditions for 24-hour/7-day care, the ICRA should consider this use in determining the number of AII rooms needed in the facility.](#)

(2) Where an AII room(s) is provided, it shall meet the requirements for the clinical space (e.g., exam room, procedure room) and the requirements in this section.

2.1-3.3.2.2 AII room requirements

(1) Capacity. Each room shall accommodate only one patient.

(2) Hand-washing station. A hand-washing station shall be located in each AII room.

(3) Personal protective equipment (PPE) storage. Provision shall be made for PPE storage at the entrance to the room.

2.1-3.3.2.3 Anteroom:

- (1) ~~Whether an An~~ anteroom is ~~not~~ required shall be determined by the infection control risk assessment (ICRA). See Section 1.2-4.2.2.1 (2) (ICRA Considerations—Design elements) for requirements.; ~~however, where~~
- (2) Where an anteroom is provided, it shall meet the following requirements:
 - (a) ~~(1)~~ The anteroom shall provide space for persons to don PPE before entering the AII room and doff PPE before leaving.
 - (b) ~~(2)~~ All doors to the anteroom shall have self-closing devices.
 - (c) ~~(3)~~ The anteroom shall be equipped with at least the following:
 - (i) ~~(a)~~ Hand-washing station
 - (ii) ~~(b)~~ Storage for unused PPE
 - (iii) ~~(c)~~ Disposal/holding container for used PPE

2.1-3.4 Accommodations for Telemedicine Services

A2.1-3.4 Patient experience. Remote communications via electronic equipment, although not a replacement for in-person care, may be offered as a supplement where in-person care is not available or medically necessary. To assist in the adoption of telemedicine and maximize its benefits for elderly patients, those unaccustomed to electronic communication, and those with vision, hearing, or cognitive impairments, care should be given to remove technological barriers and provide telemedicine endpoints that facilitate natural communication for the widest range of participants. Facilities and systems used for telemedicine communications should strive to

maintain the level of safety, privacy, quality of care, and patient experience that would be expected for in-person communication.

2.1-3.4.1 General

Where clinical telemedicine services are provided in a health care facility, telemedicine spaces to accommodate those services shall meet the requirements in this section.

A2.1-3.4.1 Telemedicine service types

- a. Services may include one-on-one interactions, consultations with a patient and family members (e.g., pediatric or elderly patients), examinations supported by a telemedicine presenter located with the patient, or specialty services such as dermatology or orthopedics. Each type of service may have specific needs for lighting and space to support the clinical function; for example, evaluation of patient gait requires unobstructed space to walk from one end of the bay, cubicle, or room to the other. Therefore, to achieve a functional design, it is important to know what services will be provided.
- b. The requirements in this section are not intended to apply to virtual visits that do not require a physical examination of the patient or visits that originate from a physician's or patient's home.

***2.1-3.4.2 Telemedicine Bay, Cubicle, or Room**

A bay, cubicle, or room shall be provided for telemedicine services.

A2.1-3.4.2 Design considerations [for telemedicine.](#)
[Any space that is HIPAA-compliant is suitable as a telemedicine health care provider environment. Following are recommendations for the telemedicine patient environment:](#)

a. *Equipment*

- Camera placement should be set so recipients perceive the exchange as happening eye-to-eye. The discrepancy between gaze angle should be minimal.
- Temperature control should be considered based on the amount of electronic equipment that may generate significant amounts of heat.
- Depending on the complexity of equipment used, multiple outlets may be required for equipment. Outlets should be located near the unit to avoid wires/cables on the floor.

b. *Architectural details*

- Doors in view of the main camera should be able to be closed to assure maximum privacy during the telemedicine appointment.
- Placement of doors behind the patient should be avoided as this can make patients uncomfortable.

2.1-3.4.2.1 General

- (1) A bay, cubicle, or room where clinical telemedicine services are provided shall meet the requirements of the section of the *Guidelines* that directly relates to the services provided and the patient population served.
 - (2) Where patient volume does not justify provision of a dedicated telemedicine room, the telemedicine room shall be permitted to serve other functions such as physician's office, exam room, or conference room.
 - (3) Locations where clinical telemedicine services are provided shall include capability for remote monitoring of vitals and pumps, etc., from staff stations.
-

2.1-3.7 Pre- and Post-Procedure Patient Care...

2.1-3.7.2 Patient Care Station Design

2.1-3.7.2.1 [General](#)

- (1) Bays, cubicles, or single-patient rooms that meet the requirements in this section shall be permitted to serve as patient care stations.
- (2) [Pre- and post-procedure patient care stations shall be designed in pods that can be independently accessed and managed, including access to building system elements.](#)
- (3) [Space shall be provided around the perimeter of the pre- and post-procedure patient care area that can be converted into an area for donning and doffing of personal protective equipment when needed.](#)

2.1-3.7.2.2 Space requirements

- (1) Area. When determining the area for a patient care station, space shall be provided to accommodate the equipment to be used.
- *(2) Clearances

A2.1-3.7.2.2 (2) [Clearances in patient care stations](#)

- a. Two bays may be used to accommodate non-standard equipment (e.g., an expanded-capacity patient bed), but clearances do not include any area that would have to be shared to meet the standard. Clearances noted around gurneys are between the normal use position of the gurney and any adjacent fixed surface or between adjacent gurneys.
- b. [Sizing all pre- and post-procedure patient care stations with the largest clearances is recommended to](#)

provide flexibility for use during an emergency or for unanticipated future uses.

- (a) Where bays are used, the following minimum clearances shall be provided:
 - (i) 5 feet (1.52 meters) between the sides of patient beds/gurneys/lounge chairs
 - (ii) 3 feet (91.44 centimeters) between the sides of beds/gurneys/lounge chairs and adjacent walls or partitions
 - (iii) 2 feet (60.96 centimeters) between the foot of beds/gurneys/lounge chairs and the cubicle curtain
- (b) Where cubicles are used, the following minimum clearances shall be provided:
 - (i) 3 feet (91.44 centimeters) between the sides and foot of beds/gurneys/lounge chairs and adjacent walls or partitions.
 - (ii) 2 feet (60.96 centimeters) between the foot of beds/gurneys/lounge chairs and the cubicle curtain
- (c) Where bays or cubicles face each other, an aisle with a minimum clearance of 8 feet (2.44 meters) independent of the foot clearance between patient stations or other fixed objects shall be provided.
- (d) Where single-patient rooms are used, 3 feet (91.44 centimeters) shall be provided between the sides and foot of beds/gurneys/lounge chairs and adjacent walls or partitions.

2.1-3.7.2.3 Reserved Provisions for isolation of infectious patients

- (1) An airborne infection isolation (AII) room is not required in pre- and post-procedure patient care areas.

(2) Where an ICRA determines provisions shall be made for the recovery of a potentially infectious patient with an airborne infection, the ICRA shall determine requirements for the following:

(a) Percentage of pre- and post-procedure patient care areas to be provided with controls to convert the area to negative pressure

(b) Percentage of patient care stations that are AII-ready single-patient rooms, including an anteroom, in pre- and post-procedure patient care areas

2.1-3.7.2.4 Patient privacy. Provisions shall be made for patient privacy in accordance with Section 2.1-3.1.2 (Patient Privacy).

2.1-3.7.2.5 Hand-washing station(s). See Section 2.1-3.8.7 (Hand-Washing Station) for requirements.

***2.1-3.7.2.6 Other design requirements**

A2.1-3.7.2.6 Equipment monitoring. Patient care station design should support use of equipment capable of remote monitoring of patient vitals, including blood oxygen saturation (SPO), and of pumps and other medical equipment. When the patient care station is a single-patient room, at minimum the equipment should be visible from outside the room through a window or view panel.

- (1) For electrical receptacle requirements, see Table 2.1-1 (Electrical Receptacles for Patient Care Areas in Outpatient Facilities).
 - (2) For nurse call requirements, see Table 2.1-3 (Locations for Nurse Call Devices in Outpatient Facilities).
 - (3) For oxygen and vacuum requirements, see Table 2.1-2 (Station Outlets for Oxygen, Vacuum, Medical Air, and Instrument Air Systems in Outpatient Facilities).
-

*2.1-3.8.12 Soiled Workroom or Soiled Holding Room

A2.1-3.8.12 Soiled workroom or holding room

a. Functions for soiled workroom and soiled holding room

—*Soiled workroom.* Soiled items may be handled in a soiled workroom to prepare them for subsequent cleaning, disposal, or reuse (e.g., emptying and rinsing bedpans or emesis basins, emptying or solidifying suction canisters, rinsing and gross cleaning of medical instruments). As well, this room provides temporary storage for soiled items prior to their removal from the unit.

