Major Additions and Revisions

The 2022 edition of the *Guidelines* builds on the previous work of the Health Guidelines Revision Committee (HGRC) to provide minimum requirements for hospitals, outpatient facilities, and residential care facilities in three independent documents: *Guidelines for Design and Construction of Hospitals*; *Guidelines for Design and Construction of Outpatient Facilities*; and *Guidelines for Design and Construction of Residential Health, Care, and Support Facilities*. Consistent with the structure of the HGRC during the 2018 *Guidelines* revision cycle, the 2022 HGRC was divided into three document groups to manage updates for each book.

In preparation for the 2022 edition of the *Guidelines*, several topic groups were formed to review the 2018 text, each through a specific lens, and to propose updates and revisions. Topic groups reviewed *Guidelines* language related to rural health, lighting, infection prevention, palliative care, inclusive environments, acoustics, and behavioral and mental health. The Hospital Document Group also formed task groups to review the overall content of the 2018 edition. The proposals resulting from the work of all these groups were considered by the document group alongside other proposals from HGRC members and the public.

Although the three 2022 *Guidelines* documents were developed independently, special consideration was given to correlating language, structure, and new requirements across the documents. In this way, recommendations made to just one document group could be considered by all three.

Significant changes to hospital requirements are described below. As in previous editions, revised and new text is marked throughout the document by an adjacent vertical line.

Glossary

The HGRC Steering Committee made updates to the *Guidelines* glossary for the 2022 edition to clarify intent and address terms for which frequent inquiries have been received since the 2018 edition was published. For example, definitions were added for circulating sides and for Class 1, Class 2, and Class 3 imaging rooms. The terms for exam room, procedure room, and operating room have been updated to make clearer the distinctions between the room types. "Invasive fluoroscopy" was updated to "procedural fluoroscopy" to clarify its intended meaning.

As well, several terms have been updated in the 2022 glossary to keep pace with evolving usage in the industry. Previous references to "psychiatric" facilities, patients, and assessments have been updated to "behavioral and mental health" as a result of input from two behavioral health-related topic groups, an industry survey of organizations operating in the medical behavioral and mental health sector, and careful consideration by the Steering Committee. The term "critical care unit (CCU)" has become "intensive care unit (ICU)" to avoid confusion with cardiac care unit (CCU). Finally, "patients of size" is now "individuals of size" to apply more broadly to patients, residents, participants, visitors, family members, staff, or vendors.

Part 1: General

Application. Revisions have been made to clarify that the *Guidelines* is not intended to restrict innovation or improvement in design and construction techniques that support clinical objectives. A requirement was added to permit the use of new or alternate concepts "when the requesting organization demonstrates an equal or higher operational goal is achieved and safety is not compromised." As conditions and innovation can change rapidly, the HGRC believed it was important to encourage flexibility as long as equivalency is met.

Safety risk assessment. The process for developing a safety risk assessment (SRA) has been tweaked to add "generate solutions" to the two prior steps of "identify

hazards" and "evaluate risks" from those hazards. The primary change in this section, however, is the addition of the disaster, emergency, and vulnerability assessment (DEVA) as part of the SRA. Built on the hazard vulnerability assessments many health care organizations already must perform, the DEVA was a result of the development of FGI's 2021 white paper "Guidance for Designing Health and Residential Care Facilities that Respond and Adapt to Emergency Conditions" (posted at https://fgiguidelines.org).

Infection prevention. The infection control risk assessment is now the deciding factor in whether an anteroom will be provided for an AII room, and new appendix language provides guidance for designers and facility owners as they decide where an anteroom is needed. The Infection Prevention Topic Group also reviewed existing methods and devices for disposing of human waste and championed the addition of more options for bedpan management in the 2022 *Guidelines*.

