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GUIDELINES FOR
DESIGN AND
CONSTRUCTION OF

1996-97 HOSPITAL AND HEALTH CARE FACILITIES

■ The American Institute of Architects Academy
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PREFACE

This is the latest in a 45-year series of guidelines to aid in the design and construction of hospital and medical facilities.

The original *General Standards* appeared in the *Federal Register* on February 14, 1947, as part of the implementing regulations for the Hill-Burton program. The standards were revised from time to time as needed. In 1973, the document was retitled *Minimum Requirements of Construction and Equipment for Medical Facilities* to emphasize that the requirements were generally minimum, rather than recommendations of ideal standards.

Sections 603(b) and 1620(2) of the Public Health Service Act require the Secretary of the Department of Health and Human Services (HHS) to prescribe by regulation general standards of construction, renovation, and equipment for projects assisted under Title VI and Title XVI, respectively, of the act. Since Title VI and Title XVI grant and loan authorities have expired, there is no need to retain the standards in regulation.

In 1984, HHS removed from regulation the requirements relating to minimum standards of construction, renovation, and equipment of hospitals and other medical facilities, as cited in the *Minimum Requirements*, DHEW Publication No. (HRA) 81-14500. To reflect the nonregulatory status, the title was changed to *Guidelines for Construction and Equipment of Hospital and Medical Facilities*. For this 1996-97 edition, the title has been amended to read *Guidelines for Design and Construction of Hospital and Health Care Facilities* to reflect the scope, content, and usage of this document.

These *Guidelines* are evolving in order to provide guidance to providers, designers, and regulators in a continually changing environment. It is recognized that many health care services may be provided in facilities not subject to licensure or regulation, and it is intended that these *Guidelines* be suitable for use by all health care providers. It is further intended that, when used as regu-

lations, some latitude be granted in complying with these *Guidelines*, so long as the health and safety of the occupants of the facility are not compromised.

The *Guidelines* will be used by HHS to assess Department of Housing and Urban Development Section 242 applications for hospital mortgage insurance and the Indian Health Service construction projects. The *Guidelines* may also be used by other entities, such as state licensure agencies. For this reason, regulatory language was retained. The 1996-97 edition of the *Guidelines* follows these principles. Explanatory and guide material is included in appendix A, which is not mandatory.

The Health Care Finance Administration (HCFA) and the Health Resources Services Administration (HRSA), which are both in the Department of Health and Human Services, are supporting the efforts of the 1996-97 *Guidelines* both financially and with support staff. HCFA has the responsibility for the reimbursement and operation of the Medicare and Medicaid programs. Hospital construction and costs are directly related to the charge of HCFA's mission. Although HCFA is not adopting the *Guidelines* as regulations, the agency does concur with the design and construction recommendations.

This edition of the *Guidelines* reflects the work of advisory groups from private, state, and federal sectors, representing expertise in design, operation, and construction of health facilities. Advisory group members reviewed the 1992-93 edition of the *Guidelines* line by line, revising details as necessary to accommodate current health care procedures and to provide a desirable environment for patient care at a reasonable facility cost.

The *Guidelines* standards are performance oriented for desired results. Prescriptive measurements, where given, have been carefully considered relative to generally recognized standards and do not require detail specification. For example, experience has shown that it would be extremely difficult to design a patient bedroom smaller than the size suggested and have space for functions and procedures that are normally expected.

Authorities adopting the *Guidelines* standards should encourage design innovations and grant exceptions where the intent of the standards is met. These standards assume that appropriate architectural and engineering practice and compliance with applicable codes will be observed as part of normal professional service and require no separate detailed instructions.

In some facility areas or sections, it may be desirable to exceed the *Guidelines* standards for optimum function. For example, door widths for inpatient hospital rooms are noted as 3 feet 8 inches (1.11 meters), which satisfies most applicable codes, to permit passage of patient beds. However, wider widths of 3 feet 10 inches (1.16 meters) or even 4 feet (1.22 meters) may be desirable to reduce damage to doors and frames where frequent movement of beds and large equipment may occur. The decision to exceed the standards should be made by the individuals involved.

In many ways, the *Guidelines* may be considered a consensus document. There have been at least two national reviews by all interest groups, and by state and federal entities. While the *Guidelines* started as a federal document, the American Institute of Architects has made it a national document to improve the health of the nation.

