Major Additions and Revisions

Without a doubt, the most significant change to the 2018 edition of the *Guidelines* is that these important design standards are now presented as 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*.

In 2014 the *Guidelines* was expanded from one comprehensive document that addressed hospitals, outpatient facilities, and long-term care facilities to two documents, with the requirements for residential care and support facilities moving into a standalone document. This change allowed the Residential *Guidelines* to emphasize the residential nature of the facilities included. The 2018 Health Guidelines Revision Committee (HGRC) has further separated the *Guidelines* content to address hospitals and outpatient facilities independently. The primary goal of this change was to make the new outpatient facility document flexible enough to address a wide variety of outpatient facility projects, as these facility types are expected to continue evolving over the next decade. To meet the changing needs of the U.S. health care industry, the facility types included in the Outpatient *Guidelines* range from small clinics, doctor's offices, and tenant improvements in a larger building to medical office buildings housing multiple clinical services and large freestanding imaging or surgery facilities.

In the process of separating the Hospital and Outpatient *Guidelines* requirements, the HGRC made an effort to correlate similar material in both documents so that health care facilities of all types and sizes provide a safe environment for delivery of care. At the same time, the Outpatient Document Group worked to address the application of the Outpatient *Guidelines* requirements to projects from small to large, including those located in a larger building over which the governing body (the owner) and the designer may have no control.

Significant changes to the outpatient facility requirements are described below. As in past editions, revised and new text is marked throughout the document with a vertical rule beside it.

Part 1: General

Functional program. Revisions have been made to the functional program requirements to clarify its intent and scope in both the Hospital and Outpatient *Guidelines* documents. Appendix language with guidance for applying the requirements to designs for small outpatient facilities and tenant improvement projects has been added to the Outpatient document. As well, the space program requirements have been moved from the end of the functional program section to a separate numbered section in recognition that the development of the space program is a process separate from functional programming.

Acoustic design. The Acoustics Proposal Review Committee (APRC, a panel of highly qualified acousticians advised by clinicians) assessed the acoustic criteria in the 2014 *Guidelines* and developed revisions for the 2018 edition to update and clarify the requirements as well as to provide consistent design criteria for similar facility types.

The group revised the language regarding exterior noise classification and expanded the exterior shell composite sound transmission ratings to provide both OITCc and STCc levels, adding appendix guidance to help *Guidelines* users determine under what conditions each measurement requirement should be applied. In the Outpatient document, though, the exterior noise classification requirements apply only to projects that include shell and core work, and it is clearly stated that tenant-improvement-only projects are exempt.

The APRC also rounded out requirements for vibration control and isolation, including a new requirement to consider exterior sources of ground vibration (e.g., road and rail traffic) when selecting a site and during design of a facility with the goal of reminding designers to consider the importance of vibration control for health

care services that use sensitive equipment or require precise motions on the part of health care providers. Further appendix guidance was added for noise levels in operating rooms and demising wall assemblies.

Sustainable design. In the Outpatient *Guidelines*, fewer changes were made to the sustainable design section than in the Hospital document. New appendix text, which as everywhere is advisory only, provides guidance on using a measurement and verification plan to help achieve energy efficiency and water conservation goals. The one change in the main text is a new requirement that plumbing fixtures and fittings comply with ANSI/ASHRAE/ASHE 189.3: *Design, Construction, and Operation of Sustainable High-Performance Health Care Facilities*.

Design considerations for patients of size. The HGRC made a first attempt at writing minimum standards for design to accommodate "bariatric patients" in the 2010 edition, but the committee wasn't entirely happy with the results and removed a lot of this material in the 2014 edition. However, as the number of persons of size increases as a percentage of the U.S. population, it becomes more and more important to consider how to accommodate these patients and their family members. Therefore, FGI invited the public to participate in a Bariatric Accommodations Topic Group for the 2018 revision cycle. This group, composed of HGRC members, experts in patient handling equipment, and interested users of the *Guidelines*, was quite active and entered a number of proposals to address this important design issue. One overall change that resulted is replacement of the term "bariatric patient" with "patient of size" to more accurately describe the individuals being served, including those who do not fit the clinical definition of obese but may still require expanded clearances and/or expanded-capacity lift equipment (e.g., professional football players). Determining the need for accommodations for patients of size is required during the planning phase, and guidance has been added on projecting the weight capacities of the population to be served, the number of spaces required to accommodate these patients, and the number of expanded-capacity lifts needed for a project.