Behavioral and mental health. The behavioral and mental health elements of the SRA have been updated to assure that owners and designers consider patient safety concerns throughout a facility rather than only for clinical areas where behavioral and mental health patients will be seen. Revised appendix language outlines risk levels recognized by the behavioral and mental health community that can be used to identify risks in particular spaces: "high level" (areas where patient acuity poses increased risk), "moderate-high level" (areas where patients interact with less direct supervision), "moderate-low level" (areas where patients are supervised and/or under direct observation), and "low level" (e.g., staff support areas where patients are not allowed).

Diversity and inclusive environments. As health care organizations strive to meet the needs of the diverse populations they serve, the *Guidelines* likewise continues to foster accommodation of these populations through an inclusive approach to design of the built environment. Diversity considerations (e.g., age, body size, ability, cultural background, gender identity, visual acuity) for patients, staff, and visitors are addressed in the sections on user accommodations and cultural responsiveness in the 2022 Hospital *Guidelines*. Universal design concepts have been woven throughout the document to provide guidance for owners and designers on creating environments that can be accessed, understood, and used to the greatest extent possible by all people regardless of age, size, or ability.

Acoustic design. Guided by the expertise of the Acoustics Proposal Review Committee (APRC), the HGRC approved several changes in acoustic requirements. Performance values for telemedicine rooms were added to tables 1.2-4 (Minimum Design Room-Average Sound Absorption Coefficients) and 1.2-5 (Maximum Design Criteria for Noise in Interior Spaces Caused by Building Systems) and new adjacencies were added to Table 1.2-6 (Design Criteria for Minimum Sounds Isolation Performance Between Enclosed Rooms).

Part 2: Hospital Facility Types

Pre- and post-procedure patient care stations. In the 2018 edition, hospitals were required to provide a minimum of two patient care stations per procedure room, operating room, Class 2 imaging room, or Class 3 imaging room when combining Phase I and Phase II recovery areas. The 2022 edition reduces the calculation to one-and-a-half patient care stations per procedure room, operating room, Class 2 imaging room, or Class 3 imaging room.

Lactation rooms. Hospitals are now required to provide lactation rooms for staff and volunteers. Providing a lactation room for visitors is recommended, but not required.

Ceilings. Modular or prefabricated laminar flow ceiling systems are now permitted under certain conditions in lieu of monolithic ceilings in operating rooms and Class 3 imaging rooms. The ceiling system must be constructed with a structural frame engineered and rated for the systems supported and have continuously gasketed seams and access doors.

Communications systems. In the 2018 Hospital *Guidelines*, Table 2.1-2 (Locations for Nurse Call Devices in Hospitals) listed both required and optional locations for nurse call devices. The 2022 edition streamlines this table to feature only required locations for nurse call devices. Formerly a fundamental requirement, staff assistance call stations no longer appear in the table due to advances in technology that now offer hospitals numerous ways of performing this function.

In areas designated for care of behavioral and mental health patients, cords at call stations for patient use

must be detachable and no longer than 6 inches (15.24 centimeters).

Electrical receptacles. Revisions were made to Table 2.1-1 (Electrical Receptacles for Patient Care Areas in Hospitals) to increase flexibility in patient room design. While the minimum number of receptacles required at the bed location is intended to agree with NFPA 101: *Life Safety Code*, additional receptacles and receptacle locations may be needed to support clinical needs and patient and visitor comfort.

Burn trauma intensive care unit (ICU). In the 2022 Hospital *Guidelines*, patient rooms in a burn trauma ICU are required to be designed as protective environment rooms due to patients' high risk of infection. To help regulate patient body temperature, radiant heat panels must be placed directly over the patient bed. For new construction projects, an operating room must be readily accessible to the burn trauma ICU.

Hospice patient care unit and hospice and/or palliative care rooms. The Palliative Care Topic Group developed new design requirements and recommendations that support patients and caregivers where hospice and palliative care services are offered. Provisions were added for both a comprehensive hospice care unit and for hospice and/or palliative care rooms located outside of a dedicated unit. The new sections support the delivery of person-centered care and focus on enhancing quality of life for patients, their family, and their friends and on promoting patient privacy and dignity.