—*Soiled holding room.* This location is used for temporary storage of soiled materials and/or supplies prior to their removal from the facility.

b. Emergency conditions considerations. For outpatient facilities that expect to provide services during an emergency event, consideration should be given to providing a soiled workroom rather than a soiled holding room.

2.1-3.8.13 Equipment and Supply Storage

A2.1-3.8.13 Equipment and supply storage considerations for emergency events. An emergency event could disrupt the supply chain for items needed to support a surge event, including provision of patient care services. In isolated, remote, or rural locations and urban locations with limited outside resources, support, or connectivity, consider providing supplemental storage spaces—on-site or off-site if easily accessible—to accommodate specialized needs prior to, during, and after a disaster event. Additional storage may be needed for items such as medical

[equipment \(e.g., ventilators\), medical gas cylinders, PPE, food, medical supplies, and generator diesel fuel.](#)

***2.1-4.1.8.2 Specimen collection facilities**

[A2.1-4.1.8.2 Alternate specimen collection sites. Planning for emergency conditions should include consideration of what is needed in the physical environment to support specimen collection sites located in the lobby and outside the facility, possibly in tents or parking structures.](#)

- (1) In facilities where urine or feces specimens are collected, a toilet room with hand-washing station and staff-controlled access shall be provided.
-

2.1-4.2.2 Pharmacy Areas

***2.1-4.2.2.1 Security.** ~~*2.1-4.2.1.2 (2)~~ Access to the room or suite shall be controlled.

A2.1-4.2.2.1 Security ~~A2.1-4.2.1.2 (2) Controlled access to the pharmacy.~~

[Architectural hardening to avoid break-ins is recommended.](#) ~~Additional s~~ Security information can be found in *Security Design Guidelines for Healthcare Facilities*, published by the International Association for Healthcare Security & Safety (IAHSS). ~~Architectural hardening to avoid break-ins is recommended.~~

[Pharmacies should be considered vulnerable areas during emergencies, including times of civil unrest. Whether or not a pharmacy contains narcotics, intruders could be seeking medications. Security recommendations include providing bulletproof glass in pharmacy transaction windows and perimeter security features such as full-](#)

height walls with anti-breach measures (e.g., plywood, security mesh). External windows should be given the same considerations.

2.1-4.2.8 Support Areas for the Pharmacy

...

***2.1-4.2.8.2 Office.** A separate room or area shall be provided for office functions.

~~A2.1-4.2.8.2 Office.~~

- a. When sizing this room, consider the space needed to accommodate a desk, filing capabilities, communication equipment, and reference materials.
- b. Consider providing additional data outlets and sound attenuation to support increased consultation regarding medications during an emergency condition.

2.1-4.2.8.3 Reserved

***2.1-4.2.8.4 Outpatient medication consultation area.** If medication is dispensed directly to patients from the pharmacy, an area for consultation and patient education shall be provided.

A2.1-4.2.8.4 Considerations for medication consultation during emergency conditions. Consider providing data outlets and sound attenuation to support increased consultation regarding medications that may become necessary during an emergency condition. Because consultation often requires face-to-face communication, configurations to support safe interaction with an infectious patient should be considered.

2.1-5.3 Environmental Services

2.1-5.3.1 Environmental Services Room

...

***2.1-5.3.1.2 Environmental services room(s) for facility-based environmental services.** Each environmental services room shall be provided with the following:

A2.1-5.3.1.2 Environmental services room features.

Environmental services rooms should be planned to accommodate carts where carts are used in the housekeeping process.

(1) Service sink or floor-mounted mop sink

**(2) Provisions for storage of supplies and housekeeping equipment*

A2.1-5.3.1.2 (2) [Supply and equipment storage](#)

a. If further storage areas for housekeeping supplies and equipment are needed, storage locations outside the environmental services room may be used.

b. [In sizing storage for disinfection and cleaning supplies, consideration should be given to additional needs that may arise during an emergency condition, when the supply chain could be disrupted.](#)

(3) Hand-washing station or hand sanitation dispenser

***2.1-6.2.1 Vehicular Drop-Off and Pedestrian Entrance**

A2.1-6.2.1 [Drop-off and pedestrian entrance](#)

a. *Roof overhang or canopy.* Climate, patient acuity, and community standards may influence whether a

covered or canopied entrance is desired. Where a roof overhang or canopy is provided, it should extend as far as practicable to the face of the driveway or curb of the passenger access door of the transport vehicle. Vehicles in the loading area should not block or restrict movement of other vehicles in the drive or parking areas immediately adjacent to the facility.

b. Considerations for emergency conditions. For outpatient facilities that expect to provide services during an emergency event, provision of the following should be considered:

—Power, data, and water connections at the drop-off and pedestrian entrance to facilitate conversion to external triage stations during an emergency event

—Means for an alternate point of access for potentially infectious patients

2.1-6.2.1.1 A minimum of one building entrance shall be reachable from grade level.

2.1-6.2.1.2 Building entrances used to reach outpatient services shall be clearly marked.

2.1-6.2.1.3 Building entrances used to reach outpatient services shall be located so patients need not go through other activity areas. (Shared lobbies shall be permitted in multi-occupancy buildings.)

***2.1-6.2.2 Reception**

A reception and information counter, desk, or kiosk shall be provided either at the main entry or at each clinical service.

A2.1-6.2.2 Considerations for emergency conditions.
For outpatient facilities that expect to provide services

during an emergency event, provision of the following in or readily accessible to the reception area should be considered:

- a. Sanitizing stations
- b. Power/data points for deployment of temporary scanners and other equipment
- c. Signage or other cues indicating changes in patient, staff, and visitor flow
- d. Storage for screening equipment

***2.1-6.2.3 Waiting Area or Room**

A2.1-6.2.3 Waiting area or room

- a. Consideration should be given to the special needs of specific patient groups in a shared/general waiting area. This may result in provision of separate accommodations for elderly patients or other patients such as those with PTSD, pediatric designated areas, or sick or well rooms.
- b. Special attention should be paid to the path of travel to waiting areas or rooms for expanded-capacity wheelchairs. Further accommodations for persons of size are defined in Section 2.1-2 (Accommodations for Care of Patients of Size).
- c. Provision of Wi-Fi access for public use, including infrastructure to support it, should be considered.

***2.1-6.2.3.1** The number and location of waiting area(s) or room(s) and associated seating needed to support the operational model of the health care organization shall be determined and designated in the project planning documents.

A2.1-6.2.3.1 Seating capacity for waiting areas or rooms.

a. See appendix table A2.1-a (Waiting Area Seating Capacity) for recommendations. New operational models may require less seating or fewer waiting spaces in non-typical locations.

b. During some emergency conditions, such as a pandemic, operational planning may shorten waiting times and employ physical distancing and a consequent reduction in available seating to lessen patient exposure to potential infection. For outpatient facilities that will continue providing services during an emergency event, these factors should be considered in making decisions about seating capacity in waiting areas or rooms.

***2.1-6.2.3.2** The waiting area shall be visible from a staff area, either by camera or direct staff sight line.

A2.1-6.2.3.2 Visual observation of waiting areas or rooms supports patient and staff safety.

2.1-6.2.3.3 Provisions for charging personal devices. Outlets for charging cell phones and mobile devices shall be made available.

***2.1-6.3 Administrative Areas**

A2.1-6.3 Multipurpose room. A multipurpose room(s) should be provided for private interviews, conferences, meetings, telemedicine, and health education purposes. Where health education is accommodated, the room(s) should be equipped for audiovisual aids.

Consideration should be given to designing multipurpose rooms for conversion to a staff respite space, space for donning and doffing personal protective equipment, a control center, or other use during an emergency as

[determined by a disaster, emergency, and vulnerability assessment.](#)

2.1-6.3.1 Reserved

***2.1-6.3.2 Interview Space**

- (1) Where provided, space(s) for private interviews shall be separate from public areas.
- (2) Shared use of an office or consultation room for this purpose shall be permitted.

A2.1-6.3.2 Interview space. Such spaces may be used for patient communication/interviews related to social services, credit, etc.

[Consideration should be given to locating interview space at or close to a facility entrance to facilitate conversion during an emergency event to uses such as donning/doffing PPE and telemedicine communications.](#)

***2.1-6.4 Support Areas for Staff**

[A2.1-6.4 Staff shower.](#) For outpatient facility spaces that will be repurposed for 24-hour care during an emergency event, consider providing a staff shower.

2.1-6.4.1 Staff Lounge

Where a staff lounge is provided, it shall include a hand-washing station.

2.1-6.4.2 Storage for Staff

Storage for staff personal effects (locking drawers, cabinets, or lockers) shall be readily accessible to individual work areas.

