



# Clearances for Providing Safe Care for Patients of Size

Determination of Minimum Design Standards for Safe  
Patient Handling and Transportation

The Facility Guidelines Institute Bariatric  
Accommodations Topic Group  
and Hill-Rom, Inc.

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



Becoming an ACE in the Bariatric Space  
Architectural, Clinical, and Ergonomic Considerations

# Becoming an ACE in the Bariatric Space

## Objectives

- Why should you design space for patients of size?
- Why should you consider safe patient handling and movement (SPHM) in your design plans? What is the value of SPHM, for nurses, patients, and the health care organization?
- Consider the positions of OSHA, the American Nurses Association, and the FGI *Guidelines* patient handling and movement assessment, addressing safe patient handling and mobility
- Visualize high-risk tasks and ergonomic solutions
- FGI room design workshop for bariatric needs

# What is safe patient handling and mobility?

- A safer way to lift, manage, and mobilize the deconditioned patient
- A safer way to adhere to standards of nursing care, such as turning patients every two hours, getting patients out of bed into a chair for meals, and helping patients up to ambulate twice a day
- An evidence-based approach to eliminate/mitigate risk of musculoskeletal injury for staff

As opposed to manual lifting...

# Manual Lifting

Origin of the word manual

- Man you all get in here and help me lift this patient!!
- Lifting without assistive device using (wo)man power



# The Total Value of a SPHM Program

## Why design with SPHM in mind?

Implementing a safe patient handling program can significantly impact:

### Patient Outcomes

- Pressure ulcers, fall prevention, satisfaction ratings, improved and dignified care for patients of size

### Nursing Productivity and Satisfaction

- Efficiency, time at the bed side, injury rates, morale, retention, recruitment, and career longevity

### Administrative Challenges

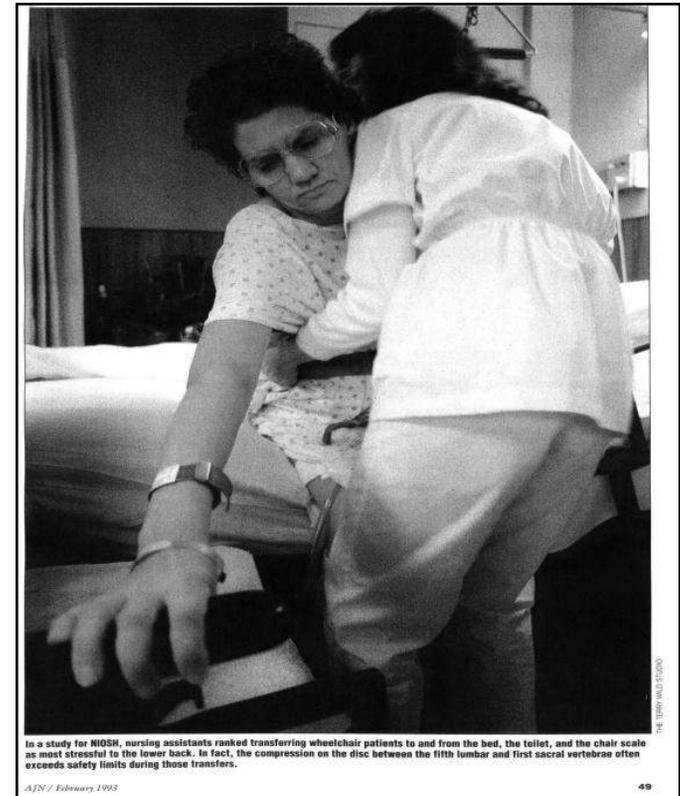
- Legislative compliance, HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems), community image, Employer of Choice, The Joint Commission, Magnet Journey, OSHA IR, DART, and OSHA surveys

# What does SPH mean to the caregiver?

Patient handling is a major area in need of improved safety for staff and patients.

- **Nurses lift an estimated 1.8 tons per 8 hr. shift.**
- **NIOSH recommends 35 lbs. as the safe lifting limit for health care workers.**

Every day, staff make the unconscious trade-off to take on **more personal risk** for the **immediate benefit of the patient**, to avoid interrupting others, or to avoid using specialty lifting equipment not immediately available at the bedside.



*Tuohy-Main K. Why manual handling should be eliminated for resident and caregiver safety. Geriatrics. 1997;15:10-14.  
AJN, American Journal of Nursing: August 2007 - Volume 107 - Issue 8 - p 53-58; When Is It Safe to Manually Lift A Patient? WATERS, THOMAS R. PHD*

# Design to Prevent Injury

Caregiver injuries related to patient handling are high.

- Do you know a nurse?
- **Back injuries affect up to 38% of all nurses**
- 12% of nurses leave the bedside every year due to a career-ending injury
- Working wounded
- Musculoskeletal injuries are responsible for more lost work time and permanent disability than any other reported injury in health care.
- **67,000 caregivers were injured last year alone according to the Bureau of Labor Statistics.**



1. US Bureau of Labor Statistics. *Nonfatal Occupational Injuries...* 2012
2. Conti, MT and Johnsen V. *Nursing Management*. 2011
3. Collins, JW et al. *Injury Prevention*. 2004

# Design to Prevent Complications of Immobility

**Respiratory:** VAP associated with 10-11 days more in ICU. Respiratory tract infections, atelectasis, and pulmonary embolism<sup>1</sup>.



**Neurological:** Delirium, depression, anxiety, forgetfulness, and confusion<sup>1</sup>



**Cardiovascular:** Postural hypotension, cardiac muscle atrophy, orthostatic intolerance, and deep vein thrombosis<sup>1</sup>



**Musculoskeletal:** Strength loss of 50% in first 3-4 weeks takes about 4 weeks to recover. Osteoporosis, muscle atrophy and weakness, and contractures<sup>3</sup>.



**Hematologic:** Anemia<sup>1</sup>



**Renal:** Calculi<sup>2</sup>



**Metabolic:** Glucose intolerance<sup>2</sup>



**Skin:** \$43k average cost of care for stage III/IV pressure ulcers in acute care and additional 4 days in LOS<sup>3</sup>



**Gastrointestinal:** Constipation and fecal impaction<sup>2</sup>



1. Knight J, et al. *Nurs Times*. 2009;105(21):16-20.
2. Knight J, et al. *Nurs Times*. 2009;105(22):24-27.
3. Nigam Y, et al. *Nurs Times*. 2009;105(23):18-22.

# Design to Prevent Patient Falls

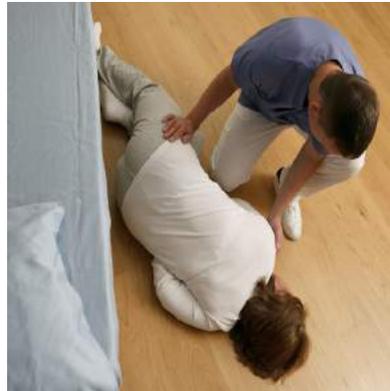
## Falls Are Common<sup>1,2</sup>

- **Most frequently** reported adverse incident in adult inpatient units<sup>1</sup>
- **700K – 1M** patients fall per year<sup>2</sup>



## Morbidity/Mortality<sup>1,3-4</sup>

- **30–50%** of hospital patient falls result in physical injury<sup>3</sup>
- **4–6%** result in serious injury<sup>4</sup>
- **11,000** fatal falls in hospitals/year<sup>1</sup>



## Other Adverse Outcomes<sup>5-7</sup>

- Increased length of stay<sup>5</sup>
- **21%** more likely to be readmitted to the hospital within 30 days of discharge<sup>6</sup>
- **2.7 times** more likely to be discharged to post-acute care<sup>6</sup>
- Caregiver injury<sup>7</sup>



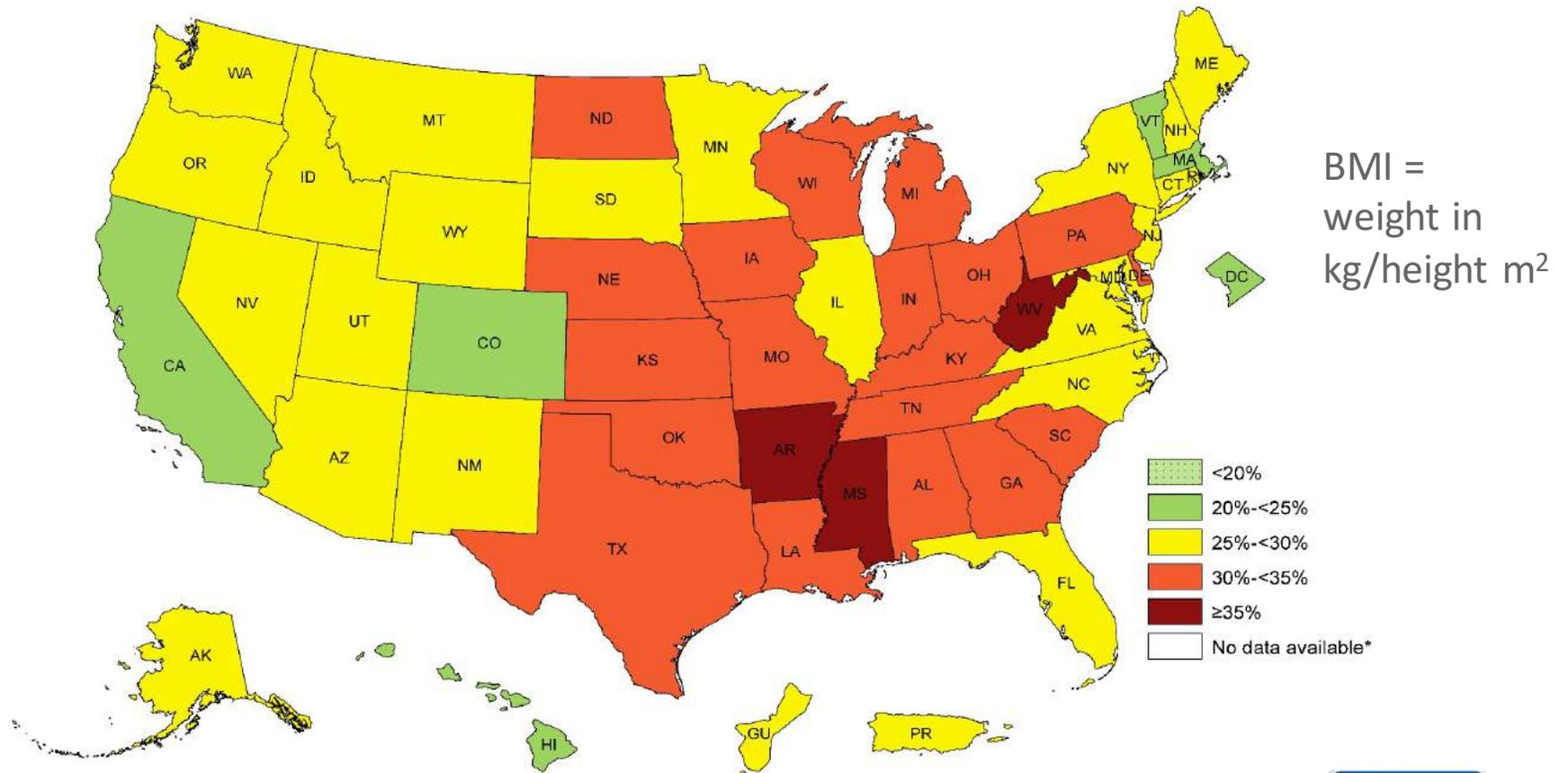
1. Currie LM. Agency for Healthcare Research and Quality; 2008.  
2. Ganz DA, et al. Agency for Healthcare Research and Quality; January 2013.  
3. Oliver D, et al. Clin Geriatr Med. 2010;26(4):645-92.

4. Hitcho EB, et al. *J Gen Intern Med*. 2004;19(7): 32-739.  
5. Wong, C. A., et al. *The Joint Commission Journal on Quality and Patient Safety*. 2011;37(2):81-87.  
6. Centers for Medicare and Medicaid Services. September 2012.  
7. Pompeii LA, et al. *Am J Ind Med*. 2009;52(7):571-8.

# Design to Accommodate Obesity Rates

## Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2014

Prevalence estimates reflect BRFSS methodological changes started in 2011. These estimates should not be compared to prevalence estimates before 2011.



\*Sample size <50 or the relative standard error (dividing the standard error by the prevalence) ≥ 30%.



