



A NIOSH Center for Excellence to Promote a Healthier Workforce

Safe Patient Handling: Highlights of current research U.S. public policy efforts to improve safety

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Topics for this presentation

Case study of a safe resident handling (SRH) program in a large long-term care company:

1. What were its key features?
2. Under which circumstances was it more effective?
3. How could it have been strengthened?
4. What can we learn from this program that might persuade decision-makers at other healthcare institutions?



Promoting Caregivers' Physical & Mental Health via Transdisciplinary Intervention (“ProCare”)

A large chain of nursing homes implemented a Safe Resident Handling Program (SRHP) in >200 skilled nursing facilities:

- Needs assessment for each resident
- Resident lifting equipment purchased
- Protocols for battery re-charging, sling laundering, labels on residents’ charts
- Staff training on policies, operation & maintenance



Safe Resident Handling equipment



Total Body Lift

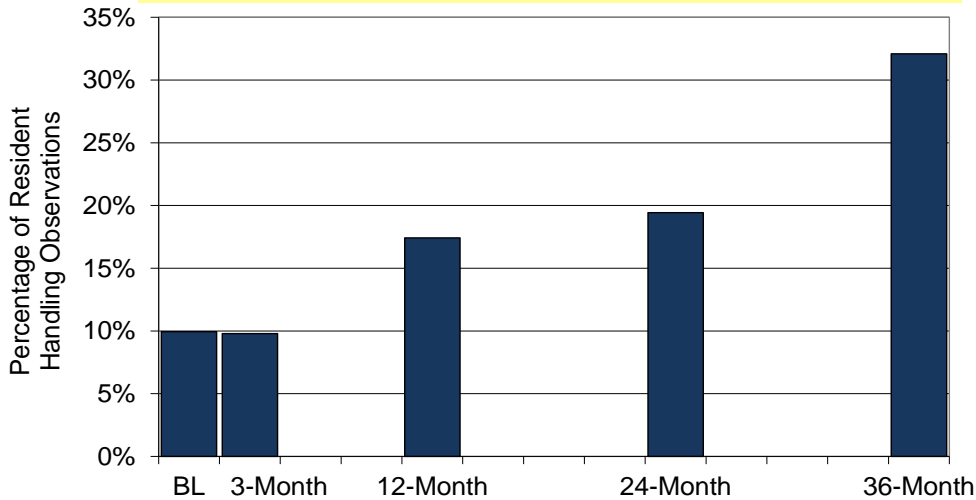


Sit-Stand Lift

Photo credits: <http://www.invacare.com>



Equipment Use in Resident Handling

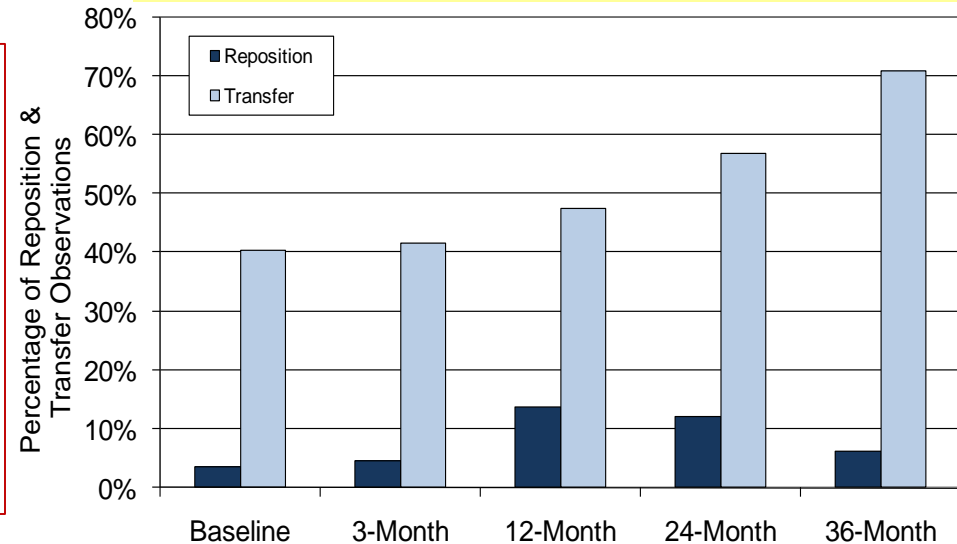


- Less weight in hands
- Less time w/ arms elevated
- Less trunk twisting and severe forward bending
- Lower % of observations in RH