***2.1-7.2.2.3 Doors and door hardware...**

~~*(4) Door hardware. Lever hardware or push/pull latch hardware shall be provided.~~

(a) Where hands-on patient care will be provided, push/pull hardware shall be required.

(b) Lever hardware shall be permitted in all other locations.

A2.1-7.2.2.3 (4) Door protection should be provided where a door is subject to impact.

***2.1-7.2.2.8 Hand-washing stations...**

(5) Provisions for drying hands. Single-use or disposable provisions for hand drying shall be required at all hand-washing stations except hand scrub facilities.

(a) Hand-washing stations shall include a hand-drying device that does not require hands to contact the dispenser.

(b) These provisions shall be enclosed to protect against dust or soil.

~~(c) Hot air dryers shall be permitted.~~

(c) ~~(d) Where provided, s~~ Single-use towels shall be provided directly accessible to sinks but located to eliminate contact with splash from the sink.

***2.1-7.2.4.3 Privacy curtains.** Use of fabric privacy curtains shall be permitted if the fabric is washable.

A2.1-7.2.4.3 Privacy curtains. Use of disposable curtains or a wipeable fabric with a smooth surface is preferable.

*2.1-8.5.2 Telecommunications and Information Systems

The requirements in this section shall be applied to outpatient facilities in freestanding buildings or a portion of a building with a separate occupancy classification.

A2.1-8.5.2 Telecommunications and information system considerations requirements

a. Provision of these spaces should be considered for outpatient facilities located in a suite in a multi-tenant building (e.g., medical office buildings, outpatient surgery facilities, emergency facilities outside a hospital).

b. *Considerations for disaster events*

—Consideration should be given to location, access, availability, and placement of telecommunication and broadband access points (hard-wired and WiFi) to support flexibility prior to, during, and after a disaster event. Strategically locating telecommunication and broadband access points can support additional functional and programmatic requirements during an emergency event.

—Surge locations identified during planning should have access to telecommunication and broadband access points so they can properly function as an extension of the facility and connect to outside support services.

—See appendix section A1.3-1 (Flexible site considerations for emergency events) for site planning considerations.

Chapter 2.5 Specific Requirements for Urgent Care Centers

2.5-3.2.1 Urgent Care Examination Room

Urgent care exam rooms shall meet the requirements in Section 2.1-3.2.1 (Examination Rooms) as amended in this section.

2.5-3.2.1.1 Reserved

2.5-3.2.1.2 Space requirements

*(1) Where bays are used, the following minimum clearances shall be provided:

A2.5-3.2.1.2 (1) For an urgent care center that will provide services during an emergency event, provision of space to allow conversion to 6 feet (1.83 meters) between sides of lounge chairs/stretchers should be considered.

- (a) 4 feet (1.22 meters) between the sides of lounge chairs/stretchers
 - (b) 2 feet 8 inches (81.28 centimeters) between the sides of gurneys/lounge chairs and adjacent walls or partitions
 - (c) 2 feet 8 inches (81.28 centimeters) between the foot of gurneys/lounge chairs and the cubicle curtain
- (2) Where cubicles are used, a minimum clearance of 2 feet 8 inches (81.28 centimeters) shall be provided between the sides and foot of gurneys/lounge chairs and adjacent walls, partitions, or cubicle curtains.
- (3) Where single-patient exam rooms are used, they shall comply with the requirements in Section 2.1-3.2.1.2 (Single-patient examination/observation room).

Chapter 2.6 Specific Requirements for Infusion Centers

2.6-3 Patient Care and Diagnostic Areas

*2.6-3.1 Infusion Area

An infusion area shall be provided.

*2.6-3.1.1 General

A2.6-3.1.1 Infusion area design considerations

a. The size of the infusion area, and the ratio of open patient care stations and private bays/cubicles/rooms, should depend on the patient acuity mix and planned use of the facility. Bays and cubicles should be considered private. Provision of at least one private treatment room is recommended.

b. *Emergency condition considerations.* For infusion centers that will provide services during an emergency condition, particularly a pandemic or epidemic, consider the following to facilitate services for infectious patients:

—Sizing the infusion area to allow for 6 feet (1.83 meters) between patient care stations and between patient care stations and staff work areas

—Providing at least one airborne infection isolation room with adjoining toilet

Chapter 2.8 Specific Requirements for Freestanding Emergency Care Facilities

2.8-3.4.3 Multiple-Patient Treatment Room

2.8-3.4.3.1 General

- (1) Space and provisions for several patients shall be permitted in a multiple-patient treatment room that meets the requirements in this section.
- (2) Combining bays to accommodate patients of size shall be permitted. See Section 2.8-3.4.6 (Treatment Room for Patients of Size) for more information.

2.8-3.4.3.2 Space requirements

- (1) Area. Multiple-patient treatment rooms shall have separate patient bays or cubicles with a minimum clear floor area of 80 square feet (7.43 square meters) per patient care station.
- (2) Clearances. The following minimum clearances shall be provided:

- *(a) 5 feet (1.52 meters) between the sides of adjacent patient beds

[A2.8-3.4.3.2 \(2\)\(a\) For an urgent care center that will provide services during an emergency event, provision of space to allow conversion to 6 feet \(1.83 meters\) between sides of adjacent patient beds should be considered.](#)

- (b) 4 feet (1.22 meters) between the sides of patient beds and adjacent walls or partitions

Chapter 2.10 Specific Requirements for Renal Dialysis Centers

2.10-3.2.2 Hemodialysis Patient Care Stations

2.10-3.2.2.1 Space requirements

- (1) Area. Individual hemodialysis patient care stations shall have a minimum clear floor area of:
- (a) 80 square feet (7.44 square meters) where dialysis chairs are used
 - (b) 90 square feet (8.36 square meters) where gurneys are used

- *(2) Clearances. The following minimum clearances shall be provided:

A2.10-3.2.2.1 (2) The requirement for a minimum of 4 feet (1.22 meters) between gurneys/dialysis chairs is due to the potential splash risk related to dialysis procedures and clearances needed for safe patient care. Requirements for provision of additional space may be a consideration for the ICRA.

- *(a) 4 feet (1.22 meters) between the sides of gurneys/dialysis chairs

A2.10-3.2.2.1 (2)(a) For a renal dialysis center that will provide services during an emergency event, provision of space to allow conversion to 6 feet (1.83 meters) between sides of adjacent gurneys/dialysis chairs should be considered.

- (b) 3 feet (1.22 meters) between the sides of gurneys/dialysis chairs and adjacent walls or partitions

(c) 2 feet (60.96 centimeters) between the foot of a gurney/
dialysis chair and a cubicle curtain

Proposed Language Based on the 2018 Residential *Guidelines*

Chapter 1.2 Planning/Predesign Process

1.2-2.2 Functional Program Content

...

1.2-2.2.2 Functional Requirements...

1.2-2.2.2.2 Explanation of the functional requirements for the project shall cover, at minimum, the following:

...

(2) Operational circulation patterns. These shall include interior and exterior circulation patterns for:

*(a) Residents, staff, and family/visitors

A1.2-2.2.2.2 (2)(a) Circulation pattern considerations.
Infectious disease events may require residential care facilities to alter building circulation patterns. Residential care organizations should identify in the emergency operations plan:

a. Provisions for resident food deliveries in the event of altered circulation patterns

b. How staff work areas can be adapted to minimize unrelated travel through other areas of the facility

(b) Equipment for infectious waste handling

...

- (4) Short- and long-term planning considerations. These shall include the following:
- (a) Flexibility and future growth
 - (b) Impact on existing adjacent facilities
 - (c) Effect on existing operations
 - (d) Integration of technology and equipment
 - (e) Changes in resident population over time, including cognitive and physical abilities
 - (f) Provisions for end-of-life care for residents and support of families
 - (g) Potential impacts of decentralizing food service to serve smaller groupings of residents during emergency conditions
 - *(h) Methods of communication

A1.2-2.2.2.2 (4)(h) Communication during emergencies.
Communication becomes especially important during emergencies. For this reason, a communications plan should be included in the organization's emergency operations plans. A variety of approaches should be employed, ranging from low-tech solutions (e.g., white boards or bulletin boards) to technology-based communications (e.g., direct messaging, apps, portals, message boards, televisions).

1.2-3.1.1 RSRA Requirement

***1.2-3.1.1.1** Every new or renovated residential health, care, or support facility shall be designed to facilitate safe delivery of care consistent with the level of care outlined in the functional program.

1.2-3.1.1.2 To support this goal, ~~a resident safety risk assessment shall be developed and completed by an interdisciplinary team~~ a multidisciplinary team shall review the organization's hazard vulnerability assessment (HVA) in conjunction with development of a resident safety risk assessment (RSRA).