# Bariatric Challenge for the U.S. Health Care System with Baby Boomers<sup>1,2</sup>

- Obesity is a significant health problem in the United States, with more than one-third of adults (35%) classified as obese and another third classified as overweight.
- **78 million adults were classified as obese in 2011-12.**

2009-2012 for Baby Boomers	Age	Normal (18.5- 24.9)	Overweight ( $\geq 25$ )	Obesity ( $\geq 30$ )	Grade 1 (30-34.9)	Grade 2 (35-39.9)	Grade 3 ( $\geq 40$ )
Male	45-54	20.1	79.3	38.1	24.4	8.2	*5.5
	55-64	21.9	77.4	38.1	25.6	7.1	*5.4
	65-74	22.4	76.9	36.4	21.9	10.8	*
Female	45-54	27.3	70.5	38.3	19	10.7	8.6
	55-64	23.8	75.1	42.9	22.7	11.1	9.1
	65-74	23.5	73.8	44.2	21.1	12.3	10.7

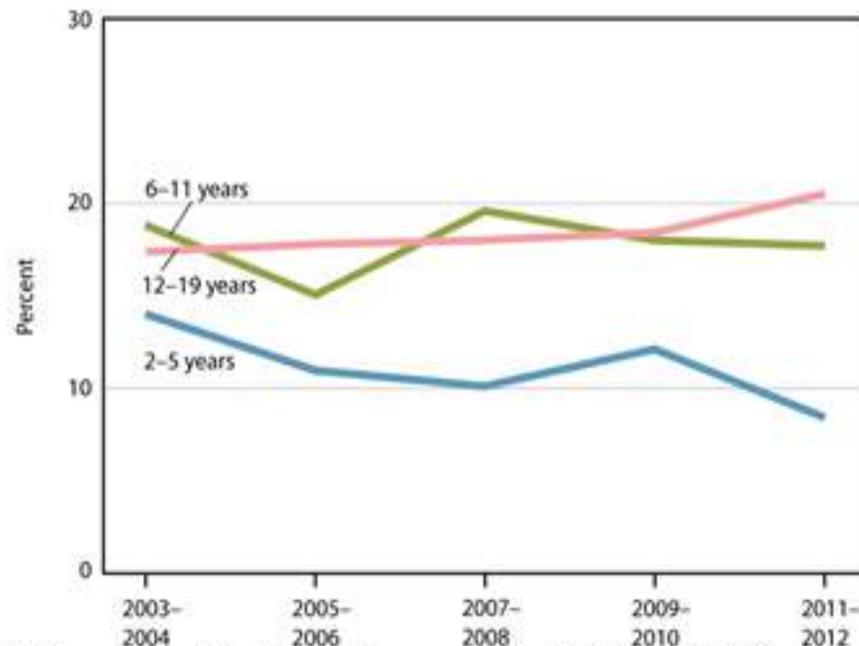
BMI = weight in kg/height m<sup>2</sup>

1. Ogden C. NCHS Data Brief. 2013.  
2. Weiss A. AHRQ. 2012.

# Obesity and Our Children

- 8.4% of children aged 2-5 are obese
- 17.7% of children aged 6-11 are obese
- 20.5% of adolescents aged 12-19 are obese

## Obesity among children and adolescents



NOTE: Obesity is body mass index (BMI) at or above the sex- and age-specific 95th percentile BMI cutoff points from the 2000 CDC Growth Charts.

SOURCE: CDC/NCHS, Health, United States, 2013, Figure 10. Data from the National Health and Nutrition Examination Survey.

# Prevalence of Obesity in the U.S. and Bariatric Admissions in U.S. Hospitals

**Consider the obesity rates in your facility.**

Obesity was a principal or secondary diagnosis for 2.8 million hospitalizations in the United States in 2009. [Weiss 2012, p1]

Hospital admissions related to obesity have tripled from 1996 to 2009. [Weiss 2012, p1]

Approximately 1 in 10 patients admitted to health care facilities in the United States is obese. [Pemberton 2009, p1]

*Source- Weiss, 2012; Pemberton, 2009*

# Bariatric-Related Staff Injuries

Bariatric-related injuries account for<sup>1</sup>:

- 27% of all repositioning injuries
- 36% of all turning injuries
- 37% of all lateral transfer injuries
- 30% of injuries related to ambulation

Back injury is the most prevalent occupational injury for healthcare workers<sup>2</sup>

1. Randall SB, et al. *Surg Obes Relat Dis*. 2009;5:463-468. 2. AORN Position Statement. [https://www.aorn.org/uploadedFiles/Main\\_Navigation/Clinical\\_Practice/ToolKits/PosStat%20Workplace%20Safety.pdf](https://www.aorn.org/uploadedFiles/Main_Navigation/Clinical_Practice/ToolKits/PosStat%20Workplace%20Safety.pdf). Accessed August 13, 2015.

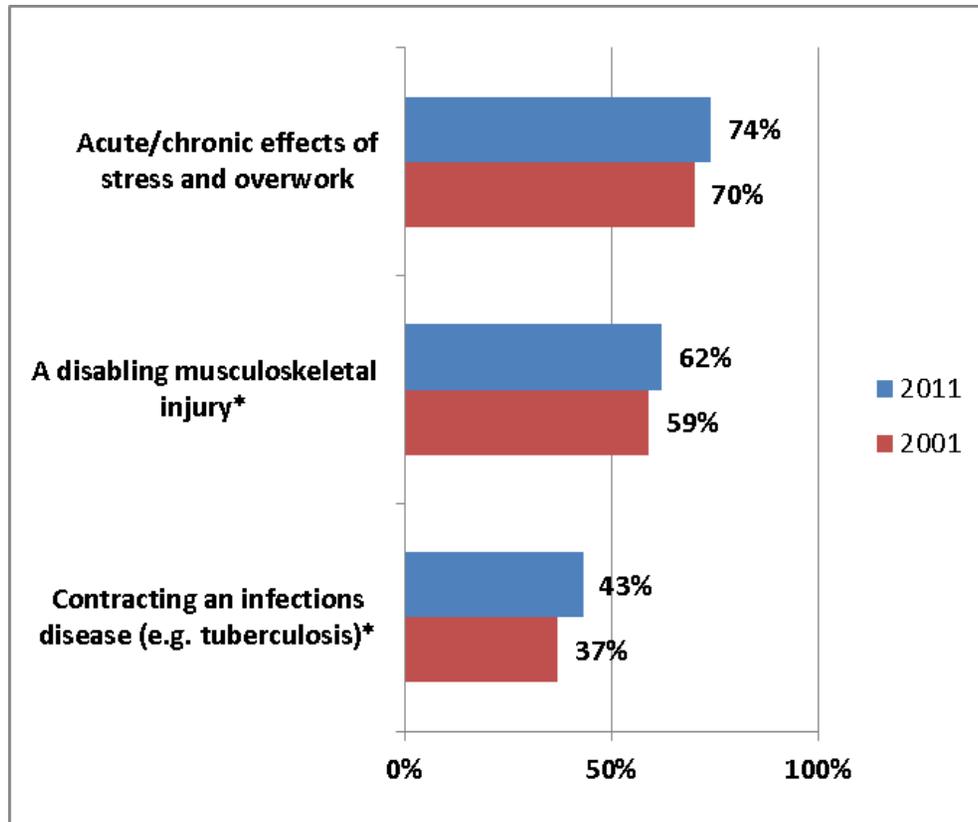
# Cost of Bariatric Care

- In 2014, the United States spent \$3 trillion, or 17.5 percent of its GDP on health care.
- Obesity-related medical costs rose from 6.5 percent in 1998 to 9.1 percent in 2006.
- The CDC estimated medical care for an obese person cost \$1,429 more than for someone who was not obese. (78 million adults are obese.)
- Overall, estimates of annual obesity-related medical spending in the U.S. range from \$147 billion to \$190 billion.

Source: <http://www.ibtimes.com/obesity-america-healthcare-costs-rise-hospitals-weigh-new-ways-caring-larger-patients-2325147>

# 2011 ANA Health And Safety Survey

## Top Three Health and Safety Concerns (Q8)



\*Working slightly different from 2001 survey, per source file.

## In addition, the 2011 survey reports:

- 62% indicated that suffering a disabling musculoskeletal injury was one of their top 3 safety concerns.
- More than half experienced musculoskeletal pain caused or made worse on the job.
- Nearly all nurses reported working despite experiencing frequent musculoskeletal pain.
- Almost 66% indicated lifting devices were available, compared to less than 33% in 2001.
- Similar results show that when available, 75% of nurses used lift equipment.

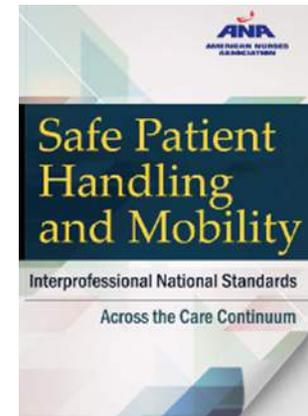
Source :ANA Health and Safety Survey

<http://nursingworld.org/MainMenuCategories/WorkplaceSafety/Healthy-Work-Environment/Work-Environment/2011-HealthSafetySurvey.html>

# ANA Safe Patient Handling and Mobility Interprofessional National Standards

Developed with collaboration across health care professions and published in 2013, the SPHM Standards are comprised of eight overarching standards of care:

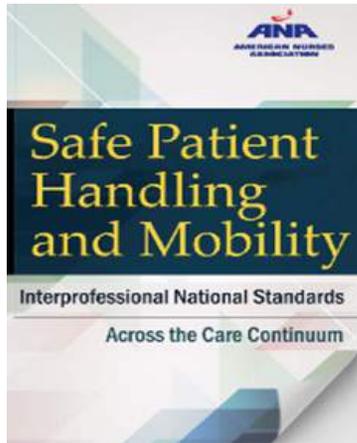
- Establish a culture of safety.
- Implement and sustain a SPHM program
- Incorporate ergonomic design principles to provide a safe environment of care.
- Select, install, and maintain SPH technology.
- Establish a system for education, training, and maintaining competence.
- Integrate patient-centered SPHM assessment, plan of care, and use of SPHM technology.
- Include SPHM in reasonable accommodation and post-injury return to work.
- Establish a comprehensive evaluation system.



\*Eliminate manual lifting.

# Recommendations

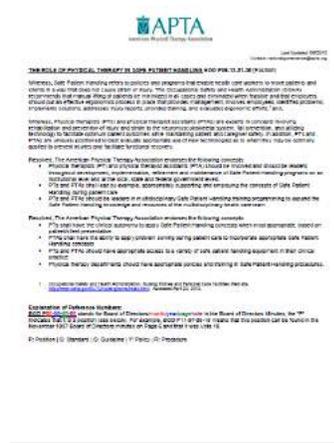
## Safe Patient Handling And Mobility Standards ANA, 2013



- A culture of safety
- Comprehensive evaluation
- **Developing a SPHM program**
- **Install/utilize SPHM products**
- Education and training
- **Patient-specific SPHM plan and use of technology**

Matz MW, et al. *Amer Nurs Assn.* 2013

## American Physical Therapy Association ATPA, 2012



- Support concepts of SPH
- **Be leaders in multidisciplinary safe patient handling programs**
- Include assistive devices in patient care

Source: **THE ROLE OF PHYSICAL THERAPY IN SAFE PATIENT HANDLING HOD P06-12-21-20** [Position]

## FGI Patient Handling & Movement Assessments FGI, 2010



- **1 ceiling lift for every ICU patient**
- **1 portable lift per 8-10 patients**
- Patient-centered focus
- Caregiver focus
- **Systems thinking**

Cohen MH, et al. *Facility Guidelines Inst.* 2010

# FGI PHAMA White Paper 2010

- The Facility Guidelines Institute (FGI) is the nonprofit organization responsible for creation and distribution of the *Guidelines for Design and Construction of Hospitals and Outpatient Facilities*.
- Authorities having jurisdiction, designers, and owners in the United States and other countries **use the *Guidelines* as a reference** as no other document provides this type of basic guidance or is produced with such a rigorous process by such a collection of experienced, informed experts.
- **Many state and federal authorities use the document in their regulation of licensing or construction of health care and residential care facilities.**



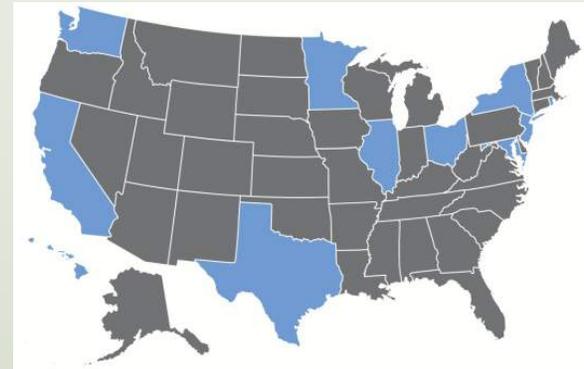
# Larger U.S. government Role in Preventing Caregiver Injury and Promoting Safe Patient Handling

## OSHA

- Addresses safe patient handling with general-duty clause requiring every employer to provide a safe and hazard-free work environment.<sup>1</sup>
  - Musculoskeletal injuries related to patient handling are reported and recorded in the OSHA 300 logs.
- Developed a set of guidelines for nursing homes in 2003 designed to prevent MSDs.<sup>1</sup>
- Launching national initiative for increased inspections of nursing home and resident care facilities<sup>2</sup>
  - Focus areas include back injuries resulting from resident handling or lifting.