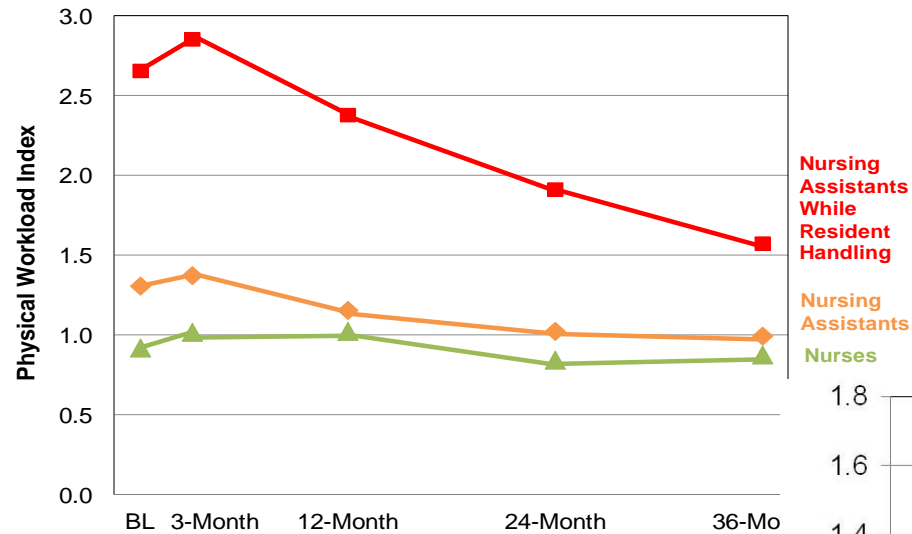
Equipment Use by Nursing Aides, before/after SRHP

(% of researcher observations)

Equipment Use (Reposition/Transfer)

