



# The State of Minnesota and the FGI

Bob Dehler, P.E., Engineering Program Manager

MHCEA, 2019



## The State of Minnesota and the FGI

- State of Minnesota and the FGI
  - What we have seen in proposals in the past
  - Common questions
- What is the FGI?
- An architect's perspective on the FGI

# Where Are We Now?

- Started discussing adopting the FGI in 2016
- Currently enforce 1955 hospital rules
- Just follow rules, you are building a new 1955 hospital
- Most hospitals, designers and accrediting organizations use FGI
- Not a big move for the state. Moving our requirements to what is already being done
- We are not getting more staff so plan reviews will not be much different when the FGI is adopted
- Do not design to the baseline. Design to patient need and safety then check to baseline standards

# Previous Proposals at Legislature

- Hospitals shall meet the applicable provisions of the most current edition of the Facility Guidelines Institute (FGI) ‘Guidelines for Design and Construction of Hospitals’
  - Evergreen clause
  - Keeps current, not 65 years old

# Previous Proposals at Legislature

- The Department of Health shall determine the date of mandatory usage of the newest published edition of the Guidelines
  - 3 months, 6 months?

## Previous Proposals at Legislature

- Where the FGI and federal requirements directly conflict, the federal requirements shall apply
  - Think sprinklers in elevator shafts
  - This would remove the requirement for waivers when there is a direct conflict
  - Saves your time to write the request and engineering to write the waiver

# Previous Proposals at Legislature

- Minnesota Rules 4640.1500 – 4640.6400 and 4645.0200 – 4645.5200 shall be repealed
  - Because we are adopting new construction standards, we would repeal the old rules that described the physical environment requirements for hospitals



# Previous Proposals at Legislature

- The existing waiver provision was in statute. MDH will create a FGI ‘Waiver Form’ to make the process easier and to allow innovation
  - Discussed at plan review
  - Signed by administrator

# Wait a minute, what about...?

- I thought the FGI are created as guidelines and not to be a code requirement
  - AHJ's are part of FGI
  - FGI written as enforceable code

# Wait a minute, what about...?

- We cannot afford to remodel our hospital every 4 years when new editions of the FGI are published
  - Only for new construction

# Wait a minute, what about...?

- We are fine without them. Why add another code set to enforce in Minnesota? We do not need another code
  - Already used by owners and designers
  - Replaces rules

# Wait a minute, what about...?

- There are things in the FGI that I do not agree with and if we adopt the FGI as a state, then we will be stuck with that
  - Waiver
  - Be part of the change, participate in the FGI revision process

# Thank you.

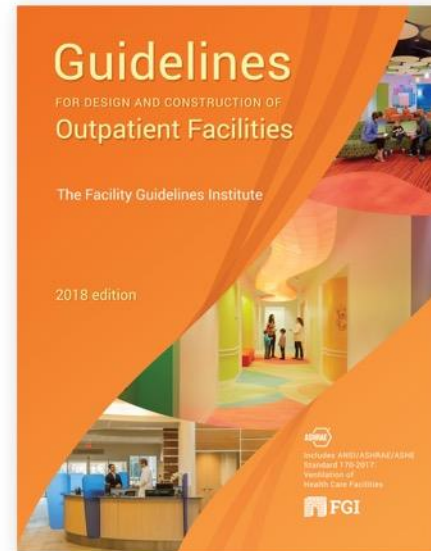
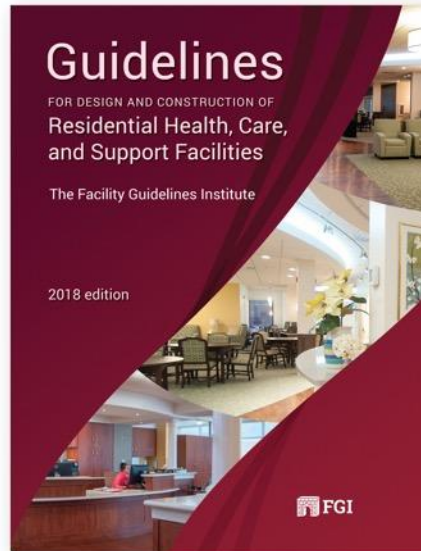
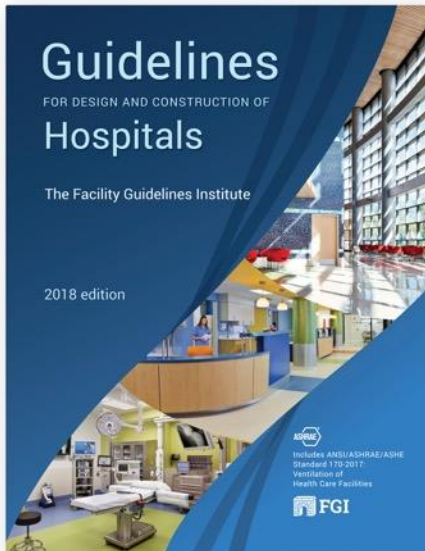
Bob Dehler, Engineering Program Manager  
[robert.dehler@state.mn.us](mailto:robert.dehler@state.mn.us), 651-201-3710

# Presentation for the Minnesota Healthcare Engineering Association





# FGI and the Hospital, Outpatient and Residential Guidelines



**FACILITY GUIDELINES INSTITUTE**

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The views and opinions expressed in this presentation are the opinion of the speaker and may not be the official position of FGI or the Health Guidelines Revision Committee.

# Today's objective is...

- Provide a basic understanding of the *Guidelines* process



# Who is FGI?

## Consumer Reports



We view ourselves as the *Consumer Reports* of the health care physical environment.

We have a similar view and mission...

*Consumer Reports* is an **expert, independent, nonprofit** organization whose mission is to work for a fair, just marketplace for all consumers and to empower consumers to protect themselves.



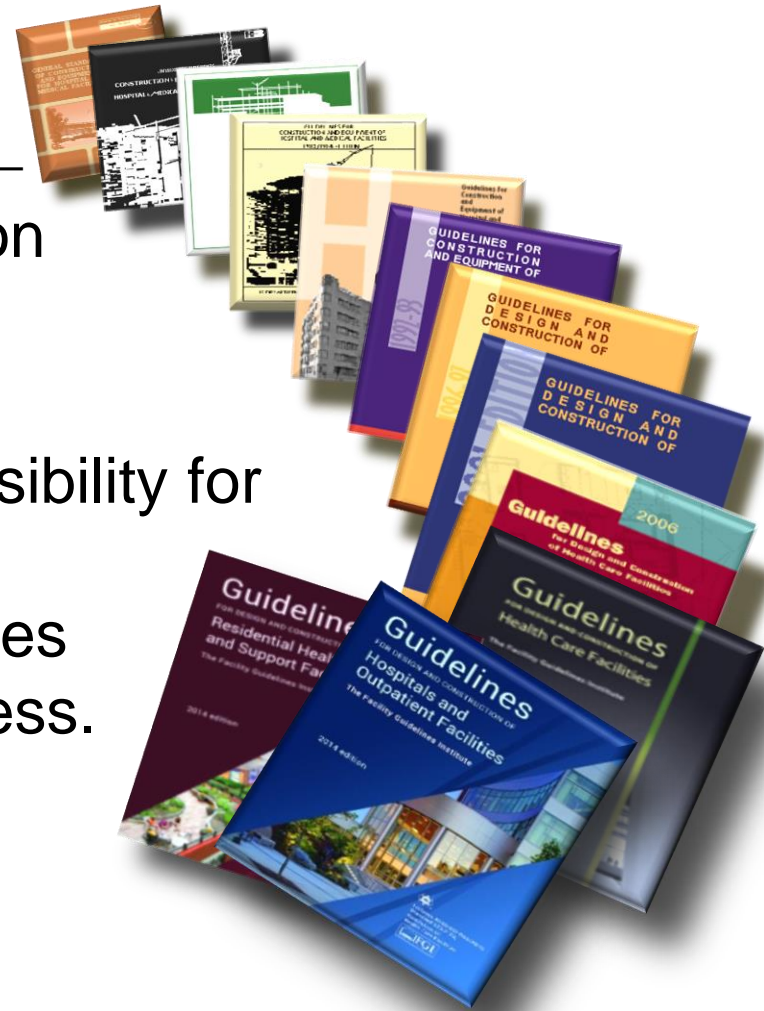
**Patient and staff safety  
is a guiding principal  
of the FGI *Guidelines!***



