

Review of Process and Use of:

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# Guidelines 2001

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Guidelines for Design & Construction of Hospital & Health  
Care Facilities

# AIA Health Facilities Guidelines

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## **Minimum Standards for:**

- **Program**
  - **Space**
  - **Equipment**

**In hospitals, nursing homes, outpatient, rehabilitation, psychiatric, mobile & long-term care facilities**

**Referenced by JCAHO, PHS & 40 states for licensure or accreditation, HUD 242 Hospital Mortgages & IHS**

# Federal Guidelines History

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- 1945 Hill-Burton Act
- 1947 General Standards of Construction for Hospitals
- 1958 General Standards of Construction and Equipment for Hospitals and Medical Facilities
- 1967 Private Sector Joins Committee
- 1973 Minimum Requirements of Construction and Equipment for Hospitals and Medical Facilities
- 1984 President Reagan terminates US publication; PHS invites AIA to continue with DHHS support.

# AIA Guidelines History

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- **1985**: AIA assumes responsibility for managing the revision process & publishing the document; organizes multidisciplinary consensus process.
- **1987**: Guidelines for Construction and Equipment of Hospital & Medical Facilities: (52 member committee)
- **1992-93** Edition: (62 member committee)
- **1996-97**: Guidelines for Design & Construction of Hospital & Health Care Facilities (82 member committee; **9 AHJs**)
- **1999**: 2001 Edition process started: (103 member committee; **23 AHJs**). FGI (Facilities Guidelines Institute) created as a not for profit entity to manage the Guidelines development process for AIA and the AAH. FGI Board comprised of the 2001 Guidelines steering committee.

# **HGRC**

## **Health Guidelines Revision Committee**

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**103 Members**

**14 person Steering Committee**

**2 Staff**

**88 were eligible to vote on the final ballot**

An invited group of multidisciplinary volunteers comprised of architects, engineers, designers, doctors, nurses & other clinicians, health care administrators, facility managers & engineers, infection control, fire safety & other construction, design & specialist consultants, JCAHO, ASHE & other industry associations, DHHS & other federal agencies + 23 state Authorities Having Jurisdiction (AHJs)

# HGRC

## Health Guidelines Revision Committee

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### Executive Committee

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# FGI

## Facility Guidelines Institute

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# Guidelines 2005

## Revision Process

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- 01 Jan 03
  - Call for Public Proposals for change
- 01 May 03
  - 1<sup>st</sup> Task Force Meeting (Washington, DC) discussed needed revisions
- 31 Jan 04
  - Task Force Sub-Committees develops proposals for changes
- 27 Apr 04
  - 2<sup>nd</sup> Task Force meeting; review of proposals
- 1 Nov 04
  - 1<sup>st</sup> Draft of proposed new edition published for comment
- 31 Jan 05
  - Deadline for Public comments on 1<sup>st</sup> Draft
- 28 June 05
  - 3<sup>rd</sup> Task Force Meeting; review of all comments and vote on comments and draft language
- 5 Sept 05
  - Final Draft published for Letter Ballot
- Jan 06
  - Guidelines 2001 available to the Public
  - Workshops series starts

# Chapter 1. Introduction

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In this edition appendix material appear in the main body of the document; However, it remains advisory only.

**New Format**

# Changes in this Edition

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All significant changes are identified by a vertical line in the margin adjacent to the changed text.

Sometimes a change may effect only a single word or phrase, or the deletion of a word or phrase, but it may be significant, nonetheless.

**FOR EXAMPLE:**

# 1.5 Disasters

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- In the 1996-97 Edition, text was changed to:

Where there is recognized potential for hurricanes, tornadoes, flooding, earthquakes, or other regional disasters...”

- from text of previous editions:

“Where there is a history of...”