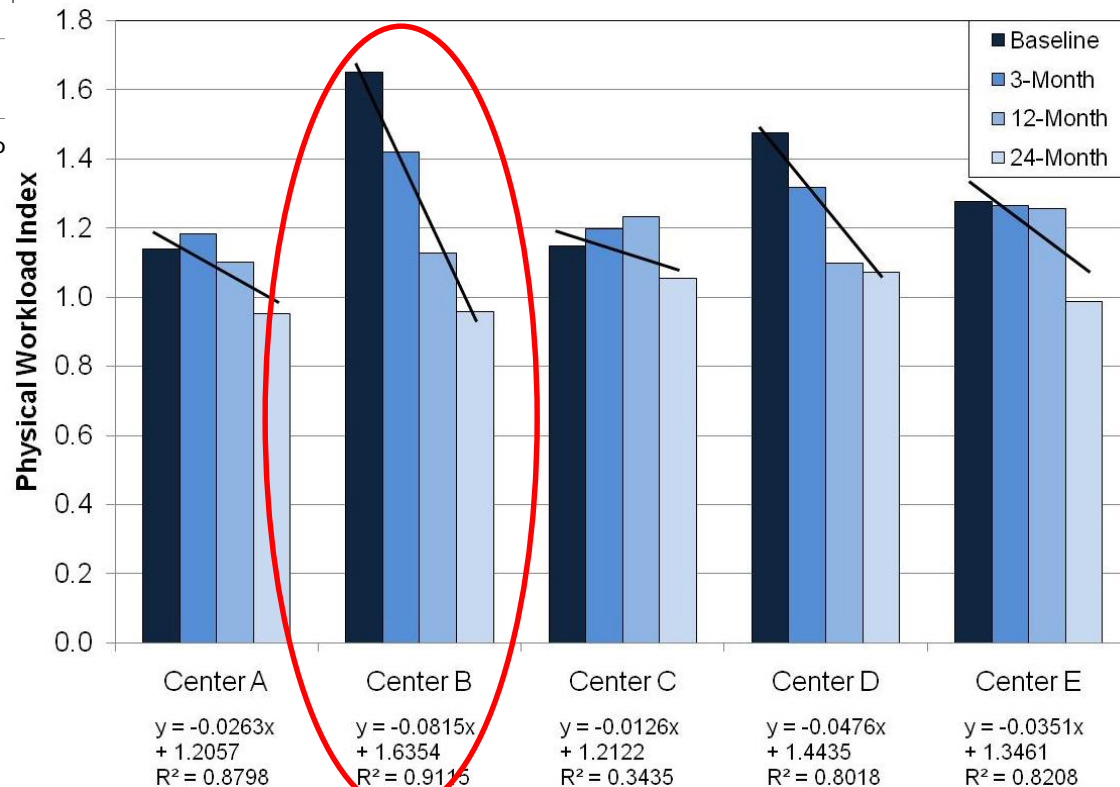


Physical Workload Index



Kurowski et al. 2014

Variability among centers in physical workload index (nursing aides)



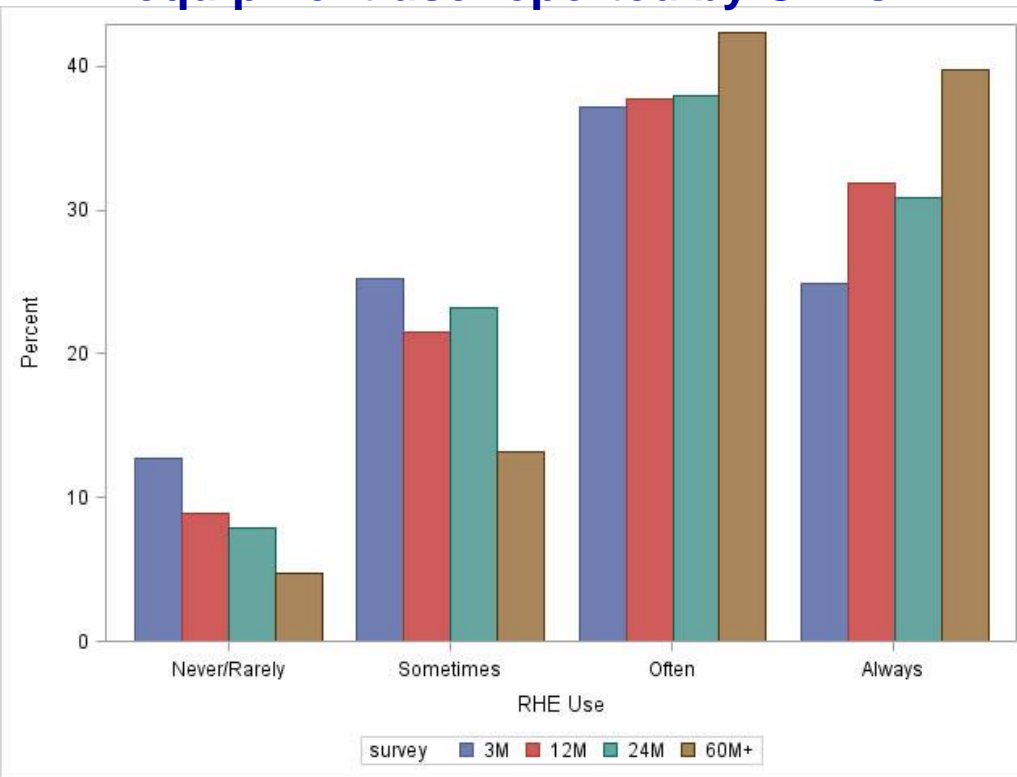
Center B (largest decrease in physical workload) had more positive work organization features: less time pressure, better staff communication, and more access to equipment.

[Kurowski et al. 2012b]



Resident handling equipment use by individual workers (4 surveys)

Frequency of resident handling equipment use reported by CNAs



Multivariable modeling

Factors related to *higher* use of equipment by individual workers:

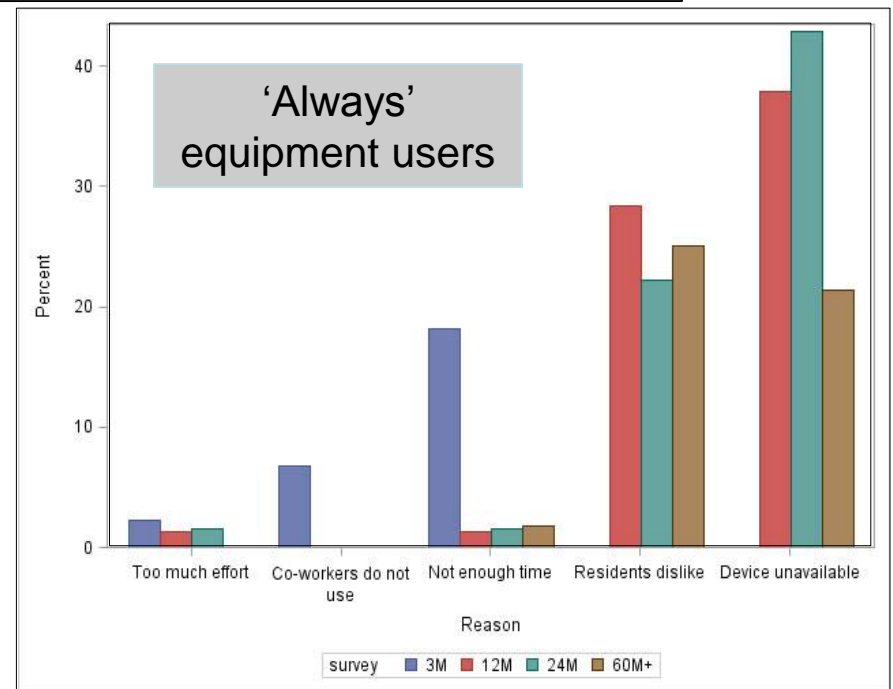
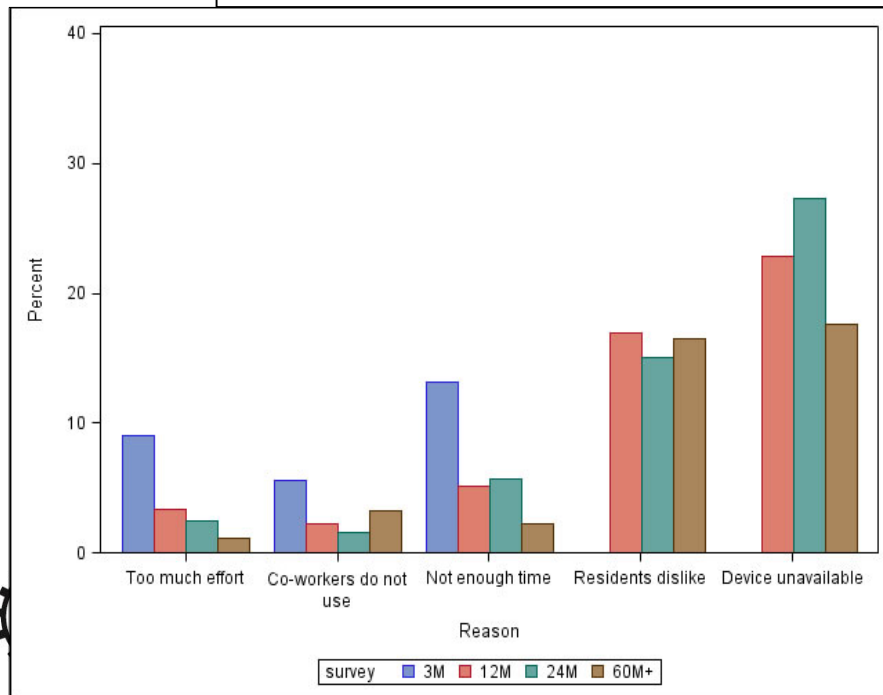
- Prior expectations of SRHP benefits
- Health self-efficacy
- Age
- Perceived center commitment to SRHP
- Less frequent workplace assault
- *Lower supervisor support*



Reasons for not using resident handling equipment

If you don't use a lifting device every time, why not?