## State Legislation

- Many states have created legislation supporting safe patient handling initiatives.<sup>3</sup>
  - Safe patient handling laws have been enacted in 11 states.
  - Hawaii has passed a resolution supporting safe patient handling.



**Caregiver injury due to patient handling is receiving increased government attention.**

OSHA=Occupational Safety and Health Administration.

1. AOHP OSHA Alliance Implementation Team. Beyond getting started: a resource guide for implementing a safe patient handling program in the acute care setting. Association of Occupational Health Professionals in Healthcare website. [http://www.aohp.org/documents/about\\_aohp/BGS\\_Summer2011.pdf](http://www.aohp.org/documents/about_aohp/BGS_Summer2011.pdf). Accessed 1/25/12.

2. OSHA to focus on improving safety and health at nursing home facilities [press release]. Washington, DC: Occupational Safety and Health Administration; November 9, 2011. [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=NEWS\\_RELEASES&p\\_id=21192](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEASES&p_id=21192). Accessed 9/21/12.

3. Enacted safe patient handling (SPH) legislation. American Nurses Association's Nursing World website. <http://www.nursingworld.org/MainMenuCategories/Policy-Advocacy/State/Legislative-Agenda-Reports/State-SafePatientHandling/Enacted-Legislation>. Accessed 4/27/12.

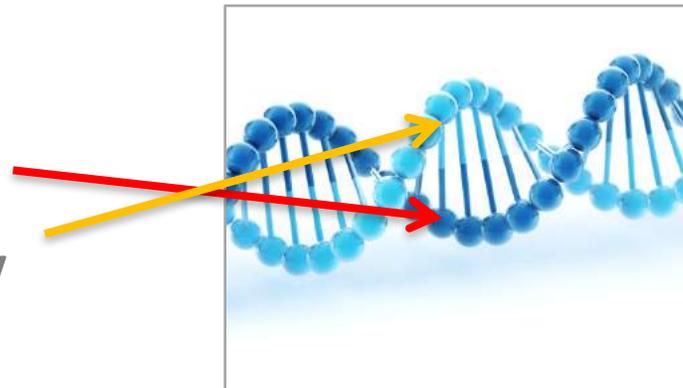
# The Safety Culture Connection

**“Patient safety cannot be adequately addressed if employee safety is not adequately addressed.”**

*—Institute for Healthcare Improvement, 2007*

Patient Safety

Employee Safety



Epidemic of Medical Errors and Hospital-Acquired Infections by William Charney, DOH, pg 306.  
Nursing Injury Rates and Negative Patient Outcomes—Connecting the Dots, AOHN, Volume 55, No. 11, pg. 470, November 2007.  
[http://www.ctsmartmoves.org/doc/The\\_Link\\_Between\\_Safe\\_Patient\\_Handling\\_and\\_Patient\\_Care\\_Quality\\_Charney.pdf](http://www.ctsmartmoves.org/doc/The_Link_Between_Safe_Patient_Handling_and_Patient_Care_Quality_Charney.pdf)

# Include SPHM Design to Improve...



## CAREGIVER OUTCOMES:

Reduce caregiver injury.

Improve quality of life; reduce fatigue.

Maintain expertise by extending careers.

Allow more involvement in patient care delivery system.

Increase confidence with care for patients of size.

Improve employee satisfaction.

Create advancement in career opportunity.

Develop a culture of safety.



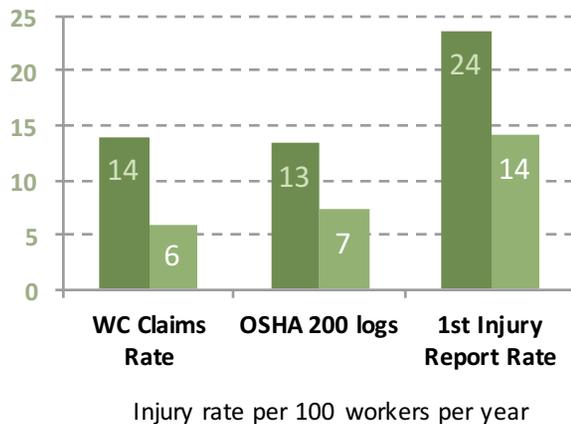
# Caregiver Benefits

Studies show caregivers benefit from multifaceted SPH programs

## Collins JW, et al.

In nursing homes

- 72% reduction in workers comp claims
- 50% reduction in OSHA 200 logs (data pre OSHA 300)
- 30% reduction in 1st injury
- \$55k saved/year

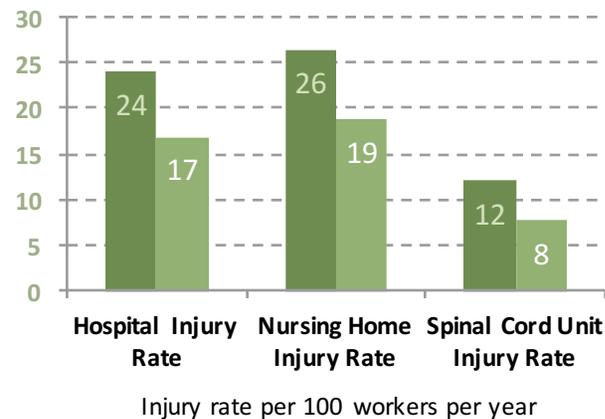


Collins JW, et al. *Injury Prevention*. 2004

## Siddharthan K, et al.

In US Dept. of Veterans Affairs (VA)

- 29.6% reduction in injuries per 100 workers/year
- \$207k saved/year

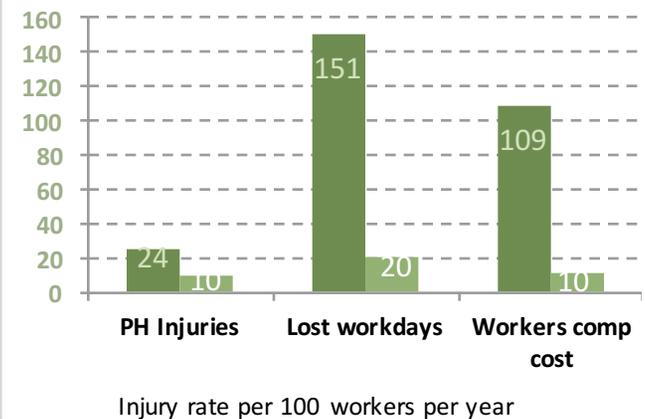


Siddharthan K, et al. *AHRQ*. 2013

## Garg A and Kapellusch JM

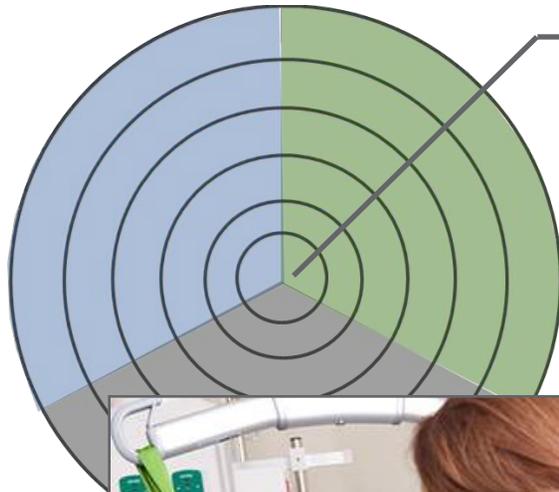
Across 6 LTC and one CCH facilities

- 60% reduction in PH injuries
- 87% reduction in lost workdays
- 91% reduction in workers compensation costs
- 15-month payback period



Garg A and Kapellusch JM. *Human Factors*. 2012

# Include SPHM Design to Improve...



## PATIENT OUTCOMES:

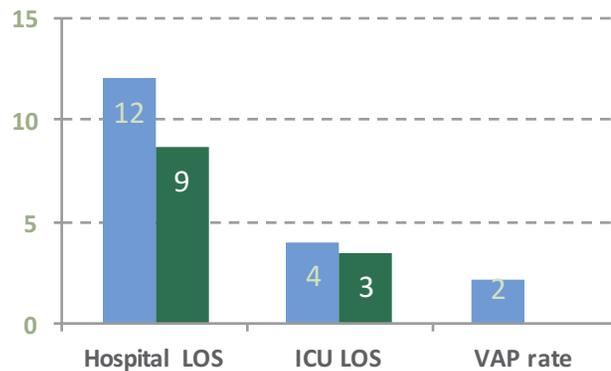
- Increase mobility to reduce pressure ulcers.
- Reduce skin shears during patient transfers.
- Decrease pain.
- Reduce patient falls.
- Conduct early mobility to decrease length of stay.
- Increase patient satisfaction.
- Maintain patient dignity.
- Develop a culture of safety.

# Patient Benefits

Studies show that patients benefit

## Results of Titsworth, et al.

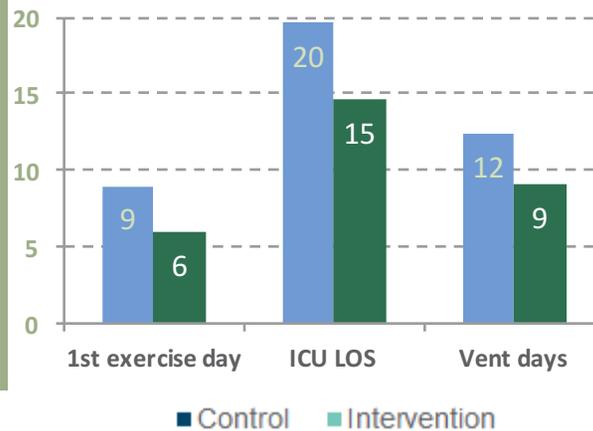
- Hospital LOS reduced 28%
- NICU LOS reduced by 13%
- VAP rate reduced to zero
- HAIs reduced by 60%



Titsworth WL, et al. *J Neurosurg*. 2012.

## Results of Winkelman, et al.

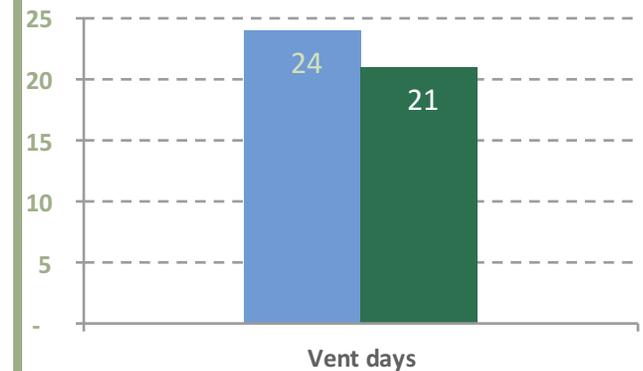
- 5 fewer days of ICU LOS
- 3 fewer ventilator days
- 1st exercise 3 days sooner



Winkelman C, et al. *Intensive Crit Care Nurs*. 2012

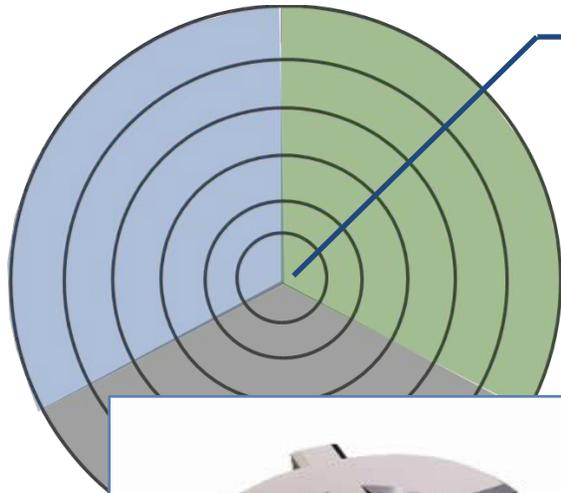
## Results of Balas, et al.