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# Guidelines History

- 1947: First Guidelines Published – General Standards of Construction for Hospitals
- 1985: AIA-AAH assumes responsibility for managing the revision process & publishing the document; organizes multidisciplinary consensus process.
- 2001, 2006, 2010, 2014 and 2018 Editions developed by FGI







# National Committee of Experts



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# Who from Minnesota is involved in development of the 2022 Guidelines?

- Rebecca Lewis
- Bob Dehler
- Rick Hermans
- Karen Finneman Killinger
- Ryan Turner



# FGI Participating Organizations

- ACHA
- AIA-AAH
- ASHE
- ACHE
- AHRQ
- AORN
- ASHRAE
- ACS
- CHD
- NIH
- CDC
- TJC
- CMS





# 2022 HGRC

## 130+ Multidisciplinary Committee

- 20% - Architects
- 18% - Medical professionals
- 16% - State AHJs
- 13% - Engineers
- 10% - HC administrators/HC org. reps
- 8% - Federal AHJs (IHS, CMS, HUD, VA)
- 7% - Infection control experts + NIH/CDC
- 4% - Construction professionals
- 4% - Interior designers



# FGI Process Overview

Consensus-based process for *Guidelines* development using:

- Collective multidisciplinary experience
- Professional stakeholder consensus, including many AHJs (*no manufacturers vote on proposals*)
- Public review process
- Clinical and evidence-based research
- Continual improvement process



Every new edition of the FGI *Guidelines* is different and an “evolution” from previous editions.

# Driving Principles

- Minimum/Baseline/Fundamental
- Where possible – advised by evidence
- Addresses national patient safety goals
- Written to be adopted as a standard
- No duplication of other standards
- Manufacturers cannot be members of the Health Guidelines Revision Committee
- Evaluated by a Benefit/Cost Committee



# Defining differences of the *Guidelines*!



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# Functional Program

- Owner driven
- Critical thinking and outcome driven
- Provision of executive summary
- Used by health care organization; updated accordingly
- Informs the physical space program
- Used by AHJ to evaluate design documents



# Acoustic Requirements

*“Unnecessary noise is the cruelest absence of care”*

Florence Nightingale

## The Six Key Topics

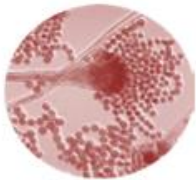
1. Site Exterior Noise
2. Acoustical Finishes and Details
3. Room Noise Levels
4. Sound Isolation & Speech Privacy
5. Electro-acoustics—Alarms, Sound Masking
6. Vibration



# Elements of the SRA

- Falls (including noise causing poor sleep)
- Medication errors (noise and distraction)
- Behavioral health (noise reduction impact)
- Hospital-acquired infections
- Security
- Patient handling and movement
- Patient immobility (hospital only)

Infection  
Control



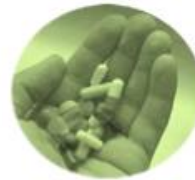
Patient  
Handling



Falls



Medication  
Safety



Behavioral  
Health



Security



# 2018 Guidelines

- Split the standard into two parts:
  - Fundamental requirements – Minimum/baseline standards that can be adopted as code by AHJs.
  - Beyond Fundamentals – Emerging and/or best practices that exceed basic requirements
- Focus on primary care/outpatient facilities as the trend in health care delivery is continuing to move in that direction

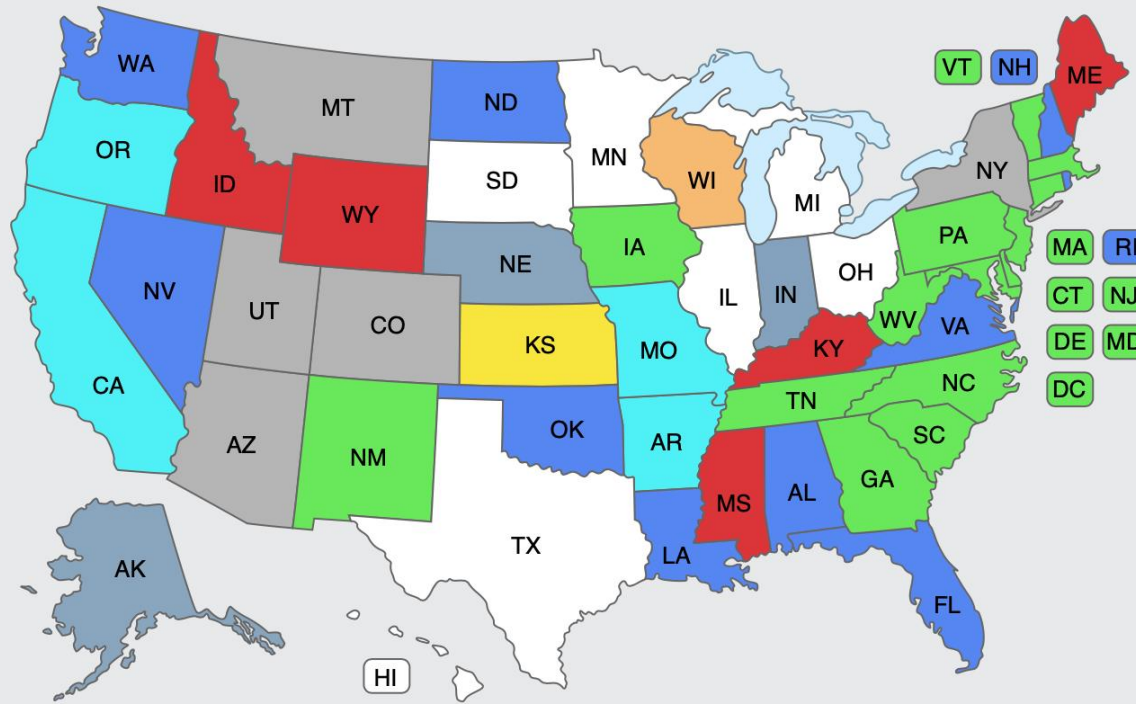




# What States use the *Guidelines* and what edition have they adopted?



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**Other Regulatory Applications of the FGI Guidelines**

**Centers for Medicare and Medicaid Services.** CMS has adopted by regulation the 2012 editions of the National Fire Protection Association (NFPA) 101: *Life Safety Code* and NFPA 99: *Health Care Facilities Code*. Otherwise, CMS regulation 482.41 requires hospitals to be constructed, arranged, and maintained to ensure the safety of the patient and to provide facilities for diagnosis and treatment of medical services appropriate to the needs of the community. To achieve this, CMS requires facilities to be in