- Device unavailable when needed
- Residents dislike them
- Not enough time
- Too much extra effort
- My co-workers don't use them



Rates of Injury Claims

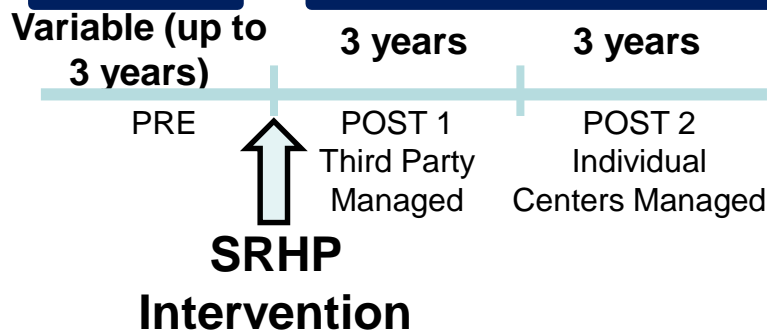
Workers' compensation claims before/after SRHP (136 skilled nursing facilities)

- Clinical staff
- Resident handling-related claims

Before:

Total injuries (≤ 3 yr) = 2,551
 Total workforce* = 27,429
 FTE-years

Rate: **0.0930**



After:

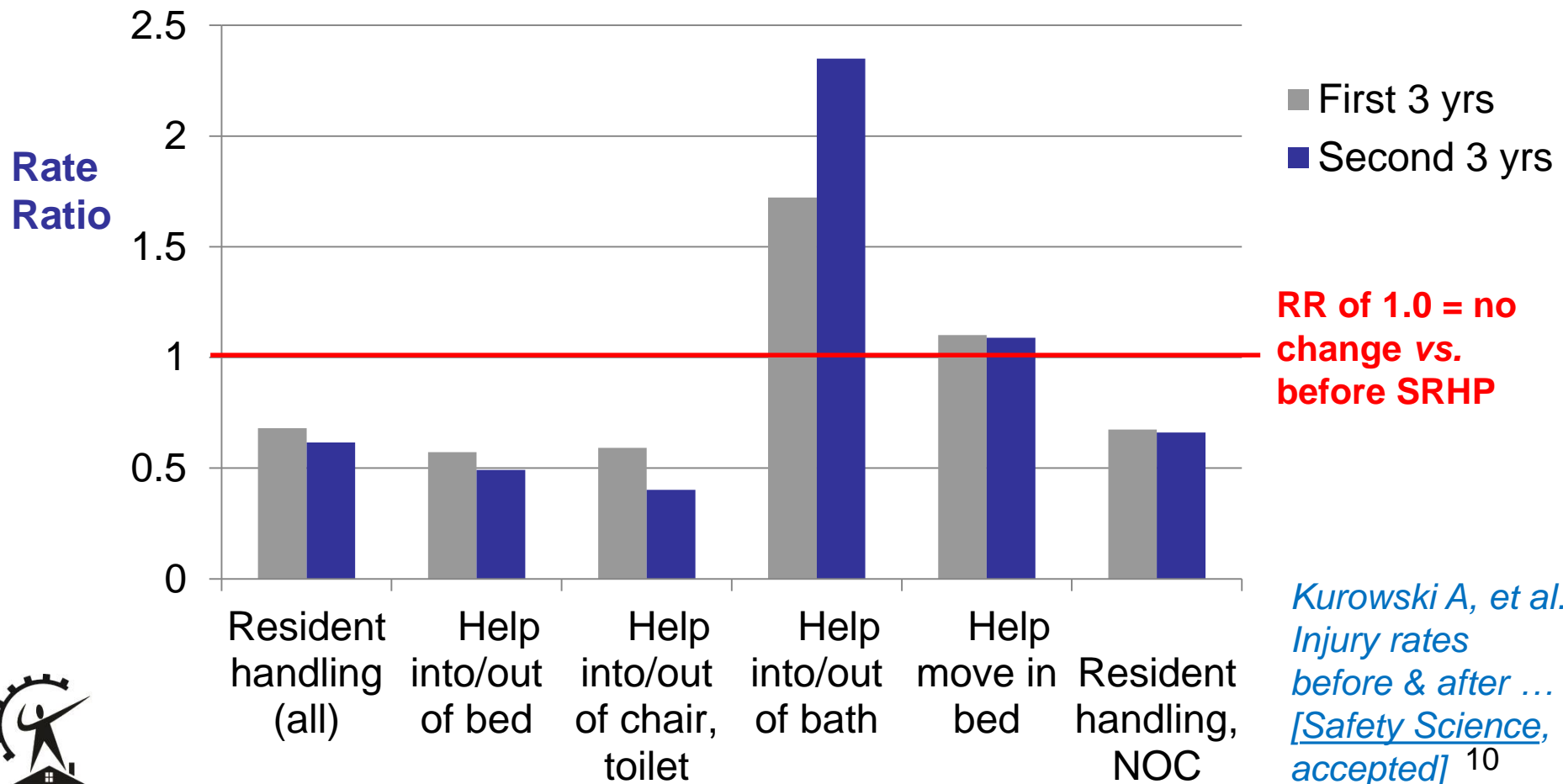
Total injuries (3 yr) = 2,200
 Total workforce* = 34,757
 FTE-yrs