***1.2-3.1.2 RSRA Components**

The RSRA shall address how the physical environment of the residential health, care or support facility may affect resident safety outcomes and shall include assessment of the components identified in Table 1.2-1 (Resident Safety Risk Assessment Components).

A1.2-3.1.2 RSRA components. The resident safety risk assessment should also address how the physical environment of the residential health, care or support facility can help maintain residents' functional capabilities.

For additional information on safety outcome categories incorporated in the RSRA component descriptions, see a literature review undertaken by the Center for Health Design (CHD): "Summary of Literature Review: Resident Safety Risk Assessment" (July 2012) on the CHD website (www.healthdesign.org). See the Facility Guidelines Institute website (www.fgiguideines.org) for a RSRA matrix based on six categories of resident outcomes identified in the CHD literature review.

1.2-3.1.3 RSRA ~~Timing~~ Responsibility and Scope

1.2-3.1.3.1 The resident safety risk assessment shall be initiated by the care provider during the functional programming phase of the health, care, or support facility project (i.e., before construction begins) and continue through project construction and commissioning as applicable.

1.2-3.1.4 RSRA Team

1.2-3.1.4.1 The care provider shall appoint **an interdisciplinary** [a multidisciplinary](#) team to conduct the resident safety risk assessment.

*1.2-3.1.4.2 The RSRA team shall include stakeholders for the identified project

A1.2-3.1.4.2 RSRA team members. Project stakeholders may include the following as well as others, depending on the nature and needs of the project:

- a. Maintenance and environmental services staff
- b. Safety, security and transportation staff
- c. Direct care staff
- d. Quality assurance staff
- e. Activity staff
- f. Management staff
- g. Therapy staff
- h. Planning and design professionals
- i. Residents and family members
- [j. Emergency preparedness officers](#)
- [k. Risk management professionals](#)
- [l. Insurance provider](#)

[1.2-3.1.4.3 Members of the team shall be convened as a group as needed to maintain continuity and integration of the RSRA components.](#)

1.2-3.1.4.4 Individual members shall be engaged to develop additional detail according to their areas of expertise.

***1.2-3.1.5 RSRA Process**

The care provider shall ~~complete a resident safety risk assessment to determine potential risks and resulting impacts to residents and caregivers for each space and building component that is part of the project.~~ provide an assessment of the potential hazards to residents, caregivers, and other users for the components listed in Table 1.2-1 (Resident Safety Risk Assessment Components). This shall include identification of hazards specific to the project.

A1.2-3.1.5 Hazards. Hazards include circumstances, processes, human activities, physical obstacles, and underlying conditions that may directly or indirectly contribute to harm of patients, staff, or other users or contribute to damage to or loss of property.

Some hazards may be more anticipated than others (e.g., those with a regionally based likelihood). Anticipated hazards may come with some level of advance notice, minutes or hours for a tornado or days for a hurricane. Other hazards may be unanticipated (e.g., an explosion of stored chemicals or a terrorist attack). Some hazards may start as an unanticipated event and evolve into an anticipated one (e.g., a global pandemic).

1.2-3.1.5.1 Evaluate risks from identified hazards. ~~Identify risks. For each space in the building, the RSRA shall identify the following specific categories of risk:~~ The RSRA team shall evaluate underlying conditions that contribute to an unsafe environment for each component listed in Table 1.2-1 (Resident Safety Risk Assessment Components) and estimate associated risks based on the following:

- (1) ~~Infection control risk~~ Likelihood (vulnerability), using historical data and/or national patient and caregiver safety trends relevant to the identified hazards
- (2) ~~Resident mobility and transfer risk~~ Consequence, the estimated degree of potential harm to patients and/or caregivers from the identified hazards
- (3) ~~Resident fall risk and prevention~~
- (4) ~~Resident dementia and mental health risk~~
- (5) ~~Medication error risk~~
- (6) ~~Security risk~~
- (7) ~~Disaster risk and emergency preparedness~~

***1.2-3.1.5.2 Evaluate risks and opportunities to enhance quality of life.** (3) Identified quality-of-life opportunities shall be evaluated for the following:

- (1) ~~The care population profile (including cognitive abilities of residents) identified during the functional programming process shall be used as a basis for evaluating resident safety-related risks and quality-of-life opportunities.~~
- (2) ~~Identified risks should also be evaluated for the following:~~
 - (a) ~~Likelihood of occurrence based on historical data, if available~~
 - (b) ~~Degree of potential harm to residents~~
- (1) (a) Likelihood of opportunity based on historical data, if available
- (2) (b) Degree of potential enhancement to resident quality of life

A1.2-3.1.5.2 Evaluation of risks and opportunities to enhance quality of life

- a. ~~Each space should be assessed for the presence of~~

harmful, stress-inducing agents or latent conditions as well as for opportunities to mitigate those conditions to enhance quality of life. Examples include the following:

- Noise and vibration
- Visual distraction
- Light type, quality, and quantity, including lighting that addresses specific tasks and promotes ease of ambulation
- Surface characteristics, including environmental sources of infection
- Indoor air characteristics, including environmental sources of infection
- Ergonomics, including design features that contribute to staff fatigue
- Space requirements, including space adjacencies that do not support the care model
- Visual disorganization of space, including lack of standardization in layout and location of spaces and equipment
- Impediments to resident movement and ambulation, including environmental hazards that may cause residents to slip, trip, or fall
- Impediments to staff movement and workflow, including environmental hazards that may cause staff to slip, trip, or fall
- Communication, including design features that may hinder communication between staff members, residents and staff, residents and family members, and staff and family members.

~~—Space requirements that may unduly limit auditory, visual, and/or lighting control by residents and family~~

~~*1.2-3.1.5.3 Prepare RSRA reporting and comply with the recommendations provided~~ **Generate solutions.** Proposed solutions that mitigate risk from the identified hazards shall be documented.

***1.2-3.1.6 RSRA report.** After completing the RSRA process, the care provider shall provide a report detailing the information and recommendations developed by the RSRA team, which shall be incorporated into the project planning and design documentation. The report shall include:

A1.2-3.1.6 RSRA report

- a. Time and effort should be dedicated to resident and caregiver safety issues during the predesign phase (e.g., strategic planning, master planning, operational planning, programming) of a residential health, care and support facility project. Decisions made during predesign significantly affect design parameters going forward and the safety outcomes of the project following occupancy. The RSRA should be an important part of the continuous safety improvement program in any care organization.
- b. Requirements for submission may vary by AHJ and the RSRA may not be required until permitting, but this does not preclude the benefit of early planning and documentation to ensure integrated solutions that mitigate risk in the built environment.
- c. Organizations are required to conduct hazard vulnerability assessments (HVAs). Design solutions that support the safe delivery of care during emergency

conditions should be coordinated with and supplement existing mandated HVAs. The intent of the disaster, emergency, and vulnerability assessment (DEVA) portion of the RSRA is to proactively understand the role of the built environment (beyond critical infrastructure) in solutions that mitigate risk from potential hazards.

~~*1.2-3.1.5.3 Prepare RSRA reporting and comply with the recommendations provided.~~

~~A1.2-3.1.5.3 Where available, benchmarked resident and caregiver safety data and national industry resident and caregiver safety trends should be used as a benchmark for developing the report.~~

~~(1) The RSRA team shall produce a written report that:~~

~~(a) Identifies known environmental risks based on RSRA components to be used in development of the functional program and in the design, construction, and commissioning of a residential health, care or support facility:~~

~~(i) Infection control risk~~

~~(ii) Resident mobility and transfer risk~~

~~(iii) Resident fall risk and prevention~~

~~(iv) Resident dementia and mental health risk~~

~~(v) Medication error risk~~

~~(vi) Security risk~~

~~(vii) Disaster risk and emergency preparedness~~

~~(b) Specifies design features intended to reduce or eliminate potential risks from adverse events for inclusion in the project design~~

- ~~(2) The conclusions in the written report shall:~~
- ~~(a) Be incorporated into the functional and physical space programs.~~
 - ~~(b) Remain an active component of the following project documents:~~
 - ~~(i) Planning, design, equipment and furniture specifications~~
 - ~~(ii) Construction documentation~~
 - ~~(iii) Commissioning records~~
 - ~~(iv) Postoccupancy evaluation documents~~

~~(3) Changes to the original design plans and as-built documentation, including changes in identified risks and solutions, shall be recorded, updated, and shared among RSRA team members throughout project design, construction, and commissioning.~~ [Relocated to Section 1.2-3.1.7.2 (2).]