**KEY**

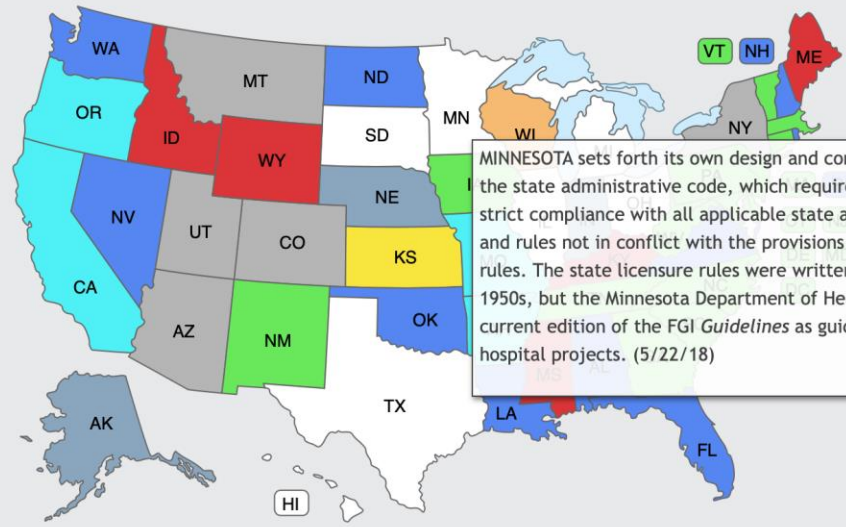
2018	Green
2014	Blue
2010	Grey
2006	Red
2001	Light Blue
1996-97	Yellow
Equivalency*	Cyan
HVAC only	Orange

\*Guidelines may be applied as an equivalency to state rules.



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State Adoption of the FGI Guidelines - FGI



MINNESOTA sets forth its own design and construction hospital rules in the state administrative code, which requires all construction to be in strict compliance with all applicable state and local codes, ordinances, and rules not in conflict with the provisions in the administrative code rules. The state licensure rules were written and promulgated in the 1950s, but the Minnesota Department of Health generally uses the current edition of the FGI Guidelines as guidance for plan reviews for hospital projects. (5/22/18)

**Other Regulatory Applications of the FGI Guidelines**

**Centers for Medicare and Medicaid Services.** CMS has adopted by regulation the 2012 editions of the National Fire Protection Association (NFPA) 101: *Life Safety Code* and NFPA 99: *Health Care Facilities Code*. Otherwise, CMS regulation 482.41 requires hospitals to be constructed, arranged, and maintained to ensure the safety of the patient, and to provide facilities for diagnosis and treatment and for special hospital services appropriate to the needs of the community. To achieve this, CMS requires facilities to be in accordance with acceptable standards of practice, but leaves it up to the health care organization to determine which design standard to utilize.

**KEY**

2018	
2014	
2010	
2006	
2001	
1996-97	
Equivalency*	
HVAC only	

\*Guidelines may be applied as an equivalency to state rules.



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# State Adoption of 2018 *Guidelines*

## Currently referencing 2018

- Georgia
- North Carolina
- West Virginia
- Pennsylvania
- New Jersey
- New Mexico
- Connecticut
- Delaware
- District of Columbia
- Iowa
- Massachusetts
- Tennessee
- Vermont
- Maryland

## Adopting 2018 in 2019

- Florida
- Oregon
- Nebraska
- Michigan
- Nevada
- Washington
- Indiana
- New York

# **FGI website: a way to keep current with FGI and *Guidelines* activities**



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# FGI Resources

CONTACT FAQ



## FACILITY GUIDELINES INSTITUTE

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About FGI   Revision Process   Guidelines   Resources   News & Updates

### RESOURCES

Most of the research and knowledge we gather for each FGI Guidelines edition is incorporated into the documents. And some of it is published in papers and reports that can help you go beyond fundamentals to make reliable, longer-lasting decisions.

Search by:

#### 2014 FGI Guidelines Update Series

- Updated Acoustic Criteria Address Noise Issue: FGI Guidelines 2014 Update Series #5
- Operating Room Requirements for 2014 and Beyond
- Medication Safety Zones

#### Beyond Fundamentals

- Design Guide for the Built Environment of Behavioral Health Facilities
- Beyond Fundamentals
- Sound Vibration Design Guidelines Sound & Vibration: Design Guidelines for Health Care Facilities

#### Education

- ASHÉ e-Learning Programs
- FGI Webinars
- 2014 FGI Guidelines program

#### FGI White Papers

- Common Mistakes in Designing Psychiatric Hospitals: An Update
- The Future of Health Care as Predicted Using Scenario Planning

#### FGI-Supported Research

- Designing for Patient Safety: Developing Methods to Integrate Patient Safety Concerns in the Design Process
- Current Views of Health Care Design and Construction: Practical Implications for Safer, Cleaner Environments
- Contribution of the Designed Environment to Fall Risk in Hospitals

#### Other Resources

- Room Ventilation and Airborne Disease Transmission
- Environment of Care and Health Care-Associated Infections



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# Errata

## Errata for the 2018 *Guidelines for Design and Construction of Hospitals*

### Content Corrections

PAGE	SECTION	ERROR	CORRECTED TEXT
53	Table 1.2-6	<p><sup>2</sup>In cases where greater speech privacy is required between patient <del>care</del> rooms when both room doors....</p> <p><sup>4</sup>This is the performance required...</p>	<p><sup>2</sup>This is the performance required</p> <p><sup>4</sup>In cases where greater speech privacy is required between patient rooms when both patient <u>patient</u> room doors...</p>
67	2.1-1	<p><b>2.1-1 General</b></p> <p>...</p>	<p><b>2.1-1 General</b></p> <p>...</p> <p><a href="#">2.1-1.1.4 Outpatient projects located in hospitals shall meet the requirements of the FGI Guidelines for Design and Construction of Outpatient Facilities.</a></p>
132	Table 2.1-2 Nurse Call Devices	<p><b>Procedure room/Class 2 imaging room</b> Required stations: <del>Bath</del>, Staff assistance Optional station: <del>Emergency call</del></p> <p><b>Operating room/Class 3 imaging room</b> Required stations: <del>Bath</del>, Staff assistance</p> <p><b>Electroconvulsive therapy treatment room/pre-procedure and recovery patient care stations</b> Required stations: <del>Bath</del>, Staff assistance</p>	<p><b>Procedure room/Class 2 imaging room</b> Required stations: Staff assistance, <a href="#">Emergency call</a> Optional station: <a href="#">Nurse master</a></p> <p><b>Operating room/Class 3 imaging room</b> Required stations: Staff assistance, <a href="#">Emergency call</a></p> <p><b>Electroconvulsive therapy treatment room/pre-procedure and recovery patient care stations</b> Required stations: Staff assistance, <a href="#">Emergency call</a></p>
133	Table 2.1-3 Station Outlets	<p><b>Class 1 imaging room</b> 1 oxygen, 1 vacuum, <del>1 medical air</del></p> <p><b>Operating room/Class 3 imaging room</b> 2 oxygen, 5 vacuum, 1 medical air, 1 WAGD, <del>1 instrument air</del></p>	<p><b>Class 1 imaging room</b> 1 oxygen, 1 vacuum</p> <p><b>Operating room/Class 3 imaging room</b> 2 oxygen, 5 vacuum, 1 medical air, 1 WAGD</p>
152	2.2-2.8.2	<p><b>2.2-2.8.2 NICU Rooms and Areas</b></p> <p>...</p>	<p><b>2.2-2.8.2 NICU Rooms and Areas</b></p> <p>...</p> <p><a href="#">2.2-2.8.2.6 Reserved</a></p> <p><a href="#">2.2-2.8.2.7 Nurse call system. A nurse call system shall be provided in accordance with Section 2.1-8.5.1 (Call Systems).</a></p>

continued



# FGI Bulletin

## FGI Bulletin #7



May 16, 2018 | Category **FGI BULLETIN**

### Errata Sheets Posted for 2018 Hospital and Outpatient Guidelines

The errata sheets prepared for all *Guidelines* editions are crucial to users of the documents. An errata sheet presents items that are errors in the published books, whether editorial oversights or discrepancies that were revealed after publication. The corrections shown in the errata sheets are considered part of the official documents and should be applied as part of the standards by all users, including authorities having jurisdiction.