- Fewer ventilator days
- Shorter duration of ICU delirium



Balas M, et al. *Crit Care Med*. 2012

# Include SPHM Design to Improve...



## FACILITY OUTCOMES:

Protect facility assets.

- Reduce workers compensation costs (direct/indirect costs).
- Decrease liability with patient falls and pressure ulcers.

Improve retention and recruitment.

Build or maintain hospital reputation.

Support quality initiatives: Joint Commission, OSHA, Magnet, CARF, Department of Health.

Increase HCAHPS scores.

Increase employee satisfaction.

Develop a culture of safety.

# Is it a knowledge gap?

**Caregivers are being injured** due to manual lifting.

Number one concern for caregivers is the care and **safety of their patients.**

Caregivers tend to **exceed their own safe lifting capacity** when handling patients, putting excess force on the spine.

Education on lifting techniques and training in **body mechanics alone is not effective** in reducing injuries.

After a back injury, many caregivers **do not return to work** at the bedside.

Is it process failure?

Is it a design failure?

# Putting the Pieces Together

You can design a safe work site to prevent employee injuries.  
Safe employees are more efficient and effective.  
Safely lifting and moving patients improves clinical outcomes.

*Safety makes sense!*

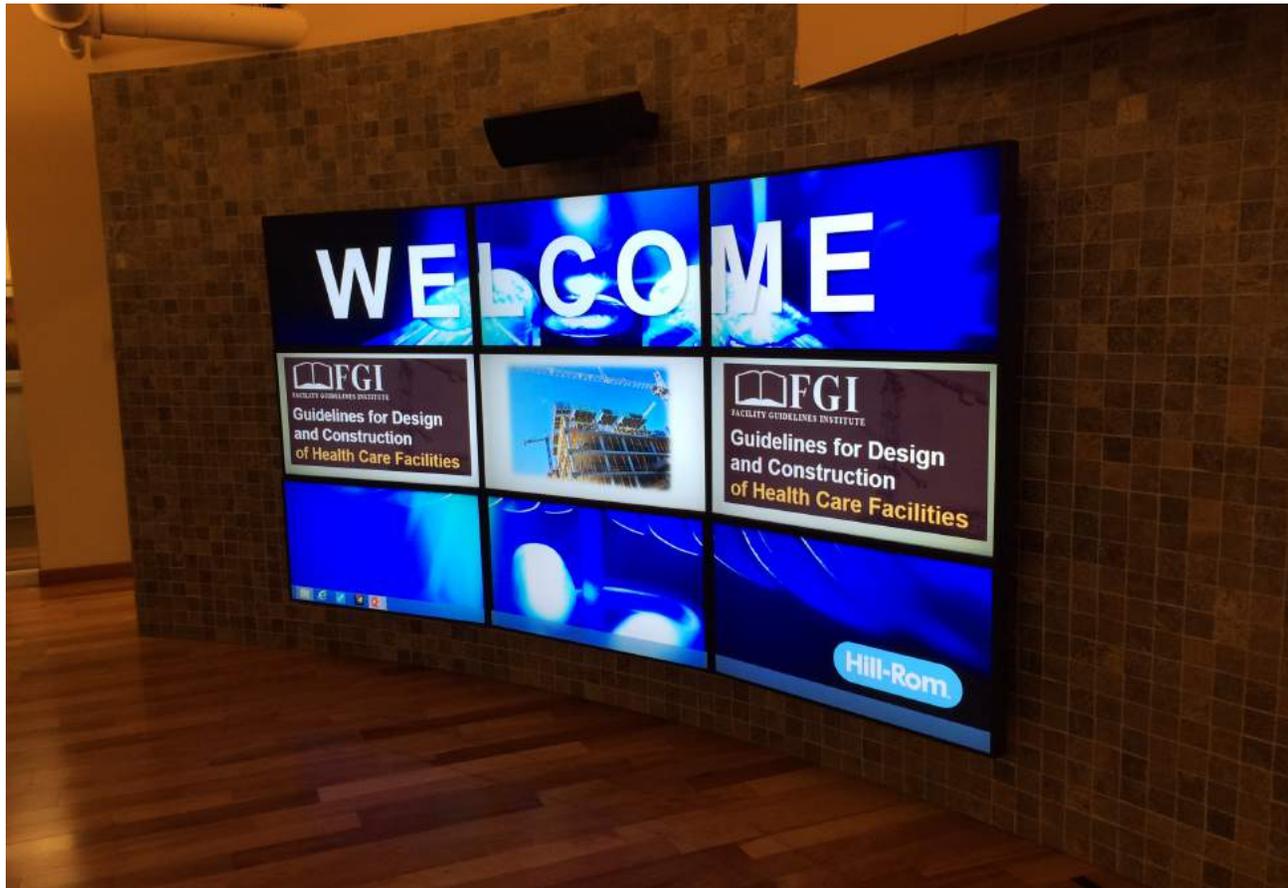
How to get there from here?



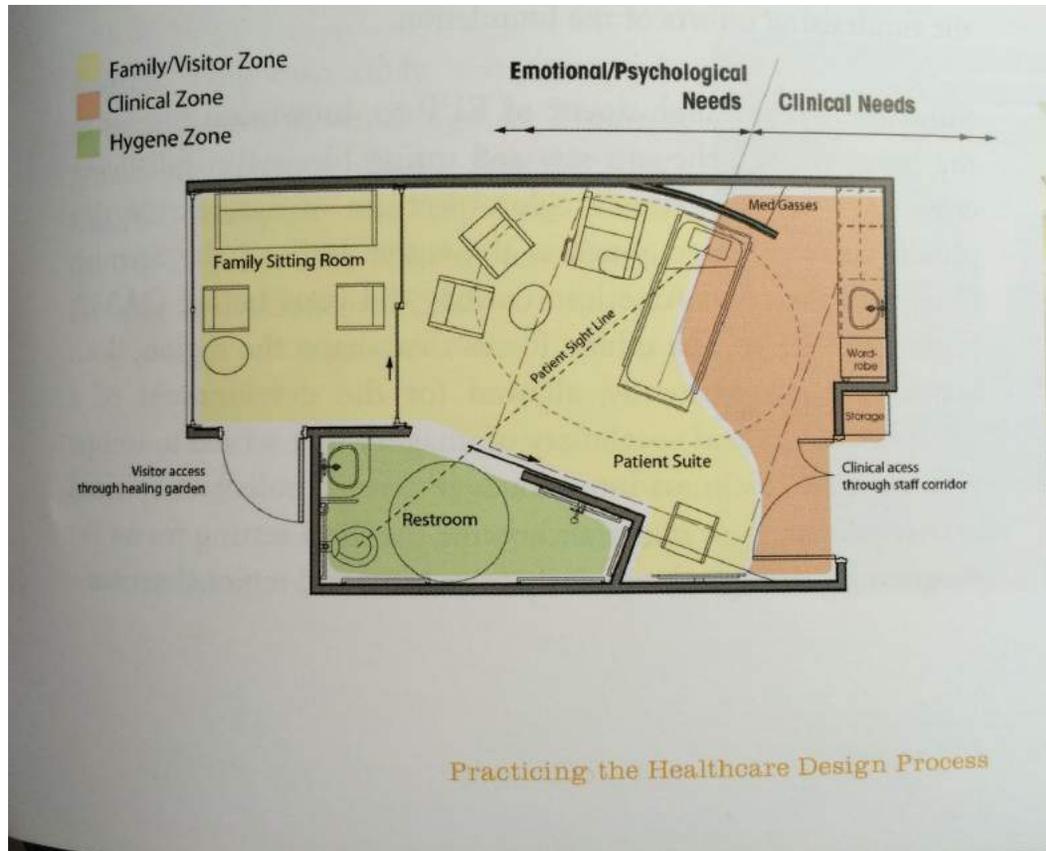
Source: W. Charney, Connecting the Dots: Nursing Injury Rates & Negative Patient Outcomes

# Welcome: FGI Health Guidelines Revision Committee – 9/8/15

## Bariatric Accommodations Topic Group Workshop



# Begin the Workshop with Evidence-Based Design

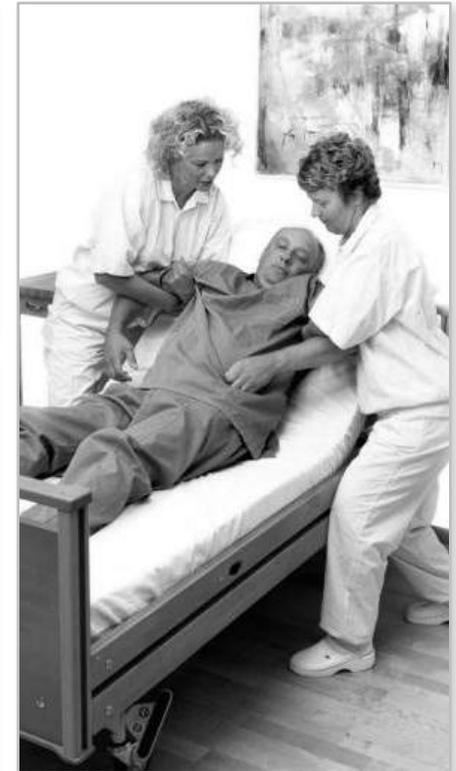


# FGI Bariatric Accommodations Topic Group Plan

- Consider clinical care needs for patients of size.
- Consider renovation challenges and codes that may impose barriers to upgrades.
- Consider recommendations based on future prevalence of patients of size in the population from CDC.
- Consider the family of the patient (family/patient-centered care).
- Visualize recommendations using Room Builder in sim lab.
- Why? Because “form follows function.”

# Identify High-Risk Tasks

Are you putting yourself, your coworker, and your patient at risk with manual lifting?



# Repositioning in Bed: Boosting and Turning



## Limb-Holding



Consider wound care clinics.

# Lateral Transfers



Consider radiology, ED, OR.

# Bed-to-Chair Transfers



# Ambulation



# Floor Rescue



## Patients of Size

**Dignified care for patients of size:**

Turning  
Limb-lifting  
Repositioning  
Standing  
Ambulation  
Comfort



# Things We Need to Know

- How wide is a typical bariatric bed? 40" (standard mattress 35.5")
- Does the bed expand? Yes, to 50"
- Does it fit through the door when expanded? Good question!
- Do you **only** use a bariatric bed if the patient weighs more than 500#? No
- How wide is a bariatric stretcher? 30"
- How wide is a bariatric patient chair? 30" seat width
- How wide is a bariatric family/visitor chair? Up to 40"
- Turning radius of floor lifts? Bariatric lift footprint is 46" X 53" when expanded.



# Bariatric Patient Environment

## Minimum Design Standards

### Patient transfer from bed to chair using floor-based lift

- The clinical teams informed the topic group that this task is often performed by three caregivers but rarely fewer than two.
- Our study involved the more common instance involving two caregivers.

#### Findings:

- Patient transfer using a mobile lift required a **7'-0" x 10'-6"** clear space to perform the task.