# 1.1 General

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New text expresses goals of built health care environments, to support quality health care and enhance:

- patient dignity, privacy & confidentiality
- family accommodation
- technological flexibility & performance
- staff productivity & satisfaction
- patient and staff safety

# 1.1.A Minimum Standards

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- Should not be taken as maximums.
- Are written in code language for easy adoption.
- “*Shall*” is mandatory, if applied as such by AHJ.
- “*May*” or “*to the extent practical*” is permissive, but is a serious recommendation.

# 1.1.A. Appendix Material Is:

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- available wherever indicated by an asterisk (\*) preceding a paragraph;
- located at the bottom of each page on which an asterisk (\*) appears;
- numbered the same as the asterisked paragraph, preceded by an “A”;
- not considered part of the Guidelines for enforcement purposes;
- intended to be informative, advisory, a good practice recommendation, or
- included to ventilate and seek public comment about an issue.

# 1.1.F Functional Program 1

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- Key document furnished by the provider.
- A service, function, or space must meet specific Guidelines criteria “*if*” or “*as required by the functional program*”.
- Concept of an “*approved functional program*” establishes review & control by AHJs.

# 1.1.F Functional Program 2

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- Describes project purpose, goals & objectives, including:
  - **services & functions** to be provided as part of the proposed project;
  - a description of those services necessary for **complete operations of the facility** and how they shall be provided.
  - **projected demand or utilization**, including types and numbers of treatment procedures.
  - **staffing patterns**, occupant loads, numbers of staff, patients, residents, visitors, etc.

# 1.1.F.Functional Program 3

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- **internal & external relationships** & required circulation patterns of staff, patients, residents, and public, noting areas where circulation is a function of asepsis control;
- **circulation patterns** for equipment and clean/soiled materials;
- size and function of each space and any special design features;
- **descriptions** of building **service equipment** and fixed and movable equipment;
- future expansion plans.

# 1.1.F Functional Program 4

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- Program shall use the same names for spaces and departments as used in the Guidelines;
- Acronyms shall be clearly defined; and
- Program shall **be retained with other design data** (see Chapter 6), to facilitate future alterations, additions, and program changes.

# 1.1.F Functional Program 5

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- The Guidelines establish what a functional program does but
- The AHJ determines:
  - What a functional program is and:
  - Whether design and/or construction approvals based upon the approved functional program may be overridden by licensure surveyors
- Ask your AHJ what a functional program is and how it is used in your State.

# 1.2 Interpretations

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- A new formal process.
- Interpretations of specific standards:
  - will NOT review proposed designs
  - will NOT intercede in arguments with AHJs.
- Submit copy of form in Guidelines book.
- Ad hoc interpretation committee will respond IF it achieves consensus.
- Interpretations shall be advisory only.
- Ultimate interpreter is the AHJ

# 1.3 Renovation

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- Only affected areas need comply, but
- Reference to NFPA 101 raises issue of “major” vs. “minor”.
  - “Major” means installing sprinklers.
- Definitions vary per code and are:
  - inconsistent, and
  - Unclear
- Guidelines want new “in so far as practical”.
- AHJ must determine for each project.
- Intent is **NOT** to close existing facilities, or **stifle modernization**

# 1.5 Disasters

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## Infection & Biohazard Control

- Acute care facilities
- With emergency services
- **CAN** serve as:
  - receiving, triage and initial treatment centers in the event of nuclear, biological, or chemical (NBC) exposure.
- **WHEN** consistent with their:
  - functional program, and
  - disaster planning.
- Such facilities **SHALL** designate specific areas for these functions.

# 1.6.C Equivalency

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- Guidelines standards seek performance results and prescriptive areas & dimensions state recognized ways of achieving results under normal operation.
- **Per Appendix A1.6.C:**
  - Intent is to permit and promote equivalency concepts.
  - Equivalent solutions are **acceptable** if intent is met **without compromising safety** and nothing shall restrict innovations that provide equivalent performance in a manner other than prescribed, if no other safety element or system is compromised.
- The AHJ decides.