1.2-3.1.6.1 Resident and caregiver safety risks identified by the RSRA

1.2-3.1.6.2 Opportunities to improve the quality of life for residents that can be addressed in the project design

1.2-3.1.6.3 Design features to be incorporated in the project to mitigate hazards and risks

1.2-3.1.6.4 Design strategies being implemented to reduce, mitigate, or eliminate identified hazards and risk and improve quality of life

1.2-3.1.7 RSRA Compliance

1.2-3.1.7.1 RSRA documentation

(1) Written records shall remain an active part of the project

documents for the duration of design, construction, and commissioning.

(2) The records shall include the RSRA recommendations report and any documentation completed as part of the RSRA process.

1.2-3.1.7.2 RSRA communication

(1) The RSRA team shall provide updates to the planners and designers for compliance with additional levels of detail generated during the project for all safety components listed in Table 1.2-1 (Resident Safety Risk Assessment Components).

(2) ~~1.2-3.1.5.3 (3)~~ Changes to the original design plans and as-built documentation, including to changes in identified risks and solutions, shall be ~~recorded~~ documented, updated, and continually shared ~~among~~ between the RSRA team ~~members and the designers, planners, governing body, and contractor.~~ throughout project design, construction, and commissioning.

***1.2-3.8 Disaster, Risk and Emergency, Preparedness and Vulnerability Assessment**

A1.2-3.8 Disaster, risk and emergency preparedness, and vulnerability assessment (DEVA). Residential health, care, and support facilities generally are expected to be functional, safe, and secure for residents, family members, visitors, and staff while remaining prepared for natural and man-made emergencies 24 hours a day/7 days a week.

- a. ~~An evaluation of potential risks from disasters informs the emergency preparedness plan.~~ The DEVA should include information developed as part of any facility-based hazard vulnerability assessment, but it should more specifically address the emergency preparedness program as it pertains to proactive design or renovation of the facility.

- b. ~~Design of the facility should consider~~ **E**mergency management practices that allow for the flexibility and resilience required to manage emergency events shall be considered in the design of the facility.
- c. ~~A potential risks~~ **A**n all-hazards approach to ~~the~~ design should be applied to help the care provider prepare for, respond to, and recover from man-made events and natural disasters.

***1.2-3.8.1 Disaster, Emergency, and Vulnerability Elements of the Resident Safety Risk Assessment**

A1.2-3.8.1 A range of hazards and vulnerabilities should be considered in performing a facility-based disaster, emergency, and vulnerability assessment. The DEVA should include, but is not limited to, identification and review of:

- a. Anticipated hazards (e.g., earthquake, hurricane, nuclear facility accident)
- b. Unanticipated hazards (e.g., explosion, infectious disease, hazardous material)
- c. Resident/participant/client population (e.g., acuity, ability levels)
- d. Facility type
- e. Potential surrounding community assets (assets in a rural area will differ from those in a large metropolitan area)

1.2-3.8.1.1 Anticipated hazards. The ~~RSRA report~~ **DEVA** shall identify anticipated hazards specific to a facility based on its geographic location.

***1.2-3.8.1.2 Provisions for disaster preparedness** Design features. Design features that provide resilience, hardening, flexibility, and adaptability during a disaster or emergency event shall be identified.

A1.2-3.8.1.2 Design features Provisions for disaster preparedness

- a. *Design for continued operation...*
- b. *Wind- and earthquake-resistant design for new buildings...*
- c. *Design to mitigate the potential for progressive collapse...*
- d. *Flood protection*
- e. *Emergency supply storage*

—Required supplies. Should normal operations be disrupted, the facility should have adequate storage capacity for, or a functional program contingency plan to obtain food, sterile supplies, medication supplies, linen, and water for sanitation.

—Storage capacity. Such storage capacity or plans should be sufficient for at least four continuous days of operation.

f. Design to address a pandemic

—Facilities should be designed to support design recommendations from the Centers for Disease Control and Prevention to limit the spread of infection.

—During a pandemic, staff should have dedicated space, accommodations, and supports to facilitate overnight stays in the facility.

***1.2-3.8.2 Compliance Elements Disaster, Emergency, and Vulnerability Response**

1.2-3.8.2.1 ~~In locations with recognized potential for hurricanes, tornadoes, flooding, earthquakes, or other regional disasters, the need to protect the life safety of all residential health, care, and support facility occupants and the potential need for continuing~~

services following such a disaster shall be considered during project planning and design.

1.2-3.8.2.2 Disaster preparedness plan

- (1) A disaster preparedness plan for the new construction or renovation project shall be included in the RSRA report.
- (2) This plan shall include disaster planning risk mitigation recommendations prepared by the multidisciplinary team that address the following:

1.2-3.8.2.1 Documentation. The design team shall incorporate identified disaster- and emergency-related design features into the project design documents.

1.2-3.8.2.2. In addition to emergency-related design features, the disaster, emergency and vulnerability response shall include disaster planning risk mitigation recommendations that address the following:

- (1)(a) Resident placement and relocation
- (2)(b) Standards for barriers and other protective measures required to protect areas of refuge from identified potential disasters
- (3)(c) Additional requirements in See Section 1.2-3.2 (Infection Control Risk Assessment) ~~for additional information and requirements.~~

A1.2-3.8.2 Disaster preparedness compliance

- a. Facility evaluation. Care providers of existing facilities should evaluate their facility's ability to withstand the effects of regional natural disasters. The assessment should consider performance of structural and critical nonstructural building systems and the likelihood of loss of externally supplied power, gas, water, and communications under such conditions.

- ~~b. Facility planning. Facility master planning should consider mitigation measures required to address conditions that may be hazardous to residents and conditions that may compromise the ability of the facility to fulfill care needs.~~
- ~~c. Seismic considerations. Particular attention should be paid to seismic considerations in areas where the seismic design classification of a building would fall into Seismic Design Category C, D, E, or F as described in ASCE/SEI 7: “Minimum Design Loads for Buildings and Other Structures.”~~

1.2-4.5.3 Signage and Wayfinding

A1.2-4.5.3 Signage and wayfinding

...

- d. Descriptive signage should be posted on the interior and exterior sides of entry doors with any special instructions for entry and exit during emergency conditions. Instructions should be provided in all languages commonly found in the resident, staff, and community population.
- e. Care provider organizations should consider how signage and wayfinding can be adapted during a disaster to provide meaningful real-time information for residents and staff. Consider a temporary signage plan that identifies the following:
 - New uses and functions
 - Zones of use, including but not limited to:
 - Staff zones

- [Public zones](#)
- [“Clean” vs. “dirty” zones](#)

Chapter 1.3 Site Selection

***1.3-1 General**

[A1.3-1 Flexible site considerations for emergency events](#). Provision of flexible open spaces that are strategically located on-site can support additional functional and programmatic needs that may be required during emergency events. To maximize functionality, design of a flexible site must factor in appropriate building systems and components, such as additional electrical outlets and communication systems, to support potential added functions and programmatic requirements. In isolated, remote, or rural locations and urban locations with limited outside resources, support, and connectivity, the following should be considered:

- [a. Identification of on-site locations that can be used for disaster preparedness, response, and recovery. These areas may include paved parking and roads, open canopy and garage structures, gravel laydown areas, mobile unit pads, future expansion areas, and loading docks.](#)
- [b. Provision of utility services to the identified locations for quick, convenient use when needed](#)

Chapter 2.1 Site Elements

***2.1-2.4 Access to Utilities**

A2.1-2.4 Availability of utilities in an emergency. The need for emergency and backup water supplies, **emergency backup** generators, and [limited-capacity essential electoral system backup-emergency](#) power should be evaluated and addressed in the functional program. [The need for additional generator capacity to supply power to HVAC systems and equipment, meal preparation and storage equipment, access control systems, and other systems and equipment needed in an emergency should be evaluated as part of the facility's hazard vulnerability assessment with an eye toward possible extended use beyond minimums mandated by other codes during emergency conditions.](#)

2.1-3.6. Landscape Features

***2.1-3.6.1 General**

See Section 1.2-4.5.1 (Light) and Section 1.2-4.5.2 (Views of and Access to Nature) for additional requirements.

***2.1-3.6.2 Outdoor Activity Spaces**

Gardens and outdoor activity spaces shall be located to receive direct sunlight at some time during the day.

A2.1-3.6.2 Outdoor activity spaces. Facilities should provide outdoor spaces designed to promote outdoor activity on the part of residents, participants, and outpatients. Views of outdoor spaces from common dining, living, and activity rooms and from therapy areas can encourage users to go outdoors. Facilitating independent access to outdoor space, such as locating doors to outside space near resident rooms and providing automatic opening doors and flush thresholds will encourage residents to go outside without assistance. [In new construction, provision of direct outdoor access from](#)

each resident living area in each household or unit should be considered.