Rate: **0.0633**

RR = 0.68 ₉

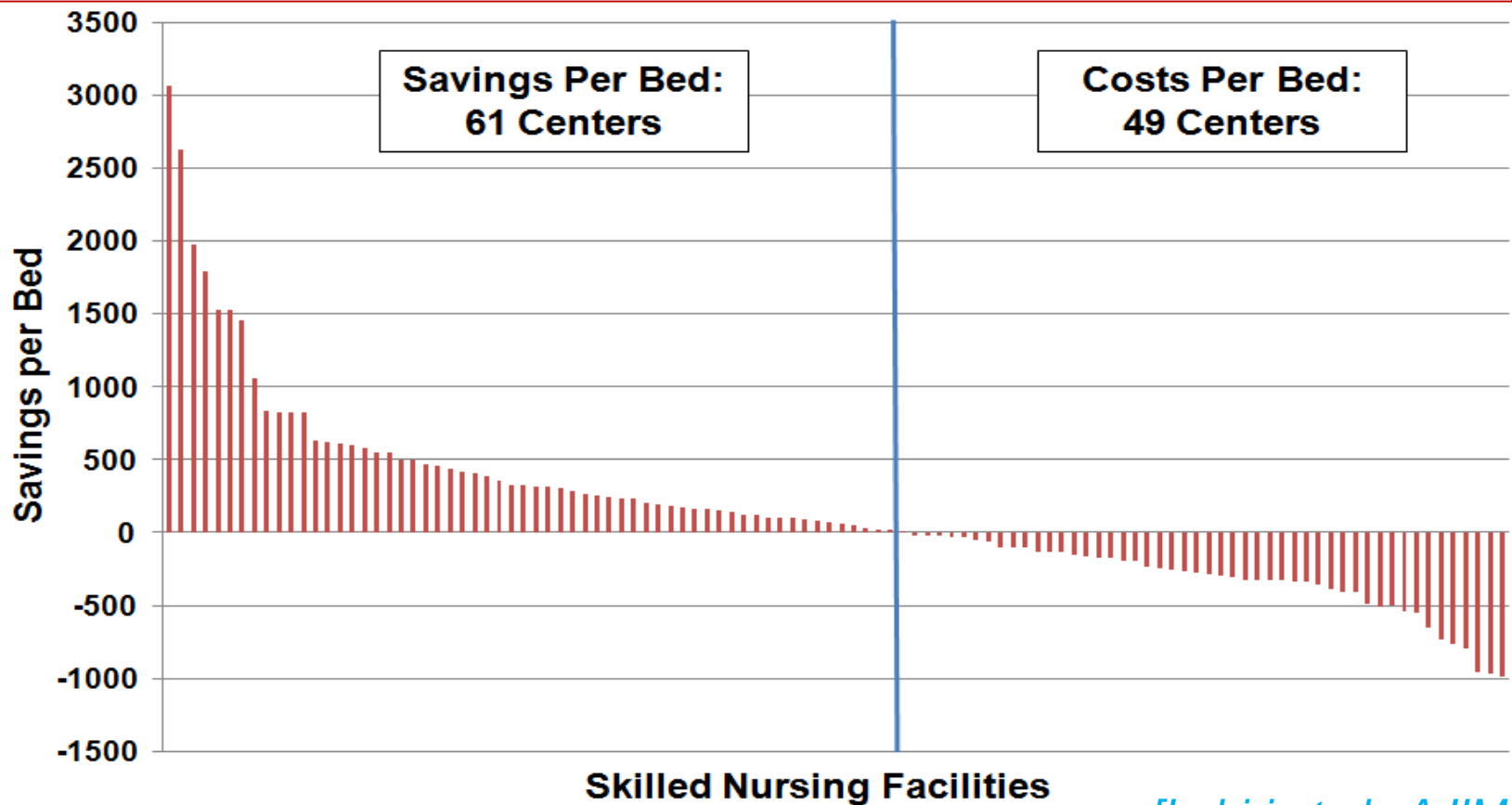


Workers' compensation claims for resident handling incidents (136 SNF's) before/after SRHP implementation