# Chapter 2.

## Environment of Care

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- Energy and Resource conservation carried forward from previous editions.
- New EOC considerations are being considered for Guidelines 2006:
  - Definitions: EOC & Quality (Chapters 1, 2, 8 and Glossary)
  - Flexibility & Commissioning (Chapter 5 and Appendix)
  - Patient privacy, movement, space, light & noise control, family accommodation & amenity in specific care settings (addressed throughout the document)
  - Assisted Toileting (Sections 1.3, 8.14.A7 & Appendix)
  - Single-bedded patient room standards almost adopted (In Appendix only, see A7.2.A1 & A7.8.A2a(3))

# Chapter 4. Equipment

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## **In Section 4.2.C1, Guidelines 2001 Added:**

- **Diagnostic** equipment to portable items list.
- **Special access** to planning considerations.
- Section 4.2.C1.c now requires production of **an equipment utility location drawing**, to locate all services required by movable equipment.

# Use by Other States

- Four Different Approaches:
  - Adopt the Guidelines by 100% reference
  - Adopt the Guidelines and the appendix by 100% reference
  - Adopt only certain chapters of the Guidelines
  - Don't adopt the Guidelines but use them as a reference

# Adopting Newer Editions of the Guidelines

- Legislation to automatically adopt the most recent version
- Rewrite the legislation to update to a newer version
- Retain an old version for as long as possible

# Guidelines Research

- Single vs Semi Private Room Study
- Usability of Guidelines
- Humidity in Nursing Facilities
- Windows in Patient Environments

**The Use of Single Patient Rooms  
versus Multiple Occupancy  
Rooms  
in Acute Care Environments**

# General Information

- Selected the Coalition for Health Environments Research (CHER)
- CHER sent RFPs to six research organizations
- Selected Gerontology Research Centre in Canada
- Report was received on schedule
- Presentation was made at ASHE PDC meeting in March

# Single vs. Double as a Minimum Level of Care

- Review and Analysis of Literature
  - Key Questions
    - Differences in first cost, operating cost, energy costs, and management efficiency
    - Advantages and disadvantages in disease control and fall prevention
    - Therapeutic impacts (socio-behavioral issues of patient privacy, social interaction and daily functioning)

# Literature Findings

Category	Room Occupancy	Issues & Findings
<u>COST</u>	Single-Occupancy Room	<ul style="list-style-type: none"> <li>▪ Operating costs ↓</li> <li>▪ First costs ↑</li> <li>▪ Occupancy rates ↑</li> <li>▪ Length of stay ↓</li> <li>▪ Medication errors &amp; costs ↓</li> </ul>
	Multi-Occupancy Room	<ul style="list-style-type: none"> <li>▪ Operating costs (inconclusive)</li> <li>▪ First costs ↓</li> <li>▪ Occupancy rates ↓</li> <li>▪ Length of stay ↑</li> <li>▪ Medication errors &amp; costs ↑</li> </ul>
<u>INFECTION CONTROL AND FALLS</u>	Single-Occupancy Room	<ul style="list-style-type: none"> <li>▪ Rate of nosocomial infection ↓</li> <li>▪ Patient transfers ↓</li> <li>▪ Patient length of stay ↓</li> <li>▪ Infections in burn patients ↓</li> <li>▪ HCV transmission between patients ↓</li> <li>▪ Transmission of hospital-acquired diarrhea ↓</li> <li>▪ Falls in patients requiring supervision ↑</li> <li>▪ Falls in elderly when provisions are taken ↓</li> </ul>
	Multi-Occupancy Room	<ul style="list-style-type: none"> <li>▪ Isolation for infected patients (inconclusive)</li> <li>▪ Infections when patients are transferred ↑</li> <li>▪ Transmission of hospital-acquired diarrhea ↑</li> <li>▪ Patient length of stay ↑</li> <li>▪ Access to bathrooms ↓</li> <li>▪ Falls in patients requiring supervision ↓</li> <li>▪ Falls in elderly when provisions are taken ↓</li> </ul>