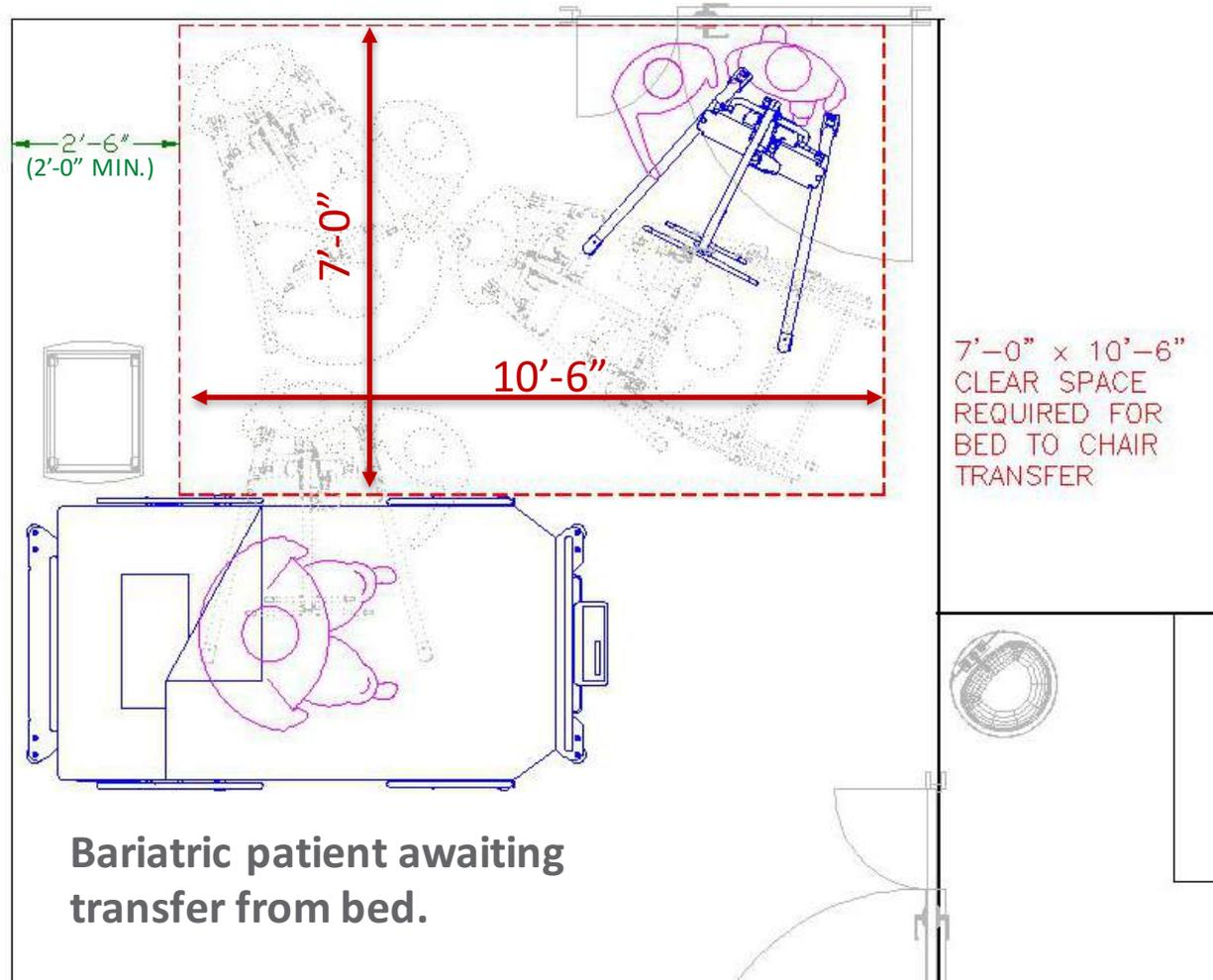
*NOTE: This task shall be maneuvered at the caregiver side of the patient bed. The clear space defined shall be no closer than 2'-0" (2'-6" preferred) from the room's headwall and shall be adjacent to the patient bed (see illustration Steps 1-4).*



# Bariatric Patient Environment

## Minimum Design Standards

**Step 1:**  
Two caregivers enter patient room with mobile lift.



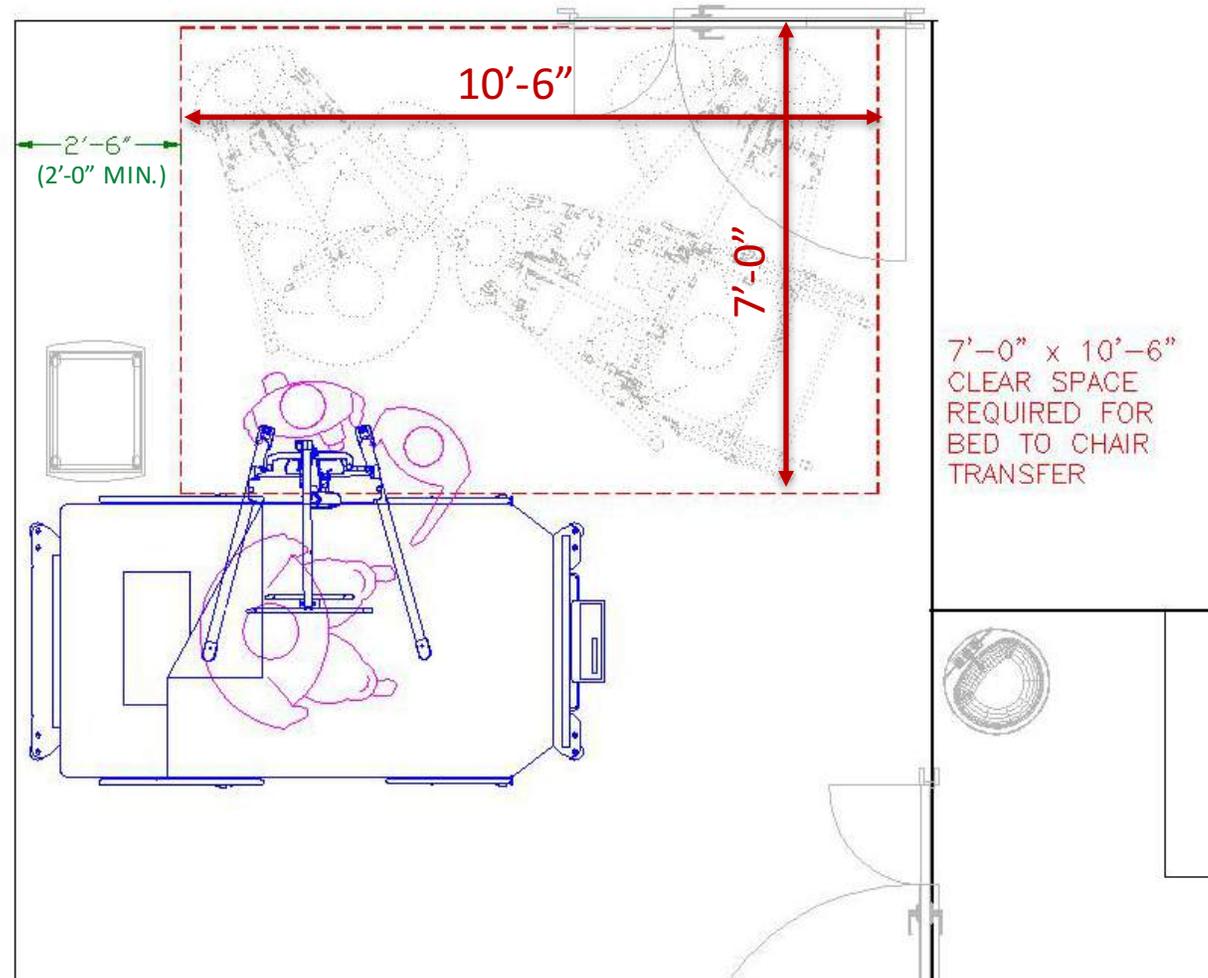
Minimum Clearances Required for Bed-to-Chair Transfer Using Floor-Based Lift

# Bariatric Patient Environment

## Minimum Design Standards

### Step 2:

Two caregivers assist patient from bed to lift. (Legs of the lift need to fit underneath bed—bed clearance—and lift bar needs to be at the level of the patient's chest to support safe lift that is balanced.)

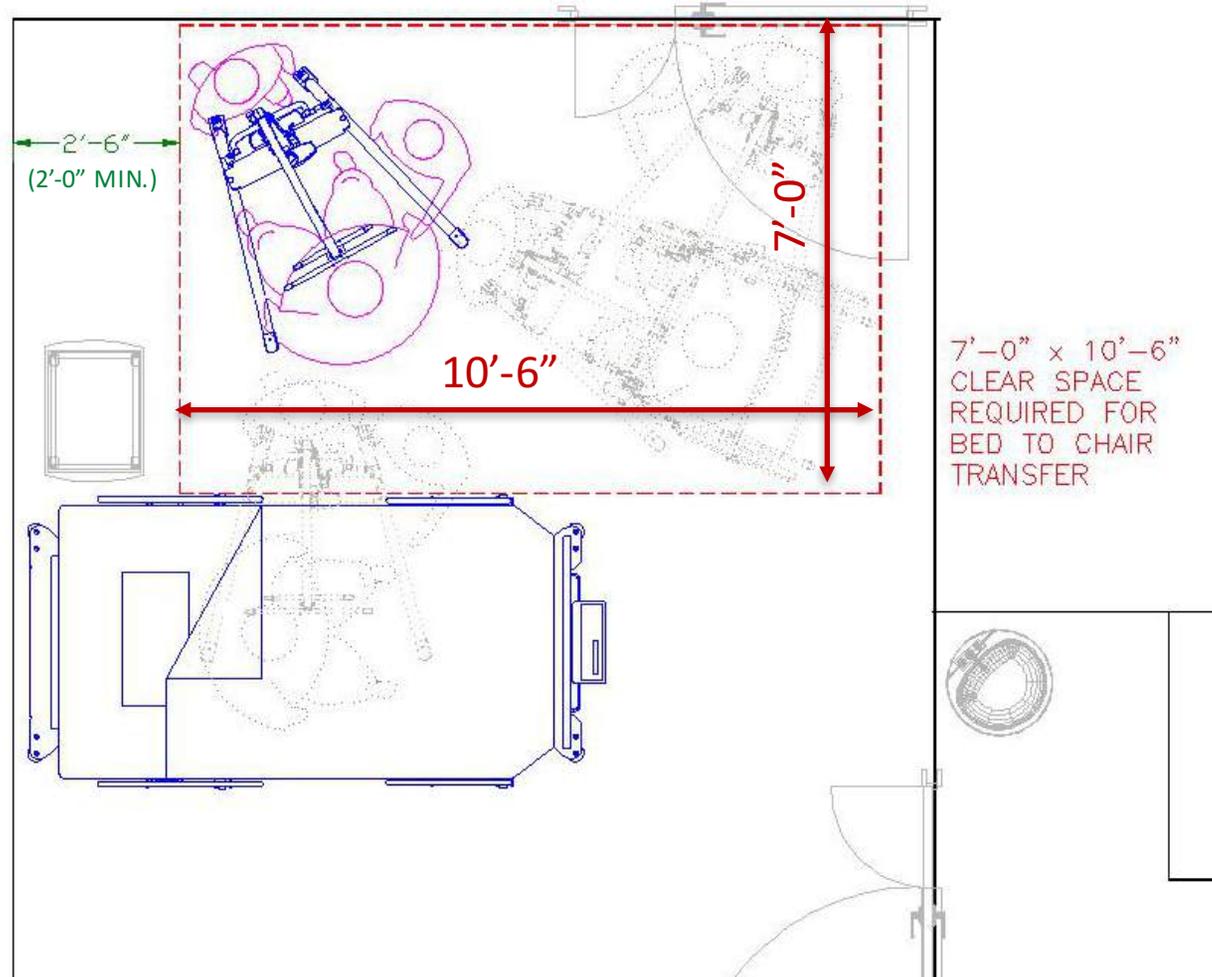


Minimum Clearances Required for  
Bed-to-Chair Transfer Using Floor-Based Lift

# Bariatric Patient Environment

## Minimum Design Standards

**Step 3:**  
Caregivers safely move patient in lift.  
(Need to know turning radius of lift so care team can back out lift and turn.)