Dated [errata sheets](#) are posted on the FGI website, and we recommend checking back periodically to make sure you have the most current version. We also will continue to let subscribers to the *FGI Bulletin* know when new errata sheets are posted. For the 2018 digital documents available on MADCAD, the goal is to identify corrections in the online version of the documents.

We appreciate hearing from *Guidelines* users who have questions about the content they use. This is often how errors are found. Write to us at [info@fgiguidelines.org](mailto:info@fgiguidelines.org).

### State Adoption Focus: Colorado



The State of Colorado recently adopted Chapter 4.1, Specific Requirements for Assisted Living Facilities, in the 2018 *Guidelines for Design and Construction of Residential Health, Care, and Support Facilities*. Adoption of the assisted living facility standards includes applicable cross-references found in the chapter. Exceptions to the *Guidelines* requirements are parking and elevator standards, which defer to local regulations.

For assisted living residences applying for a new license, application of



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# FGI Interpretations

## Health Guidelines Revision Committee

A committee of the Facility Guidelines Institute

[www.fgiguidelines.org](http://www.fgiguidelines.org)  
info@fgiguidelines.org

David B. Uhaez, RA  
Chair

Douglas S. Erickson, FASHE, CHFM, HFDP, CHC  
Facility Guidelines Institute  
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Byron Burlingame, MS, RN, CNOR  
ACRN

Christine Carr, MD, FACHEP  
Medical University of South Carolina

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Richard D. Hermans, PE, HFDP  
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Bryan Langlands, AIA, AIA, EDAC, LEED  
NBBJ

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DSGW Architects

Charles S. Maggio, AIA, NCARB  
CBRE | Healthcare

Jane M. Rohde, AIA, FIDA, ACHA, AHID  
JSR Associates

Wade Rudolph, CBET, CHFM  
Mayo Clinic Health Systems Franciscan Healthcare

D. Paul Shackelford, Jr., MD, FACHEP  
Vander Medical Center

Dana E. Swenson, PE, MBA  
UMass Memorial Health Care System

Ellen Taylor, PhD, AIA, MBA, EDAC  
Center for Health Design

Kristen Waltz, AIA, EDAC, ACHA  
Steffian Bradley Architects

John L. Williams  
Washington State Department of Health

Paola Wright, RN, CIC  
Massachusetts General Hospital

Heather S. Livingston  
Director of Operations/Managing Editor, FGI

Yvonne Charrell  
Associate Editor, FGI

Pamela James Blumgart  
Consulting Editor, FGI

Chris Erickson  
Administrative Manager, FGI

July 11, 2018

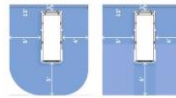
Richard Horeis, AIA  
HDR, Inc.  
Omaha, NE

Dear Mr. Horeis:

This letter is provided in response to your request for an interpretation of Section 2.2-2.6.2.2 (2) in the 2014 FGI Hospital/Outpatient *Guidelines*.

**Question:** In Section 2.2-2.6.2.2 (2), regarding clearances for critical care patient care stations, does the 5-foot clearance requirement at the foot of the bed only require clearance for the width of the bed itself, or is the clearance to be extended to include transfer side width (5 feet) and non-transfer side width (4 feet), such that the width of the clearance at the foot of the bed totals 14 feet?

**Response:** The clearance requirement at the foot of the bed is intended to create sufficient space for care of the patient. Space is needed around the corners of the bed to allow access and movement for equipment, staff, and family members. Staff must be able to easily move around the bed. As well, space is needed for IV and pain management systems, warmers, etc., and for use of patient lifts and gurneys. To accommodate these needs, the full dimension at the foot needs to be as wide as the clearances on the sides of the bed; however, the squared-off space this creates could be rounded off to accommodate structural or other non-movable encroachments. This response applies to all places in the *Guidelines* where clearance requirements are provided. The diagrams below may help clarify this response.

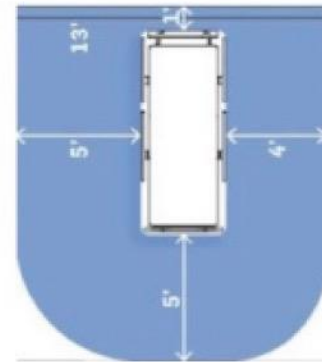


Radius Full area

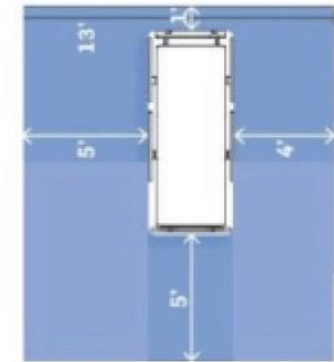
This correspondence is neither intended, nor should it be relied upon, to provide professional consultation or services.

Sincerely,

Douglas S. Erickson, FASHE, CHFM, HFDP, CHC  
Chair, HGRIC Interpretations Committee  
314-800-7896  
doug@fgiguidelines.org



Radius



Full area

# FGI Policy Statement Invasive vs Noninvasive



**Advisory Opinion**  
 FGI Guidelines for Design and Construction Documents for  
 Hospitals and Outpatient Facilities

## Applying the FGI Guidelines to Spaces Where Invasive vs. Noninvasive Patient Care is Delivered

Each year, the Facility Guidelines Institute (FGI) receives numerous inquiries from designers, infection preventionists, and other clinical staff looking for guidance on where patient procedures can and cannot be performed in hospitals and outpatient facilities. Although FGI continues to strengthen our standards for new construction and renovation of areas where patient care is provided, the question of where patient procedures can be performed is not one the *Guidelines for Design and Construction* can precisely answer, as is the *Guidelines* language written with this intent.

The *Guidelines* requires health care organizations to perform a functional program and a safety risk assessment during the planning and design phases of every project. One of the primary objectives of conducting these owner-driven assessments is to actively engage clinicians, infection preventionists, and other care providers in the design process. The assessments challenge the project team, which includes clinical staff and designers, to consider how the built environment will support the organization's allocation of space for invasive and non-invasive procedures. In particular, the infection control risk assessment portion of the safety risk assessment is essential to assure the new or renovated space will support infection prevention practices.

Using the *Guidelines* to determine design requirements for the types of procedures planned for a new or renovated space can be daunting. Depending on the procedure types, different floor/wall/ceiling surfaces, air exchange rates, and clearances as well as different locations for hand-washing or scrub stations and variable numbers of medical gas outlets may be required. To help decision-makers identify which spaces need which special physical environment features, the *Guidelines* provides a limited glossary definition of "invasive procedures" and, in the 2018 Hospital and Outpatient *Guidelines* documents, a table (right)

**Table 2.2.1**  
 Examination/Treatment, Procedure, and Operating Room Classification<sup>1</sup>

Room Use	Room Type	Location	Design Requirements <sup>2</sup>	Surface
Examination/Treatment room	Unrestricted area	Adjacent to an unrestricted area	Fluorescent/fluorescent and non-ventilated for the location, stable, fire, and fire resistant	Non-porous, smooth, washable, and resistant to disinfectants
Procedure room	Controlled area	Adjacent to an unrestricted area	Fluorescent/fluorescent and non-ventilated for the location, stable, fire, and fire resistant	Non-porous, smooth, washable, and resistant to disinfectants
Operating room	Controlled area	Adjacent to an unrestricted area	Fluorescent/fluorescent and non-ventilated for the location, stable, fire, and fire resistant	Non-porous, smooth, washable, and resistant to disinfectants

<sup>1</sup>This table includes a brief description of what clinical care is performed in these room types and a summary of some applicable requirements that appear elsewhere in the 2018 *Guidelines for Design and Construction of Hospitals*. The table has been provided to help users determine where an examination/treatment, procedure, or operating room is required for a project. "Unrestricted area," "treatment room," "procedure room," and "operating room" are defined in the glossary.