Hospice and/or palliative care rooms must be designed for single occupancy, but an exception for double occupancy is allowed to accommodate married couples, partners, siblings, a parent and child, and other close relationships. Space for a family support zone is required in the patient room and, where the hospital will allow family and friends to stay overnight, space for sleeping accommodations must be provided.

Newborn intensive care unit (NICU). NICU room sizes were enlarged based on guidance from the Recommended Standards for Newborn ICU Design Consensus Committee to better accommodate families of neonates and provide adequate space for staff and large equipment such as incubators. A neonatal couplet care room was added to support care for a hospitalized mother and baby in the same room.

Emergency care facilities. The 2022 *Guidelines* now requires video surveillance at public entrances to emergency facilities and a duress alarm where entrances may be locked. This requirement was added to ensure patients in distress can receive necessary care even when entrances are locked.

Trauma/resuscitation rooms are now permitted to be subdivided to accommodate two patients when not in use for a trauma patient. The physical space and operational plan must accommodate quick conversion back to a trauma room when needed, and each resulting patient care station must meet the requirements for the service to be provided.

Design requirements for outdoor decontamination areas have been formalized to guide organizations that provide outdoor structures. The size of the interior decontamination room has increased from 80 to 100 square feet; outdoor structures do not have a prescribed size.

The 2022 edition features two new clinical treatment spaces that have the potential to reduce overcrowding in emergency departments (EDs). The first is the low-acuity patient treatment station, a space intended for "walking well" patients that supplements rather than replaces traditional ED rooms, bays, or cubicles. These stations reduce overcrowding because ambulatory patients with minor injuries or conditions can be treated without having to wait for an exam room, bay, or cubicle to become available.

The second treatment space is a behavioral and mental health crisis unit. Behavioral health visits to the ED continue to trend upward and contribute to longer-than-average lengths of stay. The behavioral health crisis unit augments the ED and provides a dedicated unit where patients who arrive in a state of behavioral or mental health crisis can receive immediate emergency care in a calm and comfortable setting. The unit features a secure multiple-patient, open-concept environment and single-patient observation rooms and support spaces. Some support spaces and services could be shared with the ED.

Another major change in this chapter is an increased focus on accommodations for behavioral and mental health patients. The Behavioral and Mental Health Topic Group, composed of a wide range of experts in the field, offered a number of proposals for HGRC consideration. In the 2022 *Guidelines*, health care organizations are directed to conduct a behavioral and mental health risk assessment to determine which types of rooms, and how many, will be provided to serve behavioral and mental

health patients in the ED. Where a secure holding room is provided, a readily accessible ligature-resistant patient toilet room is required. Other changes include a flexible secure treatment room that can be easily converted from a single-patient treatment room to a secure holding room and a treatment room intended specifically for behavioral and mental health patients.

Surgical services. Storage for the bed or gurney used to transport a patient to and from the operating room must be provided in an adjacent semi-restricted area. Language was clarified for design of the clean equipment and clean and sterile supply storage room or area where it is directly accessible to operating rooms arranged around it (this arrangement is often called the clean core). The clean and sterile supply storage must be the greater of 300 square feet or 100 square feet per operating room.

Imaging services. The imaging requirements in the Hospital and Outpatient *Guidelines* are virtually identical. For the 2022 edition, clarifying language was added to inform users the requirements apply to both single- and multiple-modality imaging systems. Clearances have been added for Class 1 and Class 2 imaging rooms, although they do not apply to locations where small mobile ultrasound or similar imaging devices will be used. Clearances have been added for an anesthesia work zone in imaging rooms of any class where an anesthesia machine will be used.

For Class 2 and Class 3 imaging rooms, omission of the control room door is permitted where the control room serves only one imaging room and the control room has the same architectural details and environmental controls as the imaging room. Laminar flow diffusers and low returns are not required in the control room. The Class 3 imaging room must meet either the requirements of a hybrid operating room or those for the applicable imaging modality as well as most of the requirements for an operating room.