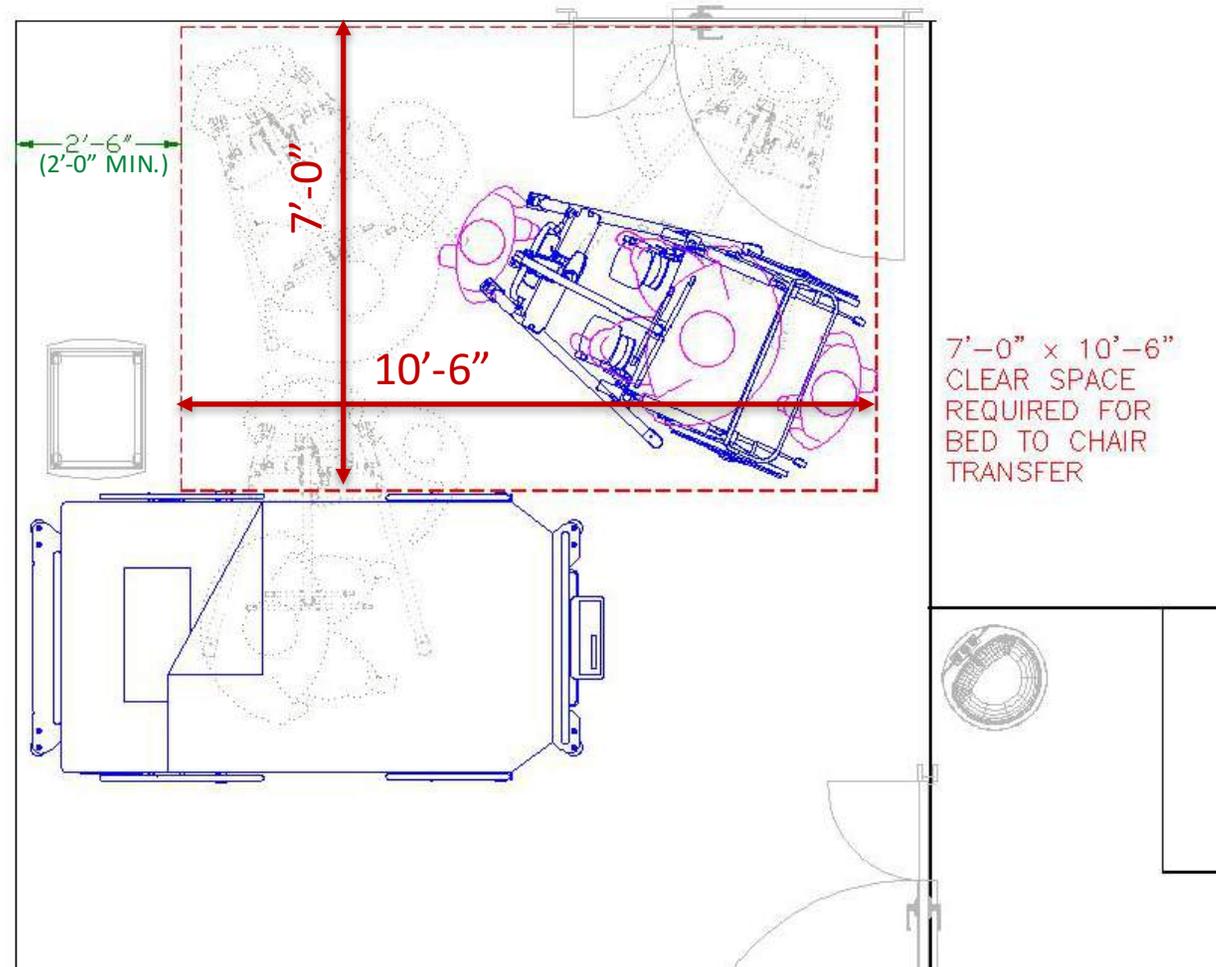
Minimum Clearances Required for  
Bed-to-Chair Transfer Using Floor-Based Lift

# Bariatric Patient Environment

## Minimum Design Standards

### Step 4:

Caregivers safely transfer patient from lift to bedside chair or commode.



Minimum Clearances Required for  
Bed-to-Chair Transfer Using Floor-Based Lift

# Bariatric Patient Environment

## Minimum Design Standards

### Patient transfer from bed to chair using overhead ceiling lift

- The clinical teams informed the topic group that this task could be performed by one caregiver, but it is recommended to have two.
- Our study involved the recommended transfer involving two caregivers.

#### Findings:

- The patient transfer using an overhead ceiling lift required a **5'-0" x 10'-6"** clear space to perform the task.

*NOTE: This task shall be maneuvered at either side of the patient bed. The clear space defined shall be no closer than 2'-0" from the room's headwall and shall be adjacent to the patient bed (see illustration Steps 1-4).*



# Bariatric Patient Environment

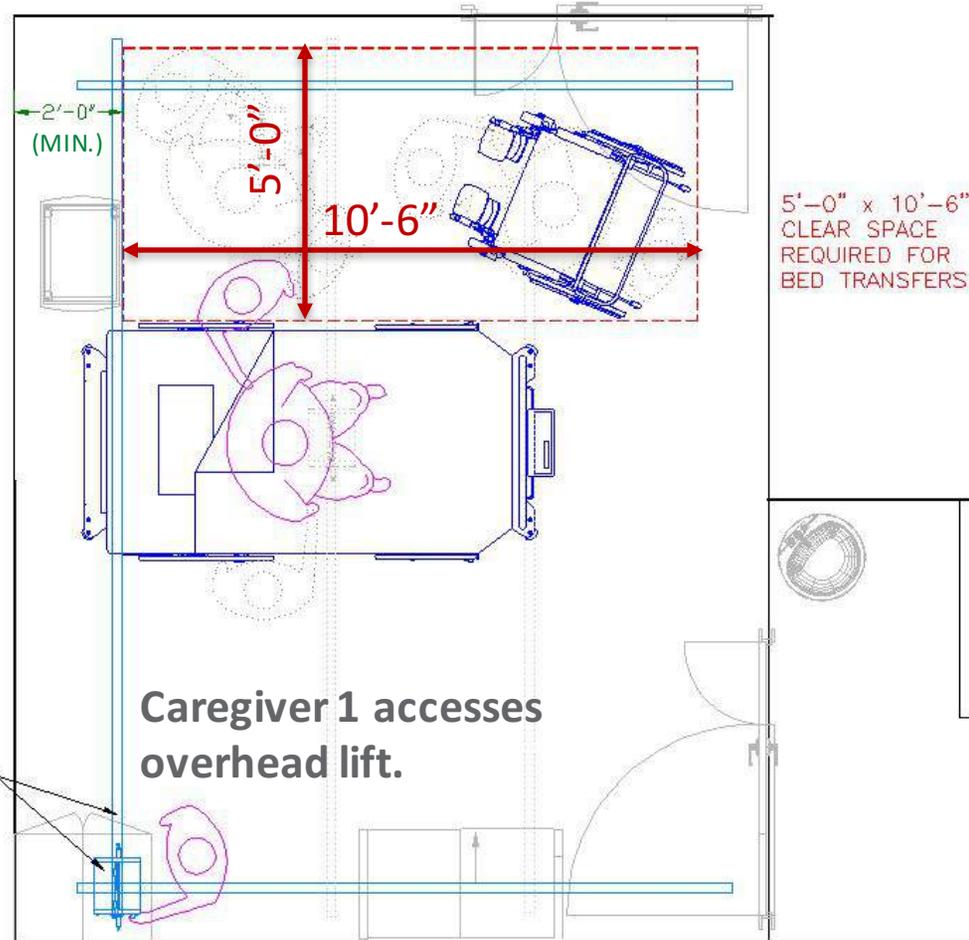
## Minimum Design Standards

**Step 1:**  
Caregivers  
prepare for  
transfer.

Caregiver 2  
prepares  
patient for  
transfer.

Caregiver 1 accesses  
overhead lift.

SAFE PATIENT  
HANDLING  
OVERHEAD LIFT  
AND RAIL SYSTEM



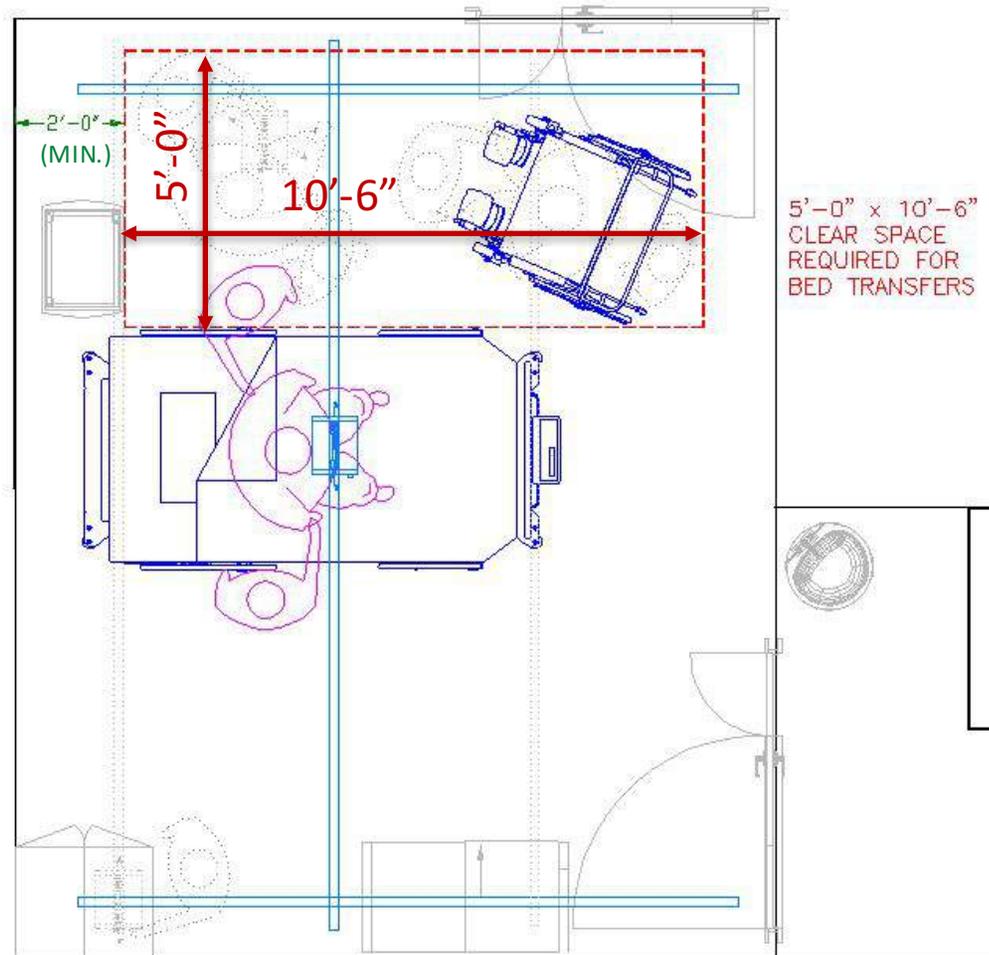
Minimum Clearances Required for  
Bed-to-Chair Transfer Using Ceiling Lift

# Bariatric Patient Environment

## Minimum Design Standards

### Step 2:

Caregivers assist patient into overhead lift sling. (Overhead lift shows XY configuration to cover full room instead of straight rail across the bed. Two primary rails are located along bedside with one traversing rail.)