...

c. *Outdoor areas for visitation.* Provision of an outdoor area easily accessible to the central interior common spaces of the building should be considered for the intended purpose of visitation during times of pandemic. The layout of this space should provide opportunities for family and friends to visit, allowing for proper physical distancing measures and providing heating or shading to improve comfort.

Chapter 2.3 Design Elements

2.3-2.3.2 Lobby

2.3-2.3.2.1 General

(1) See the facility chapters in Parts 3 through 5 for additional requirements.

*(2) Shared lobbies shall be permitted in multi-occupancy buildings.

A2.3-2.3.2.1 (2) Where possible, staff should have a dedicated building entrance and exit that is physically separate from entrances for residents, visitors, and service providers. During infectious disease events, space at the building entry should be provided for health screening per CDC recommendations. Design considerations should include the location and number of entrances and how access and circulation may need to be identified during emergency events.

2.3-4.2.2 Medication Distribution and Storage Locations (Centralized and Decentralized)

2.3-4.2.2.1 General

(1) Provisions shall be made to support 24-hour distribution of medications.

*(2) A medication room, a self-contained medication distribution unit, medication storage in resident rooms, or other approaches acceptable to the authority having jurisdiction (AHJ) shall be permitted to be used for preparing, dispensing, and administering medications.

[A2.3-4.2.2.1 \(2\) Provision of secured medication storage in each resident room is shown to reduce medication errors. In-room refrigerators to store refrigerated medications should be considered on a resident-by-resident basis.](#)

***2.3-4.2.4.1 Storage for equipment and supplies for care and services.** Storage space(s) for equipment and supplies used by staff for resident, participant, and outpatient care and services shall be immediately accessible to the areas when they are used.

A2.3-4.2.4.1 Equipment and supply storage

a. Equipment and supply storage items

- Equipment may include portable lifts, movable commodes, shower chairs, and carts
- Supplies may include linens, disposable products, slings, accessories for lifts such as battery chargers, dressings, office supplies, etc.

b. *Equipment and supply storage considerations for emergency events.* An emergency event could disrupt the supply chain for items that are necessary to support a surge event, including provision of resident care services. In isolated, remote, or rural locations and urban locations with limited outside resources, support, or connectivity, provision of supplemental storage spaces—on-site or off-site if easily accessible—should be considered to accommodate specialized needs prior to, during, and after a disaster event. Additional storage may be needed for items such as medical equipment (e.g., ventilators), medical gas cylinders, PPE, food, medical supplies, and generator diesel fuel.

- (1) Sufficient storage space(s) shall be provided to keep required corridor width free of equipment and supplies.
- (2) Cabinets, closets, rooms, and alcoves shall be permitted to provide storage.

***2.3-4.2.10 Accommodations for Tele-Visits**

A2.3-4.2.10 Tele-visit considerations. Organizations should encourage and facilitate alternate methods of communication with residents via videoconferencing technology. During emergency conditions, which may limit physical interaction with family, tele-visit capability becomes important. Wireless technology and tablets can be used to provide this function to families via a variety of videoconferencing apps and platforms.

***2.3-4.3.2 Staff Lounge Area**

A2.3-4.3.2 Staff lounge area. Provision of the following should be considered:

- a. Access to views and outdoor space from the staff lounge area. See Section 1.2-4.5.2 (Views of and Access to Nature) for more information.
- b. Furniture for relaxation and respite, especially in settings where staff are commonly scheduled to work extended and double shifts
- c. A notification area to facilitate communication (e.g., human resources notices, resident passing, etc.)
- d. Staff should have a dedicated outdoor space that is physically separate from outdoor spaces accessed by residents and visitors.

2.3-4.3.2.1 Staff lounge area(s) shall be permitted to be shared by more than one service.

***2.3-4.3.2.2** Staff lounge area(s) shall provide the following based upon the facility needs:

- (1) Refrigerator
- (2) Sink
- (3) Space for microwave and other appliances

A2.3-4.3.2.2 Consideration should be given to long-term storage of food and other items for times when staff may stay at the facility for an extended period.

***2.3-4.3.3 Staff Toilet Room**

~~A2.3-4.3.3 Provision of shower facilities for staff should be considered.~~

2.3-4.3.5 Staff Shower

2.3-4.3.5.1 A shower and area to change clothes shall be provided for staff use.

2.3-4.3.5.2 This shower shall be permitted to be shared with residents if approved by the AHJ.

2.3-4.7.2 Receiving Areas

2.3-4.7.2.1 Where provided, a loading dock and receiving and breakout area(s) shall be permitted to be shared with other services.

*2.3-4.7.2.2 Deliveries to the building shall be limited to one specific entry point/receiving area.

A2.3-4.7.2.2 During infectious disease events, deliveries should be routed to a staging area for disinfection. Consideration should be given to accommodations for sorting and distributing supplies to limit the number of trips required and thereby reduce exposure of staff and residents.

***2.3-4.8.1 Waste Collection and Storage Facilities**

Facilities shall be provided for sanitary storage of waste and recyclables per local requirements that are separate from food preparation, personal hygiene, and other clean functions. See Section 2.2-2.5.1 (Storage and Collection of Recyclables and Discarded Goods) for additional requirements.

A2.3-4.8.1 Safe containment for linens, towels, and clothing that may be contaminated from bodily fluids should be provided. During infectious disease events, trash collected in infected areas should be contained

and separated from the remainder of the facility. Waste removed from an infected area should not pass through any other part of the building.

***2.3-4.10.6 Non-Refrigerated Body-Holding Room**

A2.3-4.10.6 A non-refrigerated body-holding room may be needed during times of pandemic or where immediate transfer of a body off-site is impractical.

2.3-4.10.6.1 Where provided, a non-refrigerated body-holding room shall meet the following requirements:

- (1) The room shall be individually temperature controlled.
- (2) The room shall maintain a negative pressure to adjacent areas.
- (3) The room shall be provided with a minimum total of 10 air changes per hour.
- (4) The room shall maintain a design temperature of 70-75 degrees Fahrenheit (21-24 degrees Celsius).

2.3-4.10.6.2 All exhaust air from a non-refrigerated body-holding room shall be discharged directly to the outdoors without mixing with air from any other room or exhaust system.

2.3-4.10.6.3 Air shall not be recirculated by means of a room unit.

Chapter 2.4 Design and Construction Requirements

***2.4-2.2.4.2 Door openings**

A2.4-2.2.4.2 Door openings. In-swinging, non-secured doors should have hands-free exit capability to enable

[room exiting without having to touch the door. This is particularly important for self-closing doors.](#)

2.4-2.2.8.5 Provisions for drying hands. Provisions for hand drying shall be required at all hand-washing stations.

- (1) Hand-washing stations shall include a hand-drying device that does not require hands to contact the dispenser.
- (2) These provisions shall be enclosed to protect against dust or soil and to ensure single-unit dispensing.
- *(3) Hot air dryers shall be permitted unless the care population dictates otherwise. See Section 2.2-4 (Design Criteria for Dementia, Mental Health, and Cognitive and Developmental Disability Facilities) for specific care population requirements.

[A2.4-2.2.8.5 \(3\) During an infectious disease event, hot air dryers should be temporarily disabled and single-use towels should be provided directly accessible to sinks but located to eliminate contact with splash from the sink.](#)

- [\(4\) Where provided, hand towels shall be directly accessible to sinks.](#)

Chapter 2.5 Building Systems

2.5-2.3.2 Hand-Washing Sinks

...

2.5-2.3.2.3 Fittings

- (1) The water discharge point of a hand-washing sink faucet shall be at least 8.5 inches (21.59 centimeters) above the bottom

of the basin for resident rooms/bathrooms and 10 inches (25.4 centimeters) above the bottom of the basin for all other locations.

(2) Hand-washing sinks used by care and nursing staff and food service staff shall have fittings—including single-lever or wrist blade devices that allow for hands-free operation.

(a) Blade handles used for this purpose shall be at least 4 inches (10.16 centimeters) in length.

(b) The location and arrangement of fittings shall provide the clearance required for operation of blade-type handles.

(c) Fixtures shall not be equipped with aerators but shall be permitted to have a non-aerating laminar flow device.

*(3) Sensor-regulated (electronic) faucets

(a) Sensor-regulated faucets shall meet user need for temperature and for length of time water flows.

(b) Electronic faucets shall be capable of functioning during loss of normal power.

(c) Sensor-regulated faucets with manual temperature control shall be permitted.

A2.5-2.3.2.3 (3) Where sensor-regulated (electronic) faucets are provided, aerators and polyvinylchloride fittings should be avoided. Water flow and temperature should be controllable. Consideration should be given to providing programmed purge cycles to avoid buildup of waterborne pathogens.

***2.5-3.6 HVAC Filters**

See the facility chapters in Parts 3 through 5 for requirements.