<sup>2</sup>Other design requirements that apply to these room types include, but are not limited to, ventilation, lighting, and sound transmission requirements. See Section 2.4.4.3 (Lighting for open-plan locations in the hospital) and Section 2.4.4.3 (Sound transmission requirements). See Section 2.4.4.3 (Lighting for open-plan locations in the hospital) and Section 2.4.4.3 (Sound transmission requirements).

<sup>3</sup>"Procedure room" is defined in the glossary.

[www.fgiguideelines.org](http://www.fgiguideelines.org)

that lists some basic procedures performed in examination/treatment, procedure, and operating rooms (this list is not exhaustive).

On one end of the spectrum is the operating room (OR) environment, which is classified as a "restricted area" and needs the maximum environmental control requirements. At the other end is the examination room or emergency department treatment room, where diagnoses and simple treatments are provided. Between these two room types is the procedure room, which is the space type most likely to present a conundrum to design teams and health care organization leaders—how should these rooms be classified and designed? The tricky part is determining when an OR may be required for procedures that otherwise could be safely performed in a procedure room. The 2018 table states that any procedure during which the patient will require physiological monitoring and is anticipated to require active life support must be done in an OR. "Active life support" was intended to mean that a machine is providing basic respiratory or circulatory functions (the patient is unable to either breathe and/or circulate blood on their own or unable to do so sufficiently to preclude physiologic damage). Respiratory assistance with general anesthesia or mechanical ventilation are examples of what the Health Guidelines Revision Committee intended by "active life support."

In the 2018 *Guidelines for Design and Construction of Hospitals and Guidelines for Design and Construction of Outpatient Facilities*, a new imaging room classification system was introduced to help designers and clinicians

determine what room types are needed for a new imaging facility. The imaging classes correspond with the exam/treatment, procedure, and operating room: Class 1 imaging room for diagnostic procedures, Class 2 imaging room for minimally invasive procedures, and Class 3 imaging rooms, which are ORs with mobile or built-in imaging equipment (the latter is defined as a hybrid OR, for invasive procedures (i.e., surgery). Like the conundrum of the procedure room described above, the distinction between a Class 2 and a Class 3 imaging room is needed in the most difficult to determine. The 2018 edition also includes a table (right) to help users understand the differences between these imaging room types.

While guidance is provided in the *Guidelines* for newly

**Table 2.2.2**  
 Classification of Room Types for Imaging Services<sup>1</sup>

Room Use	Room Type	Location	Design Requirements <sup>2</sup>	Surface
Class 1 imaging room	Unrestricted area	Adjacent to an unrestricted area	Fluorescent/fluorescent and non-ventilated for the location, stable, fire, and fire resistant	Non-porous, smooth, washable, and resistant to disinfectants
Class 2 imaging room	Controlled area	Adjacent to an unrestricted area	Fluorescent/fluorescent and non-ventilated for the location, stable, fire, and fire resistant	Non-porous, smooth, washable, and resistant to disinfectants
Class 3 imaging room	Controlled area	Adjacent to an unrestricted area	Fluorescent/fluorescent and non-ventilated for the location, stable, fire, and fire resistant	Non-porous, smooth, washable, and resistant to disinfectants

<sup>1</sup>This table includes a brief description of the imaging services performed in these room types and a summary of some applicable requirements that appear elsewhere in the 2018 *Guidelines for Design and Construction of Hospitals*. The table has been provided to help users determine when a Class 1, Class 2, or Class 3 imaging room is required for a project.

<sup>2</sup>Other design requirements that apply to these imaging room types include, but are not limited to, ventilation, lighting, and sound transmission requirements. See Part 2.4.4.3 (Lighting for open-plan locations in the hospital) and Section 2.4.4.3 (Sound transmission requirements). See Part 2.4.4.3 (Lighting for open-plan locations in the hospital) and Section 2.4.4.3 (Sound transmission requirements).

<sup>3</sup>"Procedure room" is defined in the glossary.

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# Be a part of the *Guidelines* success – get involved!

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## Sign up

You must register to create an account that will allow you to access the FGI proposal platform. Please choose a login name and password that you will find easy to remember.

[Register Now!](#)

## An Invitation to the 2022 *Guidelines* Revision Cycle Proposal Period

(The proposal period will close on July 1, 2019, 4:00 am)

**BACKGROUND:** The FGI *Guidelines* documents provide fundamental, or baseline, requirements for the design and construction of included facility types, recommending minimum program, space, and equipment needs for clinical and support areas of hospitals, numerous outpatient facility types, and rehabilitation facilities as well as nursing homes, assisted living facilities, hospice facilities, independent living settings, adult day care facilities, and wellness centers. The documents also address minimum engineering design criteria for plumbing, electrical, and heating, ventilation, and air-conditioning (HVAC) systems. The Joint Commission, many federal agencies, and state authorities having jurisdiction use the *Guidelines* either as a code or a reference standard when reviewing, approving, and financing facility project plans; surveying, licensing, certifying, or accrediting newly constructed facilities; or developing their own codes.



The keystone to health care planning, design, and construction

# 2018 *Guidelines*



An overview of major topics that were addressed and changes in the 2018 *Guidelines*.



The keystone to health care planning, design, and construction

# 2018 Hospital and Outpatient Guidelines Major Topics Addressed

- Design of Telemedicine Services
- Emergency preparedness
- Design/clearances to accommodate patients of size
- Pre- and post-procedure patient care areas – flexibility to combine areas and correct ratios
- Procedure and operating room sizes that reflect space requirements for anesthesia team and equipment
- Classification system for imaging rooms



## 2018 Hospital Guidelines Other Notable Changes

- Single-bed CCU rooms
- Sexual assault forensic exam room
- Geriatric treatment room in ED
- Technology distribution room size



# 2018 Hospital and Outpatient Guidelines Major Topics Addressed

- Guidance for when exam/treatment, procedure, and operating rooms are needed
  - Clearances and spatial relationships
  - Locations for procedure types
- Mobile/transportable medical unit revisions





## 2018 Residential Guidelines Major Topics Being Addressed

- Updated acoustic and lighting requirements
- Grab bar configurations
- New chapter on facilities for individuals with intellectual and/or developmental disabilities
- New chapter on long-term residential substance abuse treatment facilities







# Minnesota perspective continued

Rebecca Lewis, FACHA, FAIA, CID  
Principal, Director of Healthcare Design  
DSGW Architects

# FGI Disclaimer

*The views and opinions expressed in this presentation are the opinion of the speaker and not the official position of the HGRC or FGI.*