This publication supersedes DHHS Publication Nol (HRS-M-HF) 84-1, DHEW Publication No. (HRA) 79-14500, DHEW Publication No. (HRA) 76-4000, the 1992-93 edition of the *Guidelines*.

Inquiries or questions on the *Guidelines* may be addressed to the following groups:

American Institute of Architects
Academy of Architecture for Health
1735 New York Avenue, N.W.
Washington, D.C. 20006

Health Resources and Services Administration
Division of Facilities Loans
5600 Fishers Lane, Room 11A-14
Rockville, Maryland 20857

Office of Engineering Services
Region II
Room 3309
26 Federal Plaza
New York, New York 10278

MAJOR ADDITIONS AND REVISIONS

To reflect the scope, content, and usage of this document, the previous title has been amended to *Guidelines for Design and Construction of Hospital and Health Care Facilities* for this 1996–97 edition.

The format and technical content, in general, follow the previous document, *Guidelines for Construction and Equipment of Hospital and Medical Facilities, 1992–93 Edition*. The exception to this is that elevators will always be section 30.B (i.e., 7.30.B, 8.30.B, 9.30.B, etc.); waste processing will be 30.C, HVAC 31.A through D, plumbing 31.E, electrical 32.A through F, nurses call 32.G, emergency electrical service 32.H, fire alarm system 32.J, and telecommunications 32.J. Appendix B has been eliminated. All significant changes are identified by a vertical line in the margin. An asterisk (*) preceding a number or letter designating a paragraph indicates explanatory material about that paragraph can be found in appendix A.

Many editorial changes were made to correct errors or inconsistencies or to clarify the intent. Listed below are major additions and revisions made to this edition of the *Guidelines*.

1. Infection control

Significant changes have been incorporated into these *Guidelines* with regard to infection control, types of isolation requirements, and ventilation. To every extent possible, these changes conform to the most current Centers for Disease Control and Prevention “Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health Care Facilities” and “Guidelines for Prevention of Nosocomial Pneumonia, 1994.” Three patient segregation categories have been identified:

- Airborne infection isolation room
- Protective environment room
- Immunosuppressed host in airborne infection isolation

A new process called “infection control risk assessment” is introduced to describe how an organization determines the risk for transmission of various infectious pathogens. This process is an essential component of any facility’s functional or master programming,

since there may be significant differences in population. This organizational committee should be a multidisciplinary panel with expertise in areas of infectious disease, facility design and construction, ventilation and epidemiology, etc. The purpose of this committee is to coordinate the individual infection control needs of the organization with the appropriate numbers and types of isolation rooms and procedure rooms. It is the intent of this process to allow flexibility in meeting individual organizational needs for creating a safer environment for patients, staff, and visitors.

Anteroom space in either airborne infection isolation or protective environment rooms is no longer required. Anterooms are recommended only for those organizations with patients who are both immunosuppressed and potential transmitters of airborne infection. Anterooms are also required in those facilities in which the infection control risk assessment dictates the need for special operating suites and delivery rooms.

Rooms with dual-purpose or switch-reversible airflow mechanisms that allow rooms to be switched between positive and negative pressure configurations are no longer acceptable.

2. Section 5.1, Construction Phasing, has been completely changed to reflect infectious hazards that may be encountered during health care facility planning, design, construction phasing, and commissioning, in addition to occupant safety and comfort.

3. Section 7.3.A.3. The minimum area permitted in renovation of existing critical care units has been increased from 120 square feet (11.15 square meters) to 130 square feet (12.09 square meters) for single-patient rooms (or cubicles) and from 100 square feet (9.29 square meters) to 110 square feet (10.23 square meters) per bed in multiple-bed space.

4. Sections 7.3.D.8 and 7.5.E, Examination and Treatment Rooms. Omitting these elements in pediatric critical care units and in pediatric and adolescent units is no longer permitted even if all patients are in private rooms.

5. Section 7.3.E.8. A new requirement has been added that each patient space in a newborn intensive care unit shall have a minimum of 100 square feet (9.29 square meters).

6. Section 7.6.C has been changed to require at least one airborne infection isolation room in the psychiatric unit.

7. Section 7.8.A2.a(3). Permission to continue in use existing three- or four-bed rooms in renovation projects has been deleted. All rooms must have two beds or fewer.

8. Section 7.9.D3. Triage areas in the emergency department must be designed and ventilated to reduce exposure of staff, patients, and families to airborne infectious diseases.