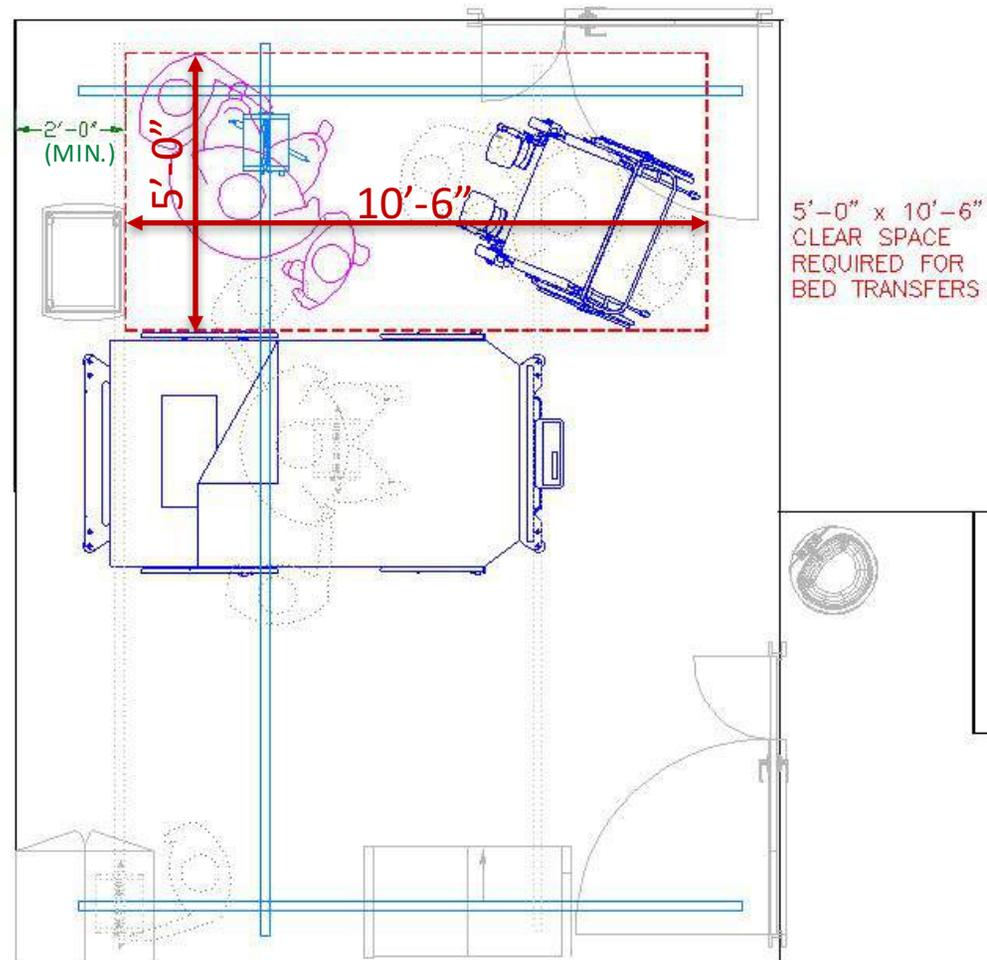


Minimum Clearances Required for Bed-to-Chair Transfer Using Ceiling Lift

# Bariatric Patient Environment

## Minimum Design Standards

**Step 3:**  
Caregivers  
safely transfer  
patient from  
bed to lift.

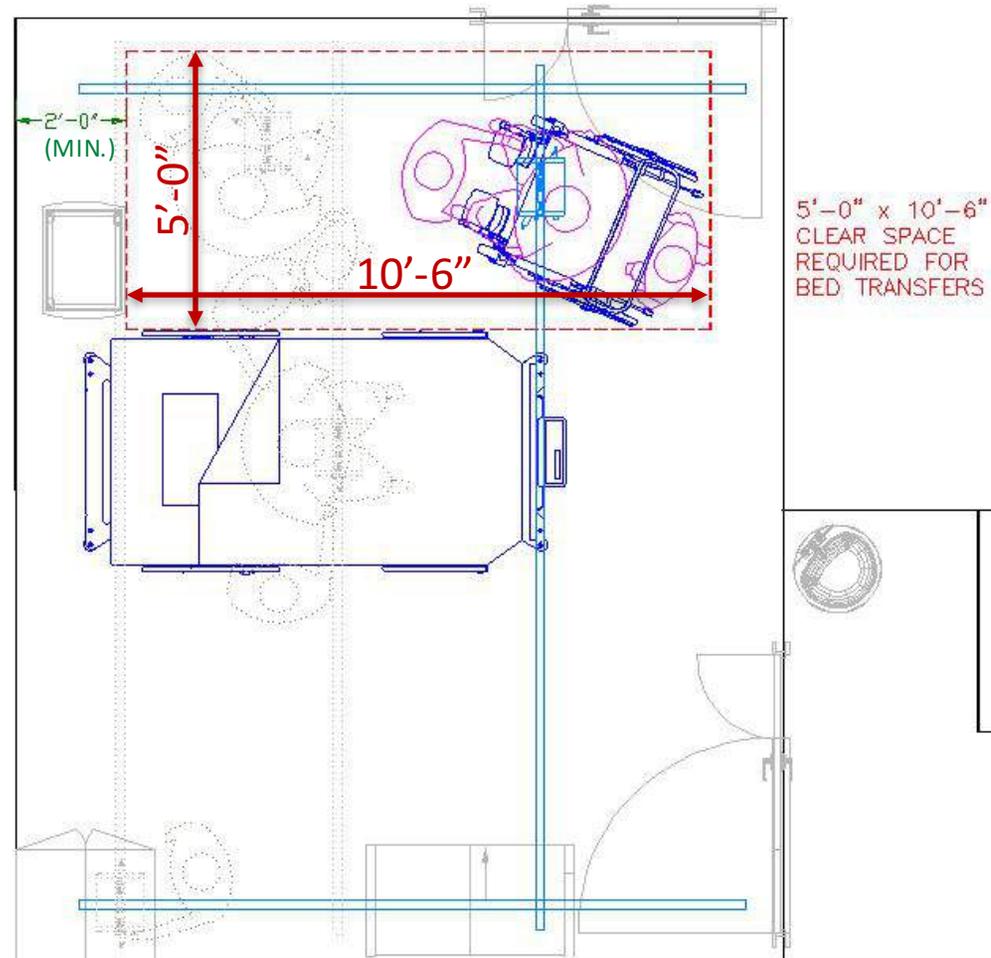


Minimum Clearances Required for  
Bed-to-Chair Transfer Using Ceiling Lift

# Bariatric Patient Environment

## Minimum Design Standards

**Step 4:**  
Caregivers  
safely transfer  
patient to chair.



Minimum Clearances Required for  
Bed-to-Chair Transfer Using Ceiling Lift

## Aha Moment!!



- Floor lift requires 7'0" X 10'6" clear space.
- Ceiling lift requires 5'0" X 10'6" clear space.
- We just saved 20 square feet at @ \$400/square fo
- That covers the cost of the ceiling lift and enables the nursing team to provide optimal care for the bariatric patient in accordance with recommendations from the ANA, NIOSH, FGI.
- That is a win for everyone!

What about toileting needs?

# Bariatric Patient Environment

## Minimum Design Standards

### Patient transfer from bed to toilet

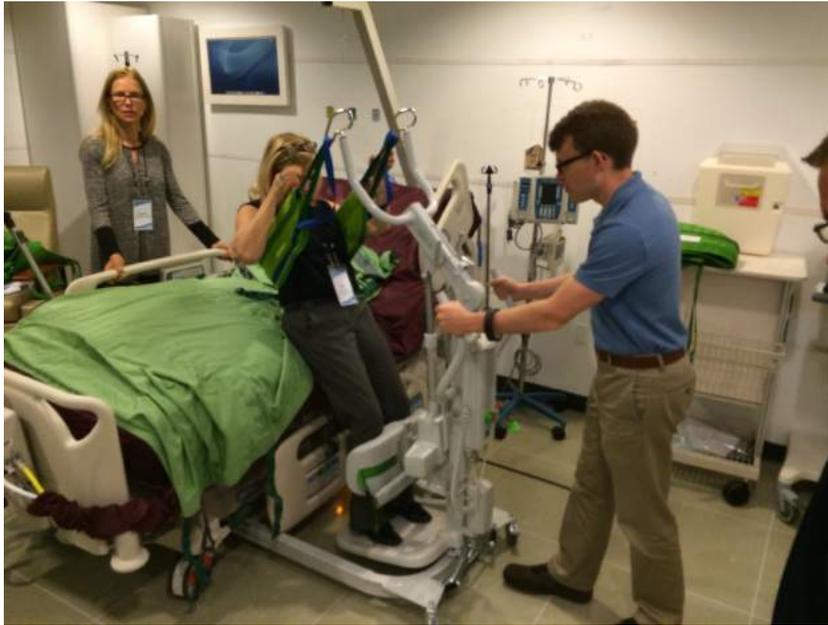
The clinical teams informed the topic group that this task is often handled by two caregivers using a “sit-to-stand” mobile lift.

- Our study involved two caregivers and a “sit-to-stand” (STS) mobile lift.
- The group wanted to clarify the clearances needed in the patient room and about the bathroom, specifically when transferring a patient to the toilet.

#### Findings:

- Patient transfer using the STS required a 5'-0" x 10'-6" clear space to perform the task in the room on either side of the bed.
- The approach to the toilet using the lift required a 3'-0" clearance from toilet centerline for a caregiver at either side of toilet. The 3' on either side totals 6' overall and needed to be maintained from face of toilet to support wall, roughly 2'6".
- To make the transfer, the team required 6' in front of the toilet and roughly 4' of width.

*NOTE: Though this task should be maneuvered from either side of the patient bed, the illustrations display a transfer from the Family side of bed vs. caregiver side (see illustration Steps 1-5 attached).*



**ADA Compliance:** Toilet 16-17" offset from wall with grab bar on side wall to support w/c transfer

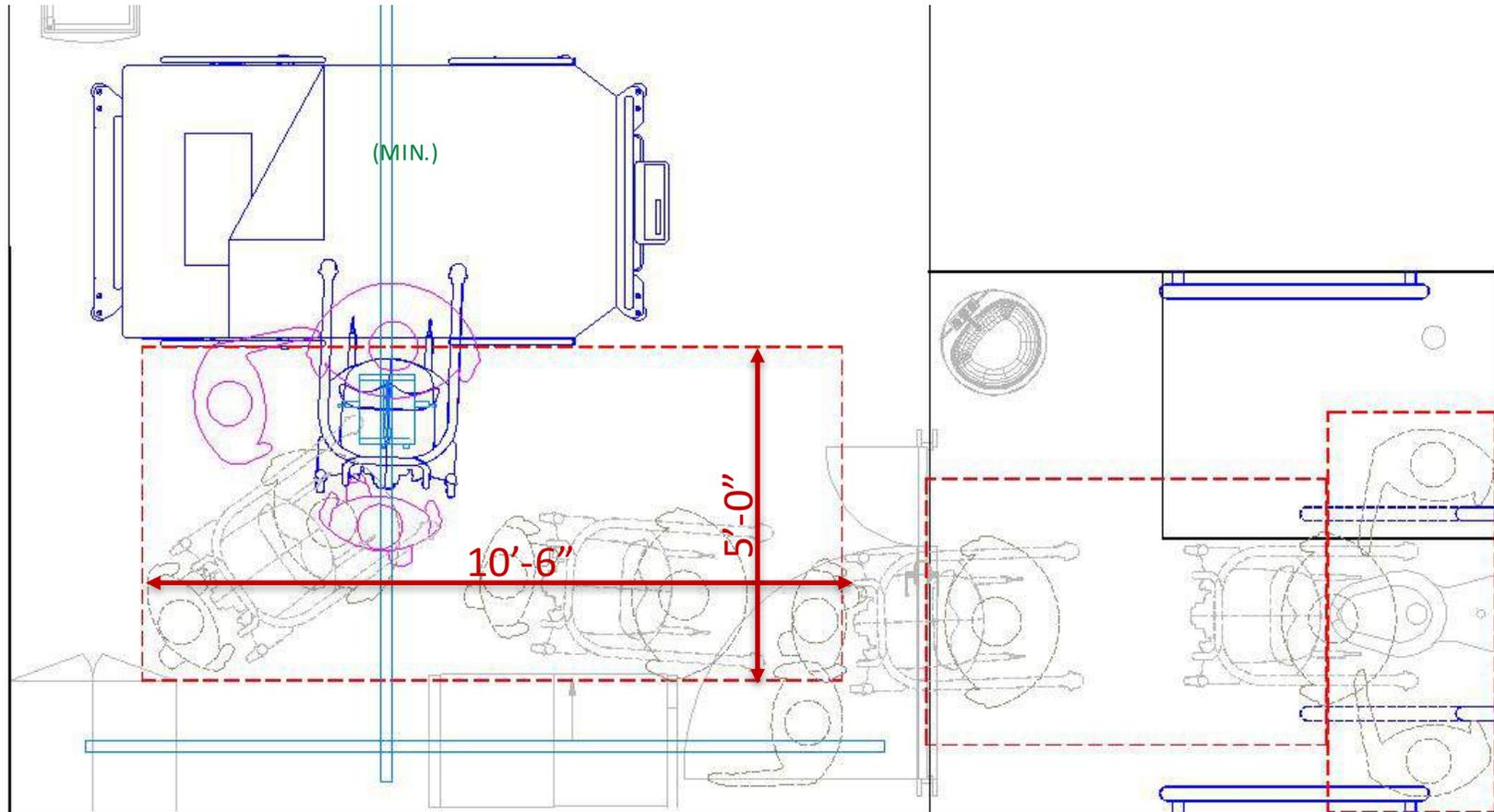
**Problem:** Width of patient of size makes this prohibitive.