A2.5-3.6 Air-handling systems should be designed to be capable of accommodating high-efficiency filters that exceed required minimum MERV ratings.

***2.5-5 Communications Systems**

A2.5-5 Real-time locating system. Organizations should evaluate the need for real-time locating systems (RTLS) for resident and staff tracking to help with contact tracing.

- a. Where provisions are made for RTLSs, consideration should be given to the Wi-Fi network, technology for room level location (e.g., ultrasound, infrared, Bluetooth), and coverage area.
- b. RTLS server equipment should be located in the technology equipment room (TER).
- c. RTLS edge equipment should be located in the technology equipment room.

2.5-5.1 General

***2.5-5.1.1 Application**

Requirements for call systems, information systems, and telecommunication systems shall be based on the care population and provided in accordance with requirements in the facility chapters in Parts 3 through 5.

A2.5-5.1.1 Communications systems considerations for emergency events

- a. Consideration should be given to location, access, availability, and placement of telecommunication and broadband access points (hard-wired and WiFi) to support flexibility prior to, during, and after a disaster

event. Strategically locating telecommunication and broadband access points can support additional functional and programmatic requirements during an emergency event.

- b. Surge locations identified during planning should have access to telecommunication and broadband access points so they can function as an extension of the facility and connect to outside support services.
- c. See appendix section A1.3-1 (Flexible site considerations for emergency events) for site planning considerations.

***2.5-5.1.2 Communications System Equipment Requirements**

A2.5-5.1.2 Exterior communication connection. Where provisions are made for an exterior communication connection (wall or pedestal mount for network and telephone), consideration should be given to location of the box and the following:

- a. In-conduit fiber and copper connections should be provided from the technology equipment room to the exterior communication box.
- b. The exterior communication box should be IP67-rated and UV-resistant, able to operate in applicable temperatures, and allow for quick connection to network and telephone services.
- c. Power should be provided to the exterior communication box and separated from in-conduit communication lines.

2.5-9 Elevators

***2.5-9.1 General**

See the facility chapters in Parts 3 through 5 for requirements.

A2.5-9.1 Where multiple elevators are included in the building design, consideration should be given to dedicating one for staff and service that can be operated independently of resident and visitor use during an infectious disease event.

Chapter 3.1 Specific Requirements for Nursing Homes

***3.1-2.2 Resident Unit**

3.1-2.2.1 General

***3.1-2.2.1.1 Resident unit size.** See Section 3.1- 2.2.1.2 (Layout) for typical resident unit size in different types of nursing home models and appendix table A3.1-a (Nursing Home Care Model Characteristics) for additional information.

3.1-2.2.1.2 Layout

(1) In new construction, resident units shall be ~~arranged to avoid~~ designed to minimize unrelated travel through the units.

3.1-2.2.2 Resident Room

Each resident room shall meet the following requirements:

***3.1-2.2.2.1 Capacity**

(1) In new construction, ~~maximum room capacity shall be two residents~~ the maximum number of beds per room shall be one unless the necessity of a two-bed arrangement has been demonstrated in the functional program. Two beds per room shall be permitted when approved by the authority having jurisdiction.

A3.1-2.2.2.1 ~~Single resident rooms with an individual toilet room are encouraged.~~ Evidence suggests that single-resident rooms decrease risks for medication errors, health care-acquired infections, resident anxiety, and incidents of aggressive behavior while improving resident sleep patterns and staff effectiveness. In two-bed rooms, consideration should be given to creating room configurations that maximize individual resident privacy, access to windows, and room controls and provide equivalent space for each resident (e.g., alcoves for each).

*(2) Where renovation work is undertaken and the present capacity is more than two residents, maximum room capacity after renovation shall be no more than two residence in accordance with CMS-3260-F, “Reform of Requirements for Long-Term Care Facilities.”

A3.1-2.2.2.1 (2) On October 4, 2016, the Centers for Medicare & Medicaid Services (CMS) published a final rule on the “Reform of Requirements for Long-Term Care Facilities,” CMS-3260-F, in the *Federal Register*. This rule revises the requirements that long-term care facilities must meet to participate in the Medicare and Medicaid reimbursement programs. Effective November 28, 2016, each resident room must have a maximum capacity of two residents and a dedicated bathroom with at least a toilet and sink. Look for guidance on room configurations to meet CMS requirements under the Resources tab on the FGI website.

(3) Companion rooms. A maximum of 10 percent of resident rooms shall be permitted to be companion rooms.

A3.1-2.2.2.1 (3) Companion rooms. These rooms are primarily designed for a couple or siblings who prefer to share a bedroom. Consideration should be given to a layout that allows for flexibility so that each person can have their own space or half the room could be used as a sitting area while the other part accommodates both beds or one large bed.

3.1-2.2.2.2 Space requirements...

*(3) Resident room accommodations. Accommodations provided for each resident room shall be accessible from a wheelchair or other resident-operated mobility device and include the following:

A3.1-2.2.2.2 (3) Consideration should be given to providing space to accommodate movable furniture that allows for in-room dining.

(a) Window

(b) Bed

*(c) Resident chair or recliner

***3.1-2.2.2.3 Window**

(1) See Section 2.4-2.2.6 (Windows) in addition to the requirements in this section.

(2) In renovated construction, beds shall be no more than two deep from windows.

A3.1-2.2.2.3 Window. Provision of operable windows to allow for direct fresh air exchange, especially during

[periods of high infection risk \(e.g., coronavirus or influenza\) should be considered. See Section 2.2-4.2.1.6 \(Operable windows\) for information.](#)

***3.1-2.2.2.5 Hand-washing station.** A hand-washing station shall be provided in each resident room.

[A3.1-2.2.2.5 In new construction and major renovation projects, accommodation should be made for placement of either a temporary hand-washing station with access to hot and cold water and water discharge or a hand sanitation dispenser in a consistent location near the entrance to the bedroom without having to enter an adjoining toilet room. The location of a temporary hand-washing station should not limit access/egress requirements for the bedroom.](#)

- (1) Omission of this station shall be permitted in a single-bed or two-bed room where a hand-washing station is located in an adjoining toilet room that serves that room only.
- (2) Design requirements
 - (a) For hand-washing station design details, see Section 2.4-2.2.8 (Hand-Washing Stations).
 - (b) For sink design, see Section 2.5-2.3.2 (Plumbing Fixtures—Hand-Washing Sinks).
 - (c) For casework details, see Section 2.4-2.4.2 (Casework, Millwork, and Built-Ins).

***3.1-2.2.4.1 Airborne Infection Isolation (AII) room**

...

*(3) The toilet room provided for each AII room shall include a shower.

A3.1-2.2.4.1 (3) Where a bedpan-washing/disposal device is provided, it should be placed in the AII toilet room.

...

(6) Special Design Elements

(a) Architectural Details

(i) AII room perimeter walls, ceiling, and floor, including penetrations, shall be constructed to prevent air exfiltration.

(ii) AII rooms shall have self-closing devices on all room exit doors.

*(iii) Surfaces shall be smooth with minimal variation caused by joints, seams, perforations, or crevices.

A3.1-2.2.4.1 (6)(a)(iii) Surfaces with a large number of joints, seams, perforations, or crevices are difficult to clean and can harbor bacteria or viruses. Resilient flooring is preferred for cleanability.

(iv) Ceilings

- Ceilings shall be cleanable with routine housekeeping equipment.
- Ceiling finishes shall be scrubbable, non-absorptive, non-perforated, and capable of withstanding cleaning with chemicals.
- Acoustic and lay-in ceilings, where used, shall not create ledges or crevices.
- Where a lay-in ceiling is provided, it shall be gasketed

or each ceiling tile shall weigh at least one pound per square foot.

- Use of perforated, tegular, serrated, or highly textured tiles shall not be permitted.

3.1-4.4.4 Visitation Room

3.1-4.4.4.1 General

(1) A room shall be provided for the purpose of facilitating safe visitation.

(2) Use of visitation rooms for purposes other than visitation shall be permitted outside of flu season or other disease outbreaks.

3.1-4.4.4.2 Visitation room requirements

(1) Entry

(a) Separate entries shall be provided for visitors and residents.

(b) The visitor entry shall be accessed directly from the exterior or from an adjacent entry vestibule.

(2) Layout. The layout of the space shall allow for maintenance of 6 feet (1.8 meters) for physical distancing at all times during visitation.

(3) Visitation zones. Each visitation room shall be divided into three distinct zones:

(a) Resident zone. The resident zone shall be adjacent to the air return, which shall be located high above the resident zone.

(b) Neutral zone. The neutral zone shall provide a minimum 3-foot (91.44-centimeter) buffer between the resident and visitor zones.