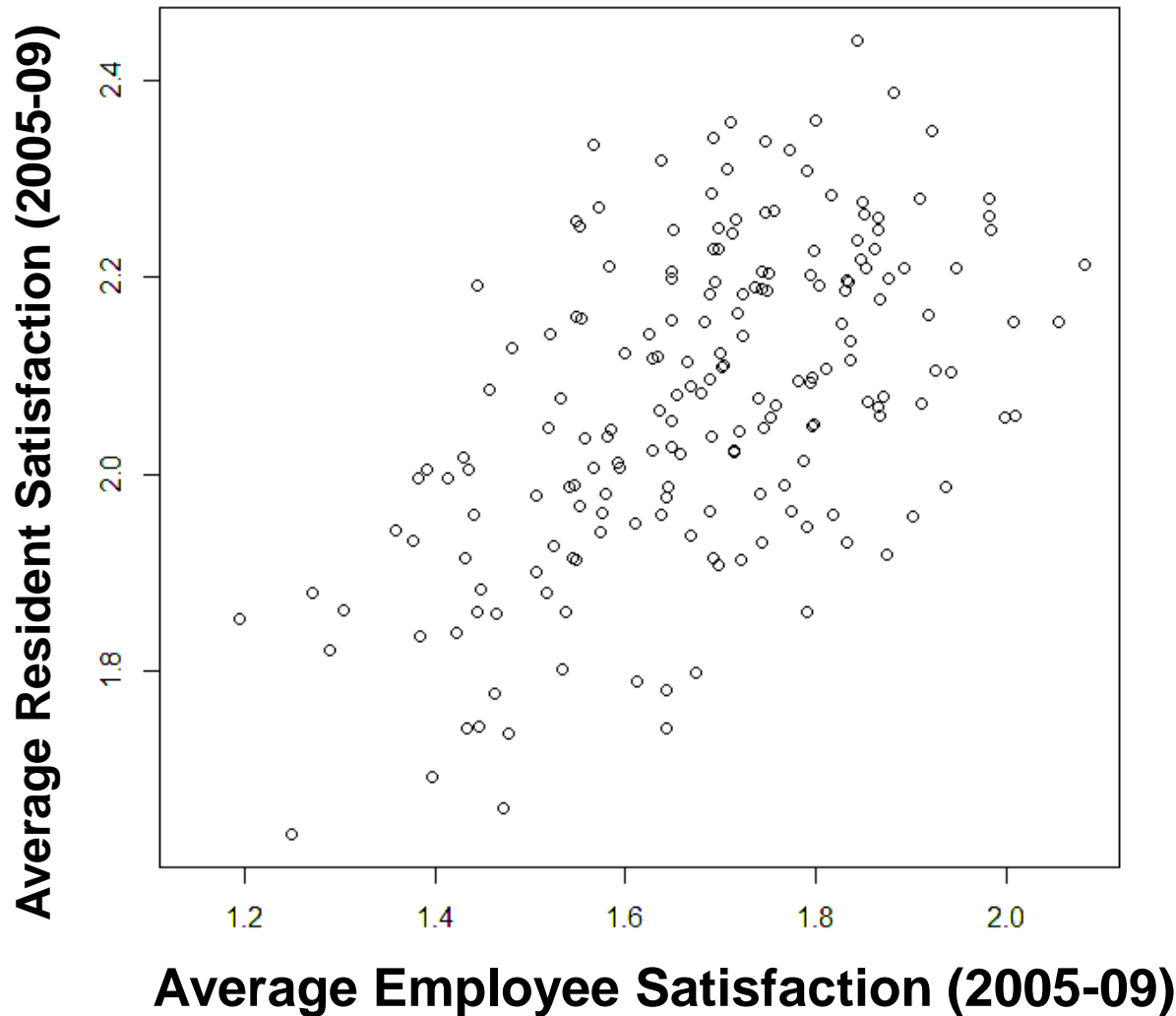
Total annualized net savings = \$4.584 million
Overall benefit-to-cost ratio at least 1.68