Requirements for magnetic resonance imaging (MRI) facilities have been revised to apply to MRI equipment that is affixed to the building (i.e., not portable MRI equipment). MRI suite requirements are now differentiated between those with equipment with a static magnetic field of 5 gauss (0.5 millitesla) that is contained within the MRI scanner and those with equipment with a static magnetic field that extends beyond the MRI scanner device. A hot patient sub-waiting area has been added to isolate patients whose scan preparation results in low levels of radiation.

Hemodialysis treatment area. A dialysis task group was convened to review and update dialysis sections in the 2022 Hospital *Guidelines*. Revisions include the provision of dedicated space for a patient scale, requirements for fluid disposal sinks in the treatment area, and a dedicated room for patients with special precaution needs to prevent contact transmission of infectious microorganisms.

Critical access and other small hospitals. Although the critical access chapter was permitted to apply to small hospitals in the 2014 and 2018 editions of the *Guidelines*, this allowance wasn't common knowledge. To provide flexibility to smaller hospitals, this chapter has been revised to explicitly include small hospitals with 35 beds or fewer. Other revisions include increased flexibility in room use, the inclusion of a universal care room, and the option to provide low-acuity treatment areas in the ED.

Behavioral and mental health hospitals. Revisions were made to this chapter to minimize opportunities for patients to leverage the building attributes for harm to self or others. Changes focused on eliminating potential patient-accessible ligature points (e.g., designing showers to be free of curtains). Requirements also have been added for a geriatric patient care unit, transcranial magnetic stimulation room, and facilities for an intensive outpatient and partial hospitalization program.

Mobile/transportable medical units. This chapter, which also appears in the 2022 Outpatient *Guidelines*, is intended to apply to mobile/transportable medical units that are used on a temporary basis. For this edition of the *Guidelines*, the HGRC agreed that providing additional language to define "temporary basis" would be useful. In the absence of state and local standards, temporary basis in this chapter is defined as "a period of time not exceeding six months during any twelve-month period from the time procedures commence inside the mobile/transportable unit until the time procedures cease and it is transported off the host facility's site." The chapter does not apply to mobile/transportable units that remain on-site for less than 96 hours.

Several revisions have been made to increase design flexibility throughout this chapter, specifically for Class 1 mobile/transportable units. For example, where a Class 1

mobile unit is not connected to a host facility, it may have self-contained site utilities (e.g., power, waste, water). For a Class 1 imaging mobile unit, provision of a hand sanitation dispenser in lieu of a handwashing station is permitted and a cabinet or closet may meet the requirement for a clean workroom or clean supply room and for a soiled workroom.

Recognizing the size limitations of mobile/transportable medical units, a provision is made for Class 1 units that cannot physically meet the corridor width and/or ceiling height requirements in the common elements chapter. In this case, corridors in the Class 1 mobile unit are permitted to have a minimum clear width of 2 feet 8 inches and a minimum clear ceiling height of 6 feet 8 inches.

Freestanding emergency care facilities. The 2018 Hospital *Guidelines* included Chapter 2.3, Specific Requirements for Freestanding Emergency Care Facilities. This chapter no longer appears in the 2022 Hospital *Guidelines* because it is not an inpatient facility. Requirements for freestanding emergency care facilities can now be found exclusively in the 2022 Outpatient *Guidelines*.

Part 3: Ventilation of Health Care Facilities

Beginning with the 2010 *Guidelines* edition, ANSI/ASHRAE/ASHE Standard 170: *Ventilation of Health Care Facilities* has been incorporated into the *Guidelines* as minimum requirements for ventilation systems. FGI reprints Standard 170, with permission, in the *Guidelines* documents as a convenience to its users. Included in the 2022 *Guidelines for Design and Construction of Hospitals* is the 2021 edition of Standard 170 dated November 2021, which incorporates addenda c and d.

FGI continues to work with ASHRAE to revise and update Standard 170. ASHRAE keeps Standard 170 under a continuous maintenance process, which permits official changes to be made at any point over the life cycle of the document. It is FGI's intent that published addenda to ASHRAE Standard 170-2021 shall be considered part of the 2022 *Guidelines for Design and Construction of Hospitals*.