Emergency preparedness and management. Although many outpatient facilities are not called on to provide services during an emergency, whether a facility may need to serve in this role should be determined during project planning. For those health care organizations that are expected to provide such services, new appendix language offers guidance for preparing an emergency preparedness assessment, planning for resiliency, and projecting space needs in the event of an emergency.

Part 2: Outpatient Facility Types

Two approaches to application. With the increase in health care services provided outside the hospital in the United States, health care design projects often comprise new facility types or outpatient facilities that combine a variety of health care services in one building. Designers who take on such projects may not find an applicable chapter with explicit requirements in the *Guidelines*. To make the Outpatient *Guidelines* more flexible, the Outpatient Document Group adapted a method used by AHJs in the field to address this situation. The result is two approaches to applying the *Guidelines*—Approach 1 and Approach 2—described at the beginning of Chapter 2.1, Common Elements for Outpatient Facilities.

Approach 1 is for projects whose scope of services is "comprehensively described" in one of the specific facility type chapters in Part 2. Approach 2 is for projects that are not directly described in a facility chapter in the *Guidelines*, but that include health care services for which one or more chapters (the common elements chapter and/or one or more of the facility chapters) provide facility requirements.

Appendix language describes what is needed for successful delivery of an Approach 2 project: careful development of a functional program to establish physical environment requirements. The project team begins by identifying the clinical and support services to be included, then identifies the sections of the *Guidelines* that have requirements for the relevant facilities. In states where the AHJ requires it, the identified requirements are presented to the AHJ for review and approval before design is completed.

Accommodations for care of patients of size. Chapter 2.1 includes a section on design requirements for care of patients of size that supports the planning requirements for this patient population in Part 1. The Bariatric Accommodations Topic Group developed minimum requirements for spaces where care will be provided to patients of size. Their efforts were based on a workshop hosted by Hill-Rom in which mock-ups of spaces were used to determine clearances needed for safe delivery of care. Placing these requirements in the common elements chapter supports consideration of provisions to accommodate patients of size wherever they are served. Requirements in this section include a patient handling

and movement assessment, clearances for rooms based on whether overhead or floor-based lifts are used, and door openings along the path of travel for these patients.

Clinical service rooms. Because a number of the outpatient facility types in Part 2 could include examination rooms, procedure rooms, and operating rooms, the requirements for these clinical spaces have been placed in the common elements chapter. The exam room requirements include a single-patient exam/observation room and a slightly larger room for specialty clinical services that require more space. Information, including a chart that summarizes the design requirements for exam, procedure, and operating rooms, has been added to help users of the document determine whether a clinical space should meet the requirements for a procedure room or an operating room.

The procedure and operating room requirements have been made more flexible to make it easier to incorporate them in a variety of outpatient facility types. Rooms where an anesthesia machine and cart will be used require more space, and fixed encroachments can be accommodated in defined instances. The minimum clear floor area for a procedure room has been reduced from 150 square feet to 130 square feet. The minimum clear floor area for an operating room (OR) is 255 square feet as calculated using the required clearances; requirements and guidance are also provided for larger ORs when they are needed. Appendix language describes how the OR clearances were determined and why these minimum spaces are needed.

Airborne infection isolation (AII) room. AII room doors and doors to the anteroom, if provided, are permitted to have either a self-closing device or an audible alarm that can be activated when the AII room is in use as an isolation room. A pressure alarm is required to alert staff when the AII room is no longer providing a negative pressure environment; this alarm is permitted to serve as the alarm in place of a self-closing door device if it is audible.

Accommodations for telemedicine services. The use of telemedicine is rapidly expanding in the United States, particularly in rural areas where specialty medical services can be hundreds of miles away. To support this growing health care service, minimal design requirements have been added accompanied by considerable appendix guidance on designing clinical telemedicine spaces. In an effort to keep the requirements flexible for the many different types of telemedicine services offered, the requirements are only for spaces where clinical telemedicine services are provided. Use of bays, cubicles, or rooms is permitted, and space requirements depend on the equipment and persons to be accommodated. Provisions for privacy, lighting, surfaces, acoustics, and facility identification are included in the appendix for consideration in design of these spaces.