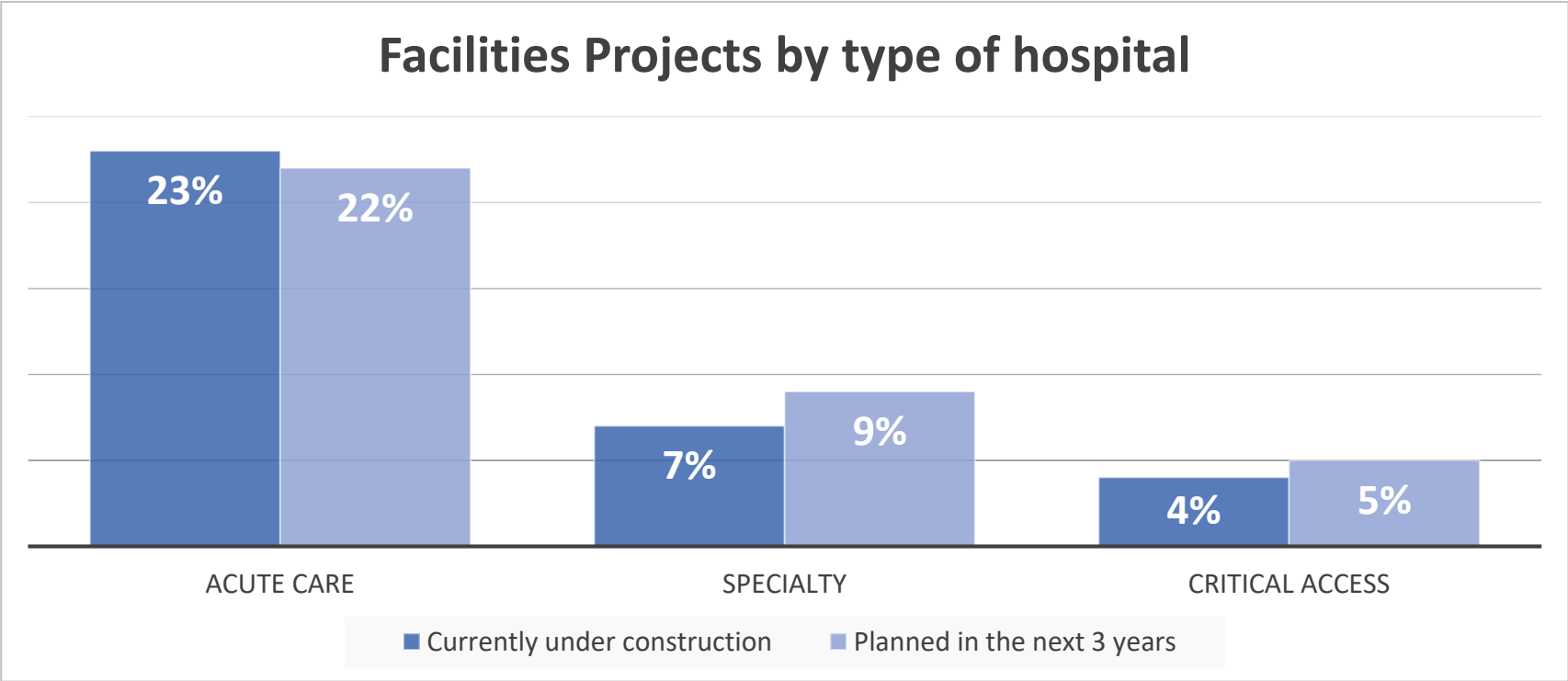
# Agenda

1. General overview of medical construction (U.S., Minnesota and
2. Rural healthcare challenges
3. How does the *Guidelines* support rural healthcare?
4. An architect's perspective of the *Guidelines*

# An architect's perspective on the *Facilities Guidelines Institute*

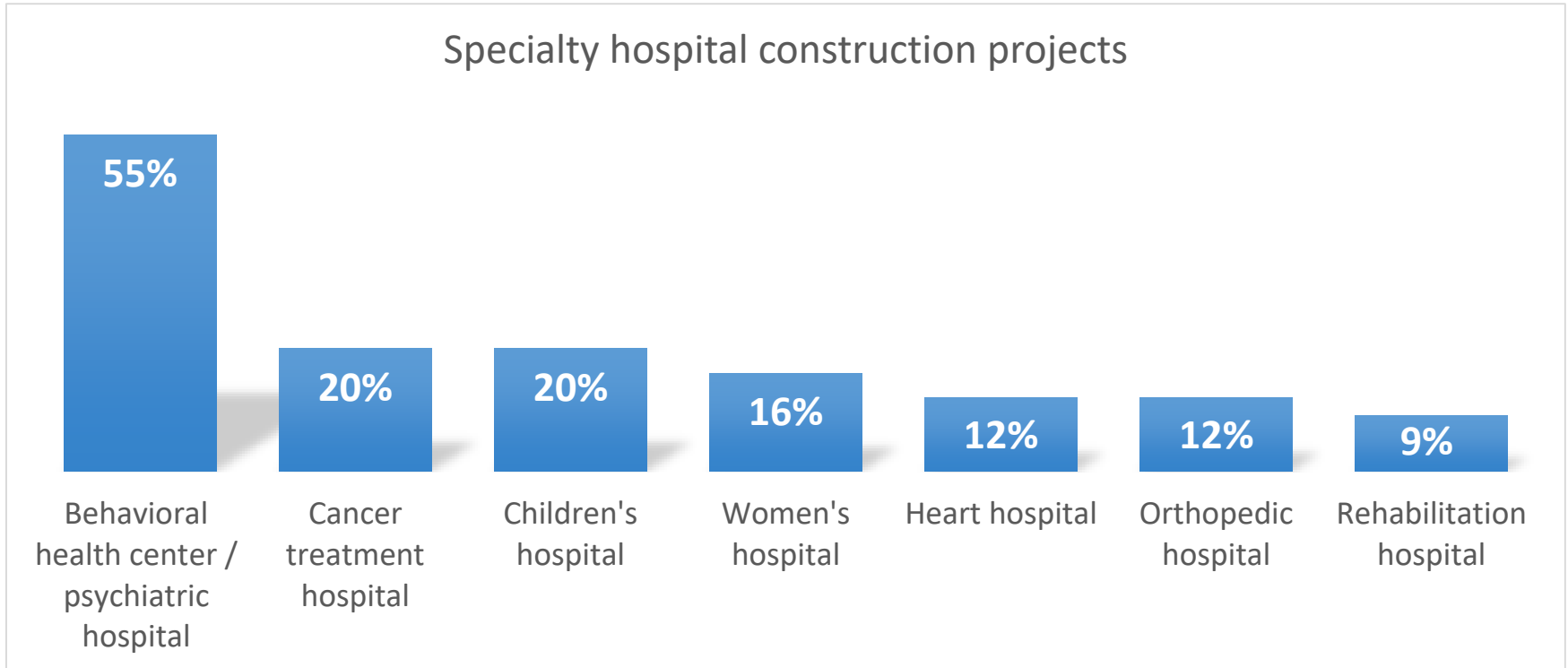
- AIA commitment  The American Institute of Architects
- Opportunity to be involved in the process
- Minnesota – the best healthcare we can
- Level playing field
- Consistent standards
- Beyond Fundamental resources

# Facilities projects



Health Facilities Management / ASHE 2019 Hospital Construction Survey

# Facilities projects



Health Facilities Management / ASHE 2019 Hospital Construction Survey

# Average hospital construction cost per square foot

**\$365-450**  
/sq. ft

Hospital new construction / renovation

**\$200-300**  
/sq. ft

Clinic new construction / renovation

*DSGW Architects Data*

# The Minnesota Story

- In 2016, health care providers committed \$645.4 million to major projects.
- While most commitments were less than \$5 million, half of all spending was over \$20 million and nearly one quarter (of the 20 million) was devoted to 12 projects over \$100 million from 2007 to 2016.
- Hospitals are the leading source of health care capital expenditures in Minnesota comprising 72% of all spending between 2007 and 2016.
- Nearly two-thirds of health care capital spending is devoted to building and space.