(c) Visitor zone. The visitor zone shall be adjacent to the air exhaust.

(4) Airflow shall be designed to direct air movement from clean at the resident zone to dirty where the air is exhausted outside.

(5) Pressurization

(a) The visitation room shall be designed to function under negative pressure.

(b) Temporary equipment shall be permitted to create negative pressure in the room.

*(6) Carbon dioxide. Each visitation room shall be equipped with a monitoring device. This can be achieved with a carbon dioxide (CO₂) monitor indicating continuous directional airflow and maintenance of negative space pressurization.

A3.1-4.4.4.2 (6) Carbon dioxide monitoring. CO₂ monitors can provide an indication of successful ventilation operations. Exhaled air is the vehicle for infectious particles and contains almost 40,000 parts per million (ppm) of CO₂ compared with approximately 350 ppm in outdoor air. Carbon dioxide may be considered a surrogate for exhaled breath. Thus, the infraction of inhaled air that has been previously exhaled by a person can be easily determined. Caution and visitation termination should occur if CO₂ levels in the room exceed 700 ppm.

(7) Surfaces. Room surfaces shall be able to withstand frequent sanitation and wipe down after each visit.

3.1-4.6.2 Laundry Facility

***3.1-4.6.2.2** Where linen is processed in a laundry facility in the nursing home, the following shall be provided:

[A3.1-4.6.2.2 During infectious disease events, consider providing accommodation for a separate laundry facility where potentially infectious soiled laundry can be managed and cleaned apart from the laundry for the remainder of the nursing home.](#)

Chapter 3.2 Specific Requirements for Hospice Facilities

3.2-2.2 Resident Unit

...

3.2-2.2.1.2 Layout

(1) In new construction, hospice units shall be ~~arranged to avoid~~ designed to minimize unrelated travel through the unit.

...

3.2-2.2.2 **Resident Hospice Patient Room**

Each ~~resident hospice patient~~ room shall meet the following requirements:

***3.2-2.2.2.1 Capacity.** ~~Maximum room capacity shall be one resident unless justified in the functional program and approved by the AHJ, in which case hospice patient room capacity shall not exceed two resident beds.~~ The hospice patient room shall be single-occupancy unless the need for double-occupancy is justified in the functional program.

A3.2-2.2.2.1 Room size and capacity should include
~~Consideration should be given to~~ considerations for
accommodating couples who may be ~~each~~ receiving
hospice care either individually or at the same time.

***3.2-2.2.2.3 Window**

- (1) See Section 2.4-2.2.6 (Windows) in addition to the requirements in this section.
- (2) Provision shall be made for resident and family to completely darken the resident room.

A3.2-2.2.2.3 Window

a. Exterior windows should provide views to the natural environment and light where possible. Residents who are confined to their beds need a venue for visual stimulation. Plantings and other attempts to provide objects of visual interest should be made where exterior views of the natural environment are not possible due to existing building adjacencies. See Section 1.2-4.5.1 (Light) and Section 1.2-4.5.2 (Views of an Access to Nature) for additional information.

b. Provision of operable windows should be considered to allow for direct fresh air exchange, especially during periods of high infection risk (e.g., coronavirus or influenza). See Section 2.2-4.2.1.6 (Operable windows) for information.

***3.2-2.2.2.5 Hand-washing station.** A hand-washing station shall be provided in each ~~resident~~ hospice patient room.

A3.2-2.2.2.5 In new construction and major renovation projects, accommodation should be made for placement

of either a temporary hand-washing station with access to hot and cold water and water discharge or a hand sanitation dispenser in a consistent location near the entrance to the bedroom without having to enter an adjoining toilet room. The location of a temporary hand-washing station should not limit access/egress requirements for the bedroom.

- (1) Omission of this station shall be permitted in a single-bed or two-bed room where a hand-washing station is located in an adjoining toilet room that serves that room only.
- (2) Design requirements
 - (a) For hand-washing station design details, see Section 2.4-2.2.8 (Hand-Washing Stations).
 - (b) For sink design, see Section 2.5-2.3.2 (Plumbing Fixtures—Hand-Washing Sinks).
 - (c) For casework details, see Section 2.4-2.4.2 (Casework, Millwork, and Built-Ins).

3.2-4.4.4 Visitation Room

A visitation room shall be provided that meets the requirements in Section 3.1-4.4.4 (Nursing Homes—Visitation Room).

3.2-4.6.2 Laundry Facility

***3.2-4.6.2.2** Where linen is processed in a laundry facility in the hospice facility, the following shall be provided:

A3.2-4.6.2.2 During infectious disease events, consider providing accommodations for a separate laundry facility where potentially infectious soiled laundry can

be managed and cleaned apart from the laundry for the remainder of the hospice facility.

Chapter 4.1 Specific Requirements for Assisted Living Facilities

***4.1-2.2.2.1 Capacity.** ~~Bedrooms shall be limited to single or double occupancy.~~ The assisted living resident room shall be single-occupancy unless the need for double-occupancy is justified in the functional program.

A4.1-2.2.2.1 Room size and capacity should include consideration for accommodating couples or siblings who may be receiving hospice care either individually or at the same time.

~~A1.2-3.1.5.2 Evaluation of risks and opportunities to enhance quality of life~~

***4.1-2.2.2.3 Windows**

A4.1-2.2.2.3 Windows. Provision of operable windows should be considered to allow for direct fresh air exchange, especially during periods of high infection risk (e.g., coronavirus or influenza). See Section 2.2-4.2.1.6 (Operable windows) for information.

4.1-4.4.4 Visitation Room

A visitation room shall be provided that meets the requirements in Section 3.1-4.4.4 (Nursing Homes—Visitation Room).

4.1-4.6.3 Laundry Facility

4.1-4.6.3.1 General

(1) When on-site laundry services are provided, the requirements in this section shall apply.

*(2) Facilities for processing shall be permitted to be located in the facility or in a separate building.

A4.1-4.6.3.1 (2) During infectious disease events, consider providing accommodations for a separate laundry facility where potentially infectious soiled laundry can be managed and cleaned apart from the laundry for the remainder of the assisted living facility.

Chapter 4.2 Specific Requirements for Independent Living Settings

***4.2-4.4 Support Facilities for Family and Visitors**

...

4.2-4.4.3 Reserved

4.2-4.4.4 Visitation Room

A visitation room shall be provided that meets the requirements in Section 3.1-4.4.4 (Nursing Homes—Visitation Room).

Chapter 4.3 Specific Requirements for Long-Term Residential Substance Abuse Treatment Facilities

*4.3-2.2.2 Resident Room

~~A4.3-2.2.2 Resident room capacity.~~ Bedrooms should be limited to single or double occupancy.

4.3-2.2.2.1 ~~Reserved~~ **Resident room capacity.** The resident room shall be single-occupancy unless the need for double-occupancy is justified in the functional program.

*4.3-2.2.2.3 Windows

A4.3-2.2.2.3 Window. Provision of operable windows should be considered to allow for direct fresh air exchange, especially during periods of high infection risk (e.g., coronavirus or influenza). See Section 2.2-4.2.1.6 (Operable windows) for information.

*4.3-2.2.2.5 **Hand-washing station.** Where a hand-washing station is provided, see Section 2.4-2.2.8 (Hand-Washing Stations) for requirements.

A4.3-2.2.2.5 In new construction and major renovation projects, accommodation should be made for placement of either a temporary hand-washing station with access to hot and cold water and water discharge or a hand sanitation dispenser in a consistent location near the entrance to the bedroom without having to enter an adjoining toilet room. The location of a temporary hand-washing station should not limit access/egress requirements for the bedroom.

4.3-4.4 Support Facilities for Family and Visitors

4.3-4.4.2 – 4.3-4.4.3 Reserved

4.3-4.4.4 Visitation Room

A visitation room shall be provided that meets the requirements in Section 3.1-4.4.4 (Nursing Homes—Visitation Room).

4.3-4.6 Laundry Facility

***4.3-4.6.1 General**

A4.3-4.6.1 Based on the care model, laundry services may be centralized in the facility, decentralized using personal laundry facilities, and/or outside contracted services. See Section 2.3-4.2.7 (Personal Laundry Facilities) for additional information. Completing laundry may be part of the resident’s responsibilities, depending on the care population of the therapeutic community. During infectious disease events, consider providing accommodations for a separate laundry facility where potentially infectious soiled laundry can be managed and cleaned apart from the laundry for the remainder of the substance abuse treatment facility.

Chapter 4.4 Specific Requirements for Settings for Individuals with Intellectual and/or Developmental Disabilities

4.4-4.4.4 Visitation Room

A visitation room shall be provided that meets the requirements in Section 3.1-4.4.4 (Nursing Homes—Visitation Room).