# Literature Findings

Category	Room Occupancy	Issues & Findings
<u>HOSPITAL DESIGN &amp; THERAPEUTIC IMPACTS</u>	Single-Occupancy Room	<ul style="list-style-type: none"> <li>▪ Privacy ↑</li> <li>▪ Pain medication (inconclusive)</li> <li>▪ Patient consultation with physician (inconclusive)</li> <li>▪ Patient preference for room design (inconclusive)</li> <li>▪ Noise level ↓</li> <li>▪ Sleep disturbances ↓</li> <li>▪ Acuity-Adaptable rooms (inconclusive)</li> <li>▪ Patient satisfaction ↑</li> <li>▪ Patient control ↑</li> <li>▪ Crowding ↑</li> <li>▪ Stress reduction through music ↑</li> </ul>
	Multi-Occupancy Room	<ul style="list-style-type: none"> <li>▪ Privacy ↓</li> <li>▪ Pain medication (inconclusive)</li> <li>▪ Patient consultation with physician (inconclusive)</li> <li>▪ Patient preference for room design (inconclusive)</li> <li>▪ Benefit of roommates (inconclusive)</li> <li>▪ Noise level ↑</li> <li>▪ Sleep disturbances ↑</li> <li>▪ Patient satisfaction ↓</li> <li>▪ Patient control ↓</li> <li>▪ Crowding ↑</li> <li>▪ Stress reduction through music ↓</li> </ul>

# Structured Interviews

- Swedish Medical Center - First Hill
- Evergreen Hospital Medical Center
- University of Washington Medical Center
- Providence Portland Medical Center

# Issues for Future Research

- Results generally support the positive aspects of single rooms from a patient care perspective.
- Limitations of this study include
  - limited sample size and
  - limited data on operating costs.
- Future studies need to examine carefully the implications for operating costs of the positive assessments of patient care issues associated with single rooms.

# Issues for Future Research

- Examine the effects of design of:
  - patient rooms and nursing units,
  - staffing,
  - care procedures and practices on operating costs.

# Issues for Future Research

- Although cost of construction is an important factor in the consideration of single versus multi-occupancy rooms, room area and design of patient rooms, nursing unit configurations, etc., it is relatively insignificant over the lifetime of the building.

# Issues for Future Research

- Eventually, the operating costs become the truly relevant factors in terms of seeking out efficient and meaningful strategies in design, staffing and care delivery that can positively impact cost containment and reduction.

# Future Research

- FGI is looking at entering into a Phase II with CHER to answer many of the questions raised by this initial report.
- Input from HGRC.

# 2006 Edition Considerations

- General Considerations
  - Disaster planning
  - Energy/LEED issues
  - HIPAA vs. Guidelines
  - ICRA
  - Therapeutic environments
  - Water systems design

# 2006 Edition Considerations

- General Considerations
  - Glossary
  - Anterooms for Isolation Room
  - Ceilings and surfaces (in ORs, etc.)
  - Decontamination/critical access and freestanding ED
  - Emerging technologies
  - Endoscopy and lab ventilation

# 2006 Edition Considerations

- General Considerations
  - Impact of increased family involvement
  - NICU/nursery
  - Pediatrics
  - Radiologic vascular interventions
  - Receiving/waste and materials management
  - Size/clearance in ICU/CCU/NICU and ED

# 2006 Edition Considerations

- General Considerations
  - Staff accommodations/support facilities
  - Variable acuity
  - Ventilation
  - Inpatient primary care facilities

## 2006 Edition Considerations

- Nursing Facilities (Nursing Homes)
  - Single-room occupancy
  - Resident room windows
  - Resident room furnishings
  - Subacute care facilities
  - Air changes in resident care areas

# 2006 Edition Considerations

- Ambulatory/Outpatient Facilities
  - Mechanical standards
  - Endoscopy suites
  - Office surgery (NEW 9.11)
  - PACU requirements
  - Storage dimensions (9.5.F5.h)

# 2006 Edition Considerations

- Other Special Workgroups
  - Psychiatric hospitals
  - Hospice
  - Assisted living
  - Adult day care