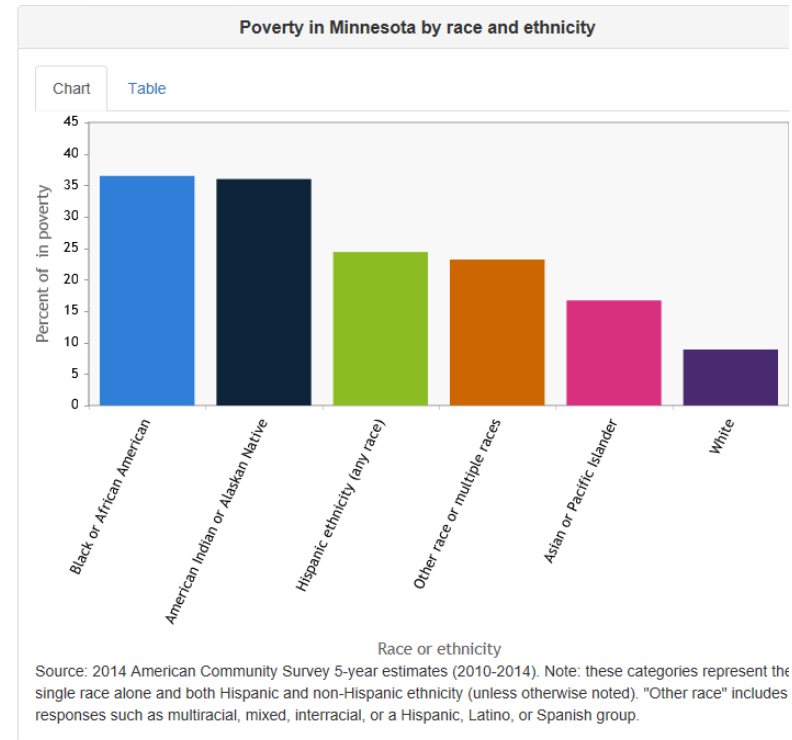
Source: MDH, Health Economics Program analysis of major spending commitments submitted under Minnesota Statutes, Section 62J.17 for 2007 to 2016.



# Rural Healthcare challenges

- Geographic **isolation** making **access** to care very difficult
- **Income level disparities** and the inability to afford care

(MDH Public Health Data)



# Rural Healthcare Challenges

- A small labor pool affecting **recruitment** efforts
- Lack of patient **transportation**



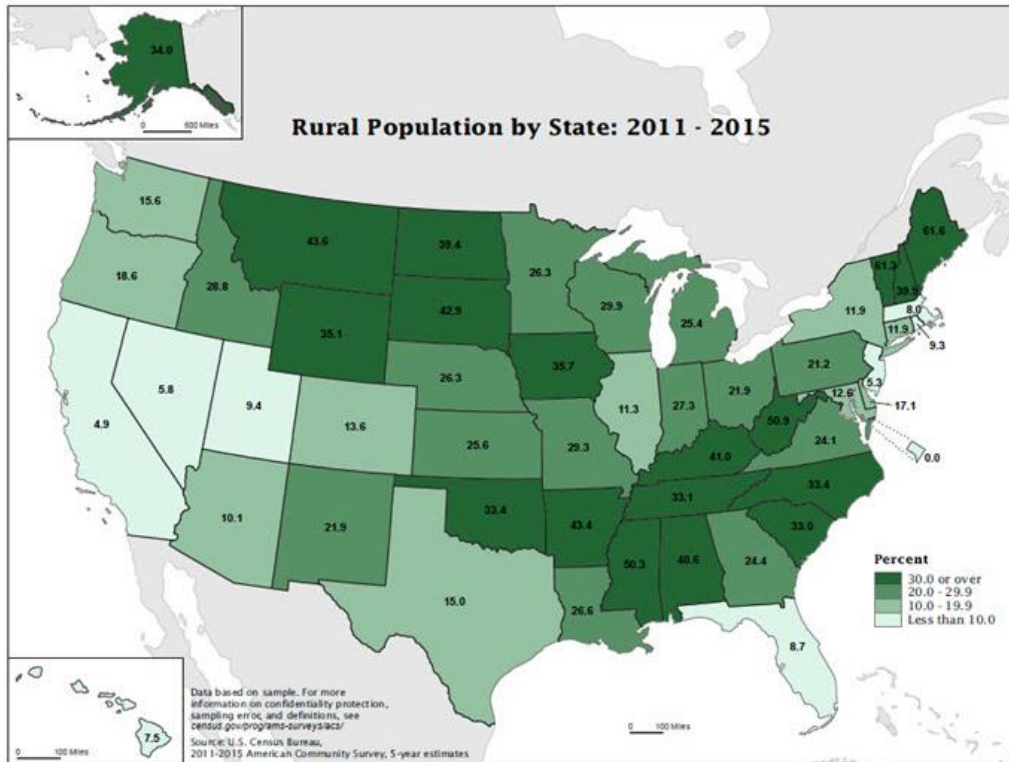
# Rural Healthcare Challenges

- **Service disparity** or difficulty finding specialists to provide services
- Difficulty accomplishing **integrated** health care

The hospital study shows about 1,350 primary care doctors are expected to leave the profession in the next decade from the approximately 5,000 in Minnesota today. At the same time, 1,300 doctors are expected to begin practice. Combined with increased demand, that would leave an 850-doctor shortfall, the study shows.

~ Bemidji  
**Pioneer**

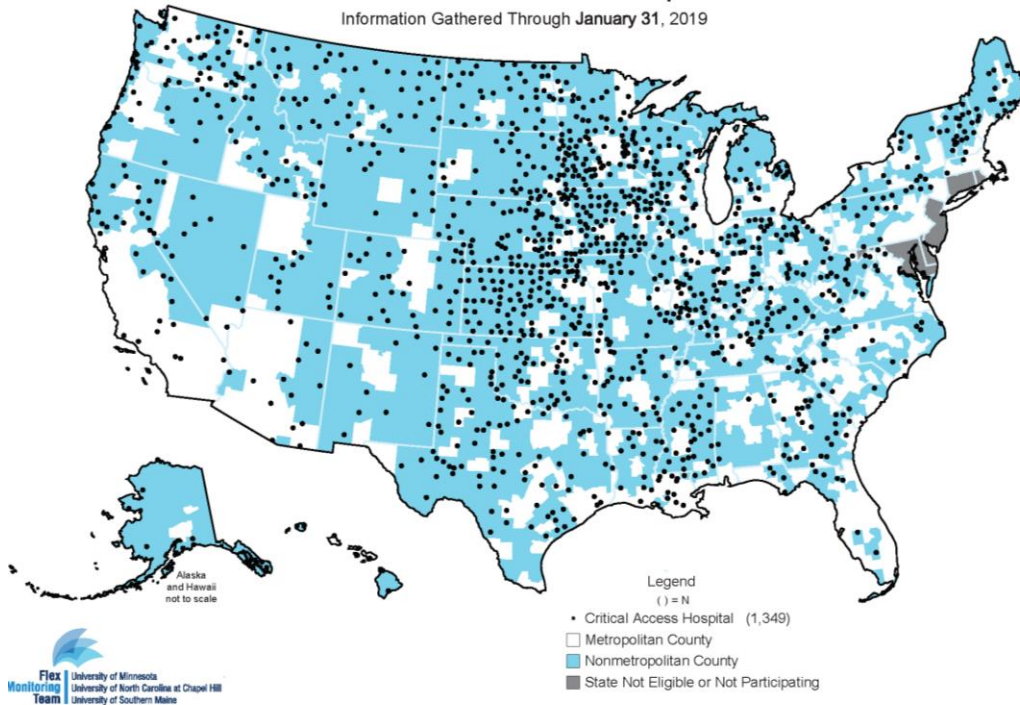
“Minnesota doctors may be in short supply” -Don Davis, Jul 22, 2014