Imaging facilities. In previous editions, imaging facility requirements were included only in the hospital part of the *Guidelines*, with cross-references to them from certain outpatient facility chapters. With the separation of the hospital and outpatient facility requirements into different books, this approach was no longer tenable. Instead, design requirements for imaging facilities have been included in the chapter on common elements for outpatient facilities and referenced from the chapters on outpatient facility types that may include imaging services.

The imaging text has been restructured using a new classification system to streamline the requirements and help designers determine which apply to their projects. Space requirements depend on clearances around the equipment being used, and recommended minimum clear floor areas in the appendix have been removed. General imaging room requirements are provided and amended with details that apply to specific imaging modalities, including nuclear medicine and those termed "interventional imaging," which previously were separate sections. This approach allows imaging room design to adapt more easily to new technologies and changes in equipment as they arise.

Pre- and post-procedure patient care. The requirements for pre- and post-procedure patient care areas now allow health care organizations to provide either separate pre-procedure and recovery patient care areas or to combine them, including Phase I (PACU) and Phase II recovery areas, into one space; the goal is to facilitate provision of spaces that support the way patient care is provided in a facility. When a combination area is provided, it must meet the most restrictive design requirements for the space types that are combined. In addition, a minimum of one patient care station per procedure, operating, or Class 2 or Class 3 imaging room is required when a combined pre- and post-procedure patient care area is provided. Facilities may still choose to separate services into two or three areas, but the change allows facilities greater flexibility in the provision of care. The procedure and operating room support area requirements also permit use of those clinical spaces for pre- and post-procedure patient care.

Patient support facilities. The common elements chapter includes expanded laboratory, new pharmacy,

and revised sterile processing facility requirements to support the variety of facility types included in the new Outpatient *Guidelines*. The requirements only apply when referenced from a facility chapter or identified as relevant for projects using Approach 2 to determine application of the *Guidelines*.

Of particular note is the updated sterile processing section. In the 2014 *Guidelines*, a satellite one-room sterile processing facility was the minimum requirement for this vital health care service function. For the 2018 edition, the infection preventionists on the HGRC and other subject matter experts took a second look at this change with an eye to supporting the development of sterile processing facilities that encourage clinical personnel to comply with professional practice guidelines for cleaning, decontaminating, and sterilizing surgical instruments. Considering the importance of maintaining a dirty-to-clean workflow in sterile processing areas, it was determined the minimum requirement for these spaces is a two-room sterile processing facility, consisting of a decontamination room and a clean workroom. However, for facilities where small countertop sterilizers are used for a limited workflow, a one-room sterile processing facility is permitted as an exception.

Waiting areas or rooms. The 2014 edition had limited requirements for waiting spaces in outpatient facilities, with specific seating ratios required in two chapters. A task group of the Outpatient Document Group looked into changing these requirements to avoid design of facilities with insufficient waiting space. After much consideration, though, the new language requires determination of the needed space for waiting during the planning stage and that the waiting area be visible from a staff area. The ratios for seats in a waiting area were moved to the appendix and supplemented with recommendations for ratios in nearly all the specific facility types included in the document.

Architectural details and surfaces. Information has been added to the appendix to help designers choose flooring that can reduce patient falls. Appendix language has also been added to support the use of a central diffuser array in a monolithic ceiling in a restricted area and to clarify what is needed when equipment that must penetrate the floor is installed in a room with a monolithic floor.

HVAC systems. The variety of facility types included in the Outpatient *Guidelines* led to a lot of discussion about appropriate heating, ventilation, and air-conditioning systems on the part of the HGRC. In the end, the facility types included in the document fall into three categories: those that must comply with ANSI/ASHRAE/ASHE Standard 170: *Ventilation of Health Care Facilities* (surgery and endoscopy facilities), those with certain room types that must meet requirements in Standard 170 (certain imaging facilities, infusion centers, and renal dialysis centers), and those that are required to meet state and local building code requirements (the rest of the chapters). Procedure and operating rooms, where provided, also must meet the requirements in Standard 170. This arrangement is intended to allow a great deal of flexibility in design of ventilation systems for outpatient facilities, but still support sound infection prevention practices in critical areas.