**Solution:**

- Variance and more space so patient can sit on toilet
- Floor-mounted expanded capacity (1000#) toilet

# Bariatric Patient Environment

## Minimum Design Standards

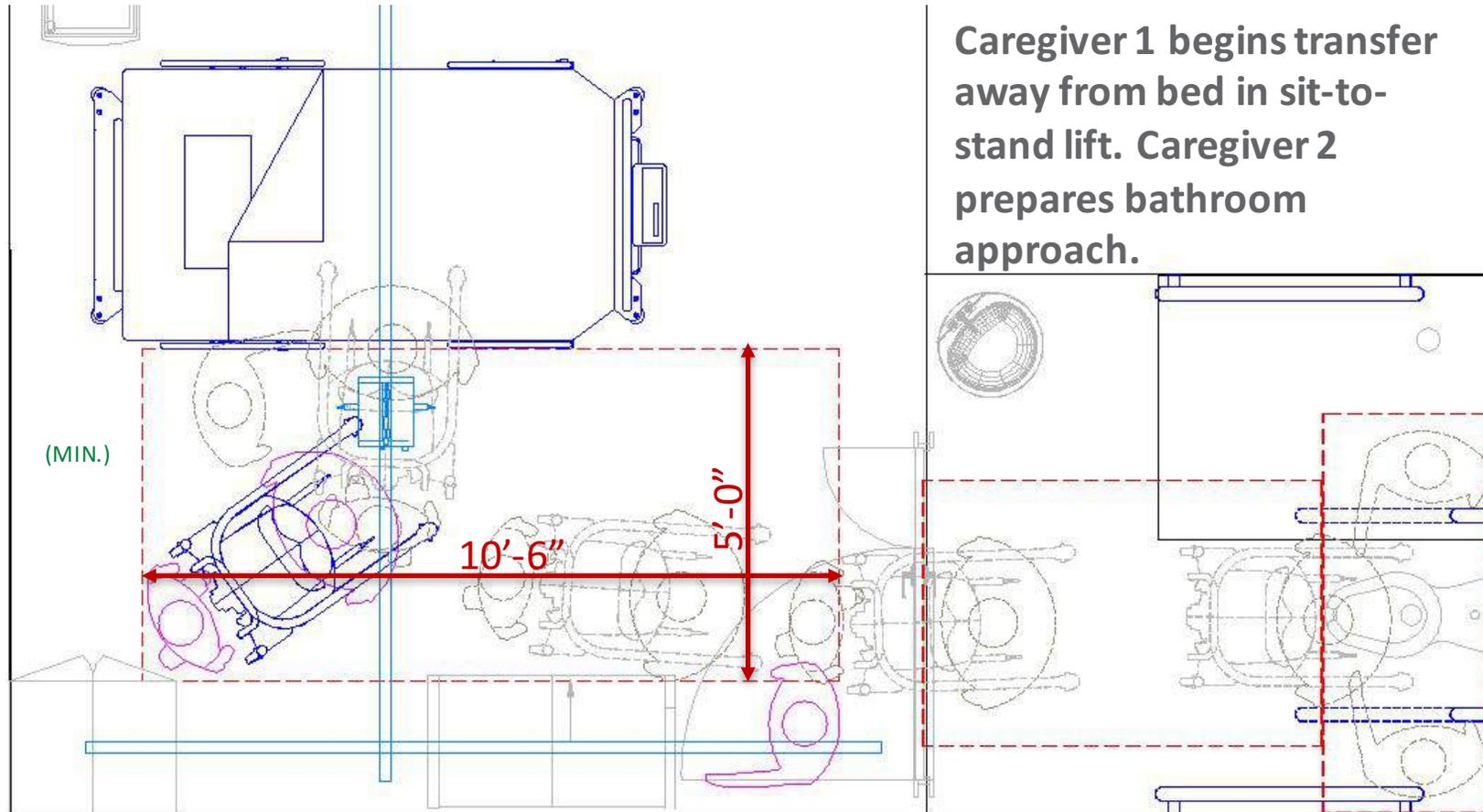


**Step 1:** Caregivers assist patient into sit-to-stand lift in preparation for transfer to toilet.

Minimum Clearances Required for Bed Transfer to Toilet Using Sit-to-Stand Mobile Lift

# Bariatric Patient Environment

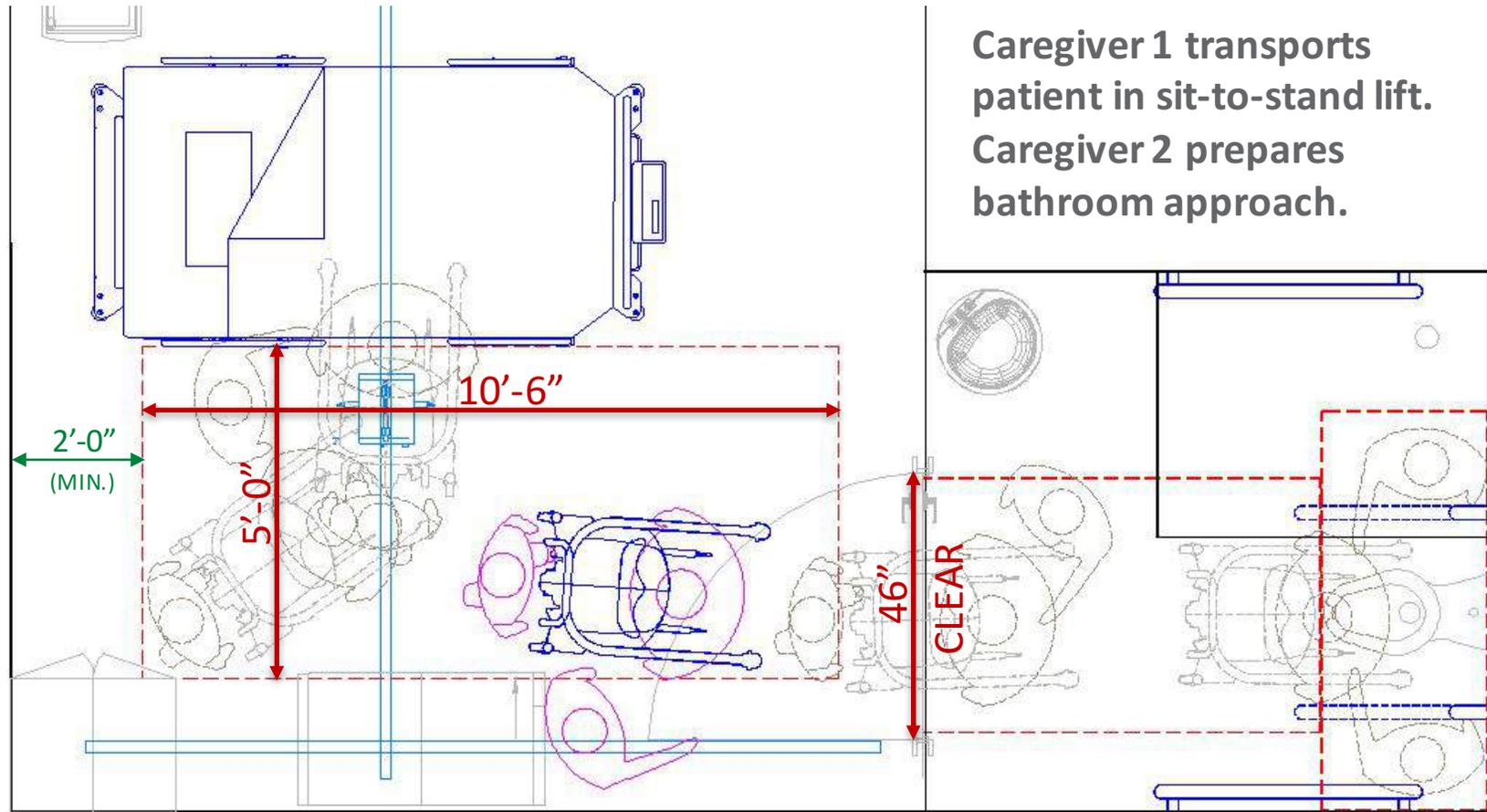
## Minimum Design Standards



**Step 2:** Caregivers begin transfer away from bed toward bathroom.

# Bariatric Patient Environment

## Minimum Design Standards

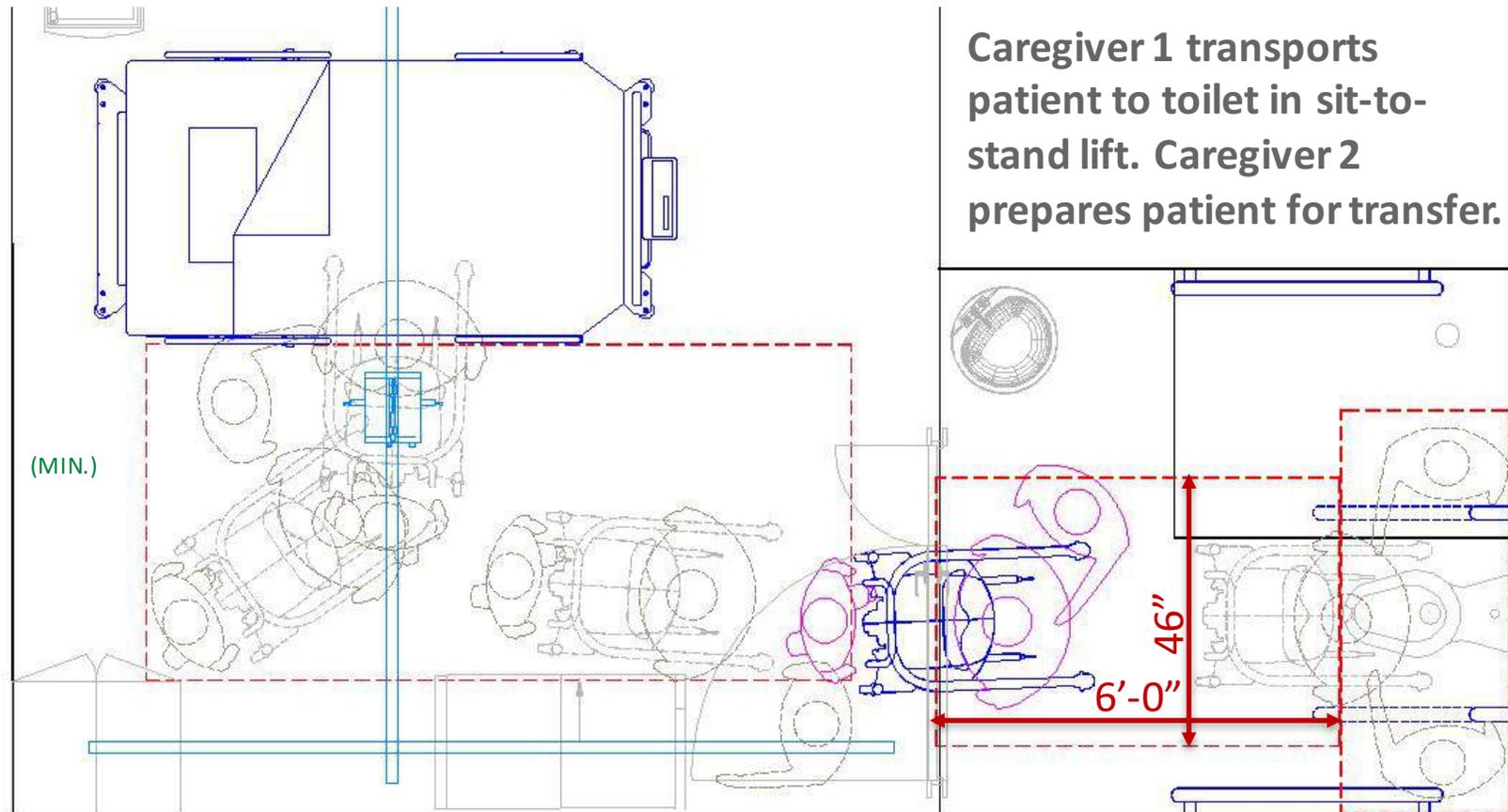


**Step 3:** Caregivers move patient toward bathroom.

Minimum Clearances Required for Bed transfer to Toilet Using 'Sit-to-Stand' Mobile Lift

# Bariatric Patient Environment

## Minimum Design Standards



**Step 4:** Caregivers transfer patient to toilet.

Minimum Clearances Required for Bed Transfer to Toilet Using Sit-to-Stand Mobile Lift

## Next Steps

- Determine means of estimating number of patient rooms needed to accommodate patients of size for future renovation and new construction.
- Bariatric percentages vary across the U.S. – Use CDC data to determine needs based on bariatric projections for community population.
- Work with VA data to create calculation for need based on admission rates and length of stay.
- Work with PhD student team at Northwestern to build model.
- Remember that design for a culture of safety includes a safe work environment for the care team.

# Draft Proposal

## Expanded capacity room weight recommendations:

- Expanded Capacity 1 - Rooms for patients with weight range from 300-500 lbs. (number of rooms to be determined based on bariatric projections calculator – CDC statistics combined with facility admission weight reports)
- Expanded Capacity 2 - Rooms for patients with weight greater than 501-800 pounds (number of rooms to be determined based on bariatric projections calculator – CDC statistics combined with facility admission weight reports)

# Safe Patient Handling and Mobility

SPHM is the common thread that weaves through our clinical practice protocols including:

- Designs for early mobility in the ICU
- Designs for fall prevention throughout the facility
- Designs for care of patients of size
- Designs for safety and efficiency for the care team
- Design for SPHM in the OR

A safe patient handling and mobility program helps mobilize the patient **sooner**, making the patient **stronger** and preventing the deconditioning effects of immobility, with a focus on **safety** for both caregiver and patient.