- Minnesota is 20-30% rural

# Critical Access Hospitals

Information Gathered Through January 31, 2019



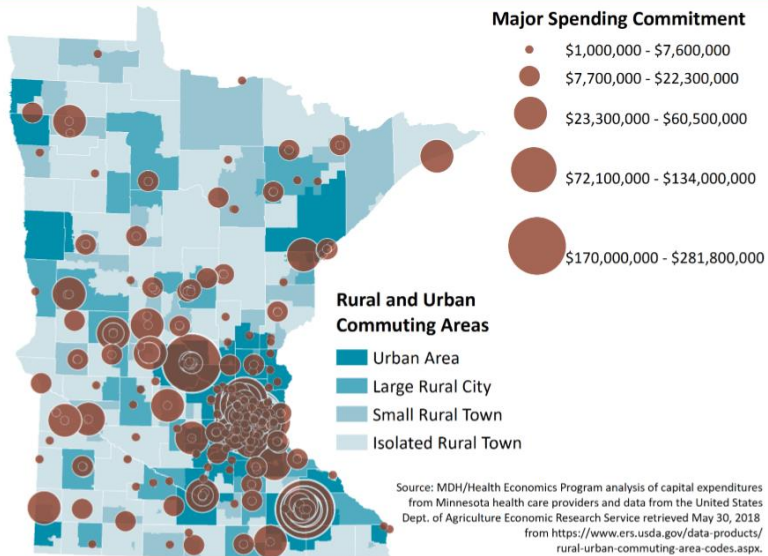
- There are 144 hospitals in Minnesota, 78 are Critical Access Hospitals (54%)

sources: US Census Bureau, 2018; CMS Regional Office, ORHP, and State Offices Coordinating with MRHFP, 2018.  
note: Core Based Statistical Areas are current as of the April 2018 update. Nonmetropolitan counties include micropolitan and counties outside of CBSAs.  
produced By: North Carolina Rural Health Research and Policy Analysis Center, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill.

# The Minnesota Story

## Location of Minnesota Health Care Capital Expenditures by Project Size, 2007 to 2016

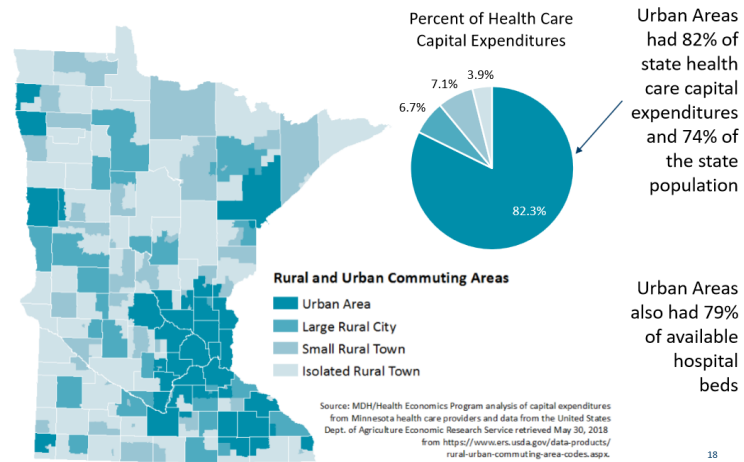
The volume of spending is dependent on the location of major health care providers



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# The Minnesota Story

## Distribution of Minnesota Health Care Capital Expenditures in Urban and Rural Areas, 2007 to 2016



# Rural Healthcare challenges

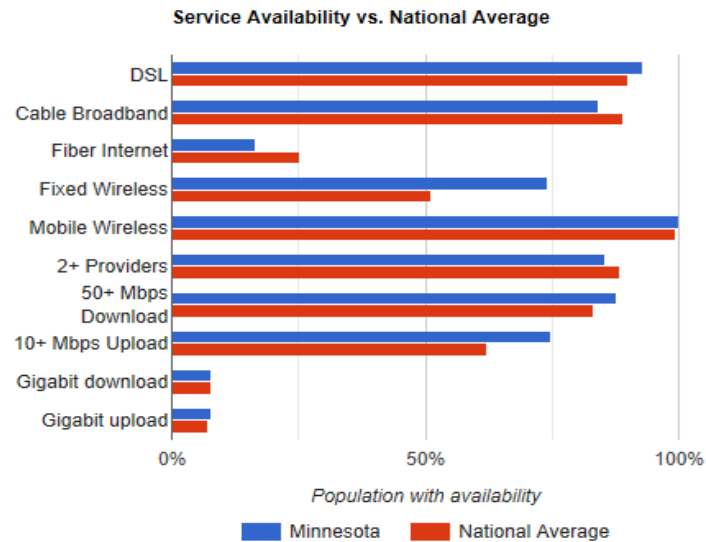
- A lack of **consistent** technology
- Higher construction **costs** and limited **resources** available locally





# Service Availability: Minnesota

## Service Availability: Minnesota



Minnesota Services Coverage Map, GEOISP.com

# Minnesota construction cost comparison

- Hospital construction and renovation:

\$365.00 - \$450.00 sf

- Clinic construction and renovation:

\$200.00 - \$300.00sf



## Location Factors (R.S. Means 2018)

- City:

- MSP – x 1.06 (#1)
- Rochester – x 1.00
- Duluth – x 1.01
- Mankato – x .97
- Thief River Falls – x .93 (#2)

- Example:

1. \$365.00 (1.06) = \$387.00
2. \$365.00 (.93) = \$340.00

# Construction cost comparison continued:

But:

R.S. Means is a *construction cost* estimating tool.

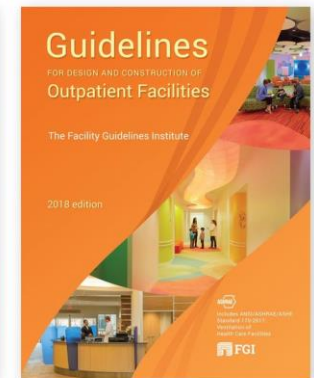
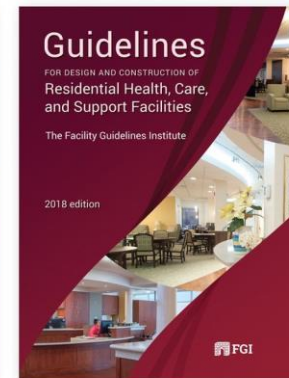
- Rural *project costs* may be impacted by:
  - Project road and utility construction
  - Extensive phasing as there may be no temporary facilities nearby
  - Travel for qualified contractors
  - Labor shortages
  - Housing limitations for contractors and laborers
  - Limited travel and access for materials

# How does the *Guidelines* support rural health care?

- The Critical Access Hospital chapter
- The Rural Health Topic Group 2022
- Free Standing Emergency Facility Chapter
- HGRC membership (8 members from Minnesota)
  - 1 state AHJ, 3 architects, 2 engineers, 1 planner/interior designer, 1 facility project manager
- *The constant debate!*

# Design

- What does the *Guidelines* do to support innovation?
  - Provide a level playing field
  - Three – four year editing process
  - Public engagement
  - Base minimum document
  - Beyond Fundamentals
  - Benefit Cost analysis
  - Interpretation process



# Regulations

- Universal regulatory language
- Supportive Appendix language
- Errata and interpretations are constant
- HGRC representation by AHJ's
- *Minnesota? Not just a recommendation.*

# Thank you!

# Questions?



**Rebecca Lewis, FACHA, FAIA, CID**  
**Principal, Director of Healthcare Design**  
**DSGW Architects**  
[rlewis@dsgw.com](mailto:rlewis@dsgw.com)