Specific outpatient facility types. An effort was made to standardize the presentation of requirements in the specific facility type chapters in Part 2, including the text at the beginning of each chapter reminding users that Part 1 applies to all facility types and the requirements in Chapter 2.1, Common Elements for Outpatient Facilities, apply only when cross-referenced in the facility chapter. Often, cross-references to the common elements begin with "where provided," which allows flexibility in the design of a facility to suit the particular services to be provided in it. A few other major changes in the facility chapters are mentioned here:

Outpatient imaging facility. The chapter titled "Freestanding Diagnostic & Treatment Facilities" has been in the *Guidelines* since the 1990s with little change, and it was no longer clear what type of facilities this was meant to apply to, although it cross-referenced imaging and nuclear medicine requirements in the chapter on general hospitals. For 2018, this chapter was reworked as an outpatient imaging center, with basic requirements and cross-references to the common element imaging (including nuclear imaging) and radiation therapy requirements in Chapter 2.1.

Urgent care center. The clinical space requirements for urgent care centers have been revised to allow more flexible designs. In addition to single-patient exam rooms, space requirements are provided for multiple-patient exam rooms. As well, the urgent care procedure room is now a treatment room, which reduces ventilation and some other design requirements. For triage, a dedicated space, a patient care station, or a consultation room may be used.

Outpatient surgery facility. The procedure and operating room requirements were moved into the common elements chapter, where they can be easily

cross-referenced from other chapters. The descriptions of unrestricted, semi-restricted, and restricted areas were updated to correlate with AORN requirements, and the support areas were reorganized to clarify their location in the outpatient surgery facility: in the semi-restricted area, directly accessible to the semi-restricted area, or elsewhere in the facility.

Freestanding emergency facility. In the 2018 edition, this chapter appears in both the Hospital *Guidelines* and the Outpatient *Guidelines*. Not many changes were made, but the many cross-references to the emergency services section of the general hospital chapter were converted to the actual requirements for the version of the chapter that appears in this document.

Endoscopy facility. The minimum clear floor area for the endoscopy procedure room was reduced from 200 square feet to 180 square feet. The requirements for the endoscope processing room were updated to reflect the dirty-to-clean workflow required for sterile processing facilities.

Outpatient psychiatric facility. Space requirements were added for the clinical spaces in an outpatient psychiatric facility: consultation rooms, group rooms, and observation rooms. Requirements for an exam room, seclusion room, and quiet room were also added. In addition, where the need is indicated by the behavioral and mental health risk assessment, requirements were added for "space for a clear path of escape for staff" and a "staff assist device to communicate with [others]." All clinical spaces are optional except the consultation and group rooms; as well, the "staff assist device" is required for these two room types.

Outpatient rehabilitation facility. The primary change in this chapter is to the space requirements for the exercise area. The "open, barrier-free space" for rehab therapy is to be sized according to the number of patients treated at the same time, the number of staff members present at the same time, and the clearance requirements for the equipment used.

Mobile/transportable medical units. A guiding principle of the HGRC is that physical design requirements for specific medical services should be the same regardless of where those services are provided. To support that principle, the chapter on mobile/transportable medical unit design was completely revised for the 2018 edition based on the imaging classification system and clarified requirements for examination/treatment, procedure, and operating rooms mentioned above. This chapter also appears in the 2018 Hospital *Guidelines* document.

Part 3: Ventilation of Outpatient Facilities

Beginning with the 2010 *Guidelines* edition, ANSI/ASHRAE/ASHE Standard 170: *Ventilation of Health Care Facilities* has been incorporated into the *Guidelines* to provide ventilation requirements for health care facilities. Therefore, the 2017 edition of ASHRAE 170, with all addenda approved through November 2017, has been incorporated as Part 3 of this edition of the FGI *Guidelines*.

FGI continues to work with ASHRAE and ASHE to revise and update Standard 170. Since publication of 170-2013, the ASHRAE Standard Standing Project Committee for 170 has been working to divide the requirements in the document into separate hospital and outpatient categories to make it easier for users to apply the requirements. This process is not complete, but the 2017 edition of Standard 170 reflects the beginning of the process.

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 the intention of FGI that addenda to Standard 170 issued by ASHRAE after publication of the 2017 edition shall be considered part of the 2018 *Guidelines* documents.