Average net savings = \$143 per bed per year

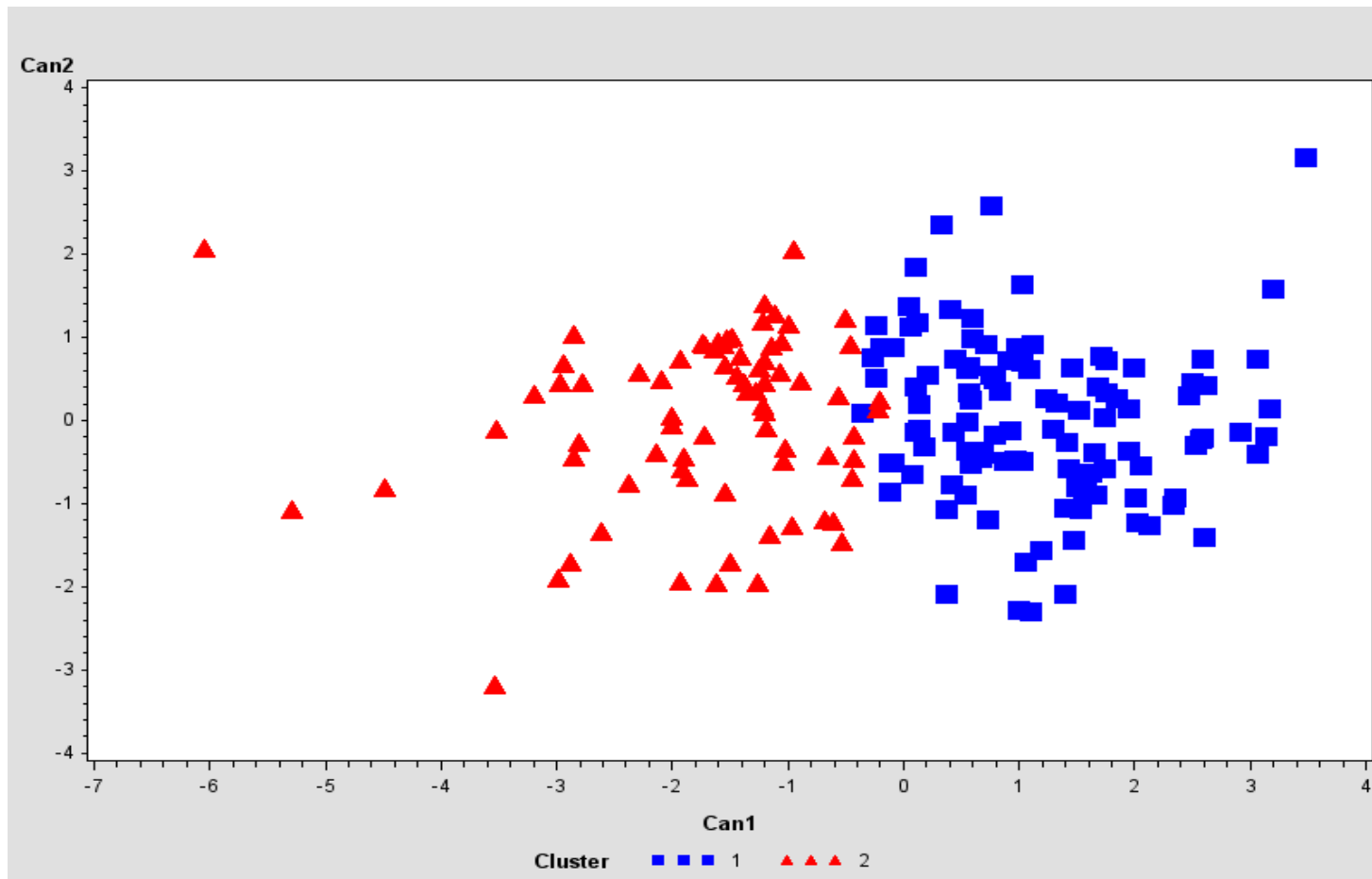


[Lahiri et al., AJIM 2013]

Overall employee satisfaction and resident satisfaction (center averages)



Cluster analysis was used to divide the skilled nursing facilities into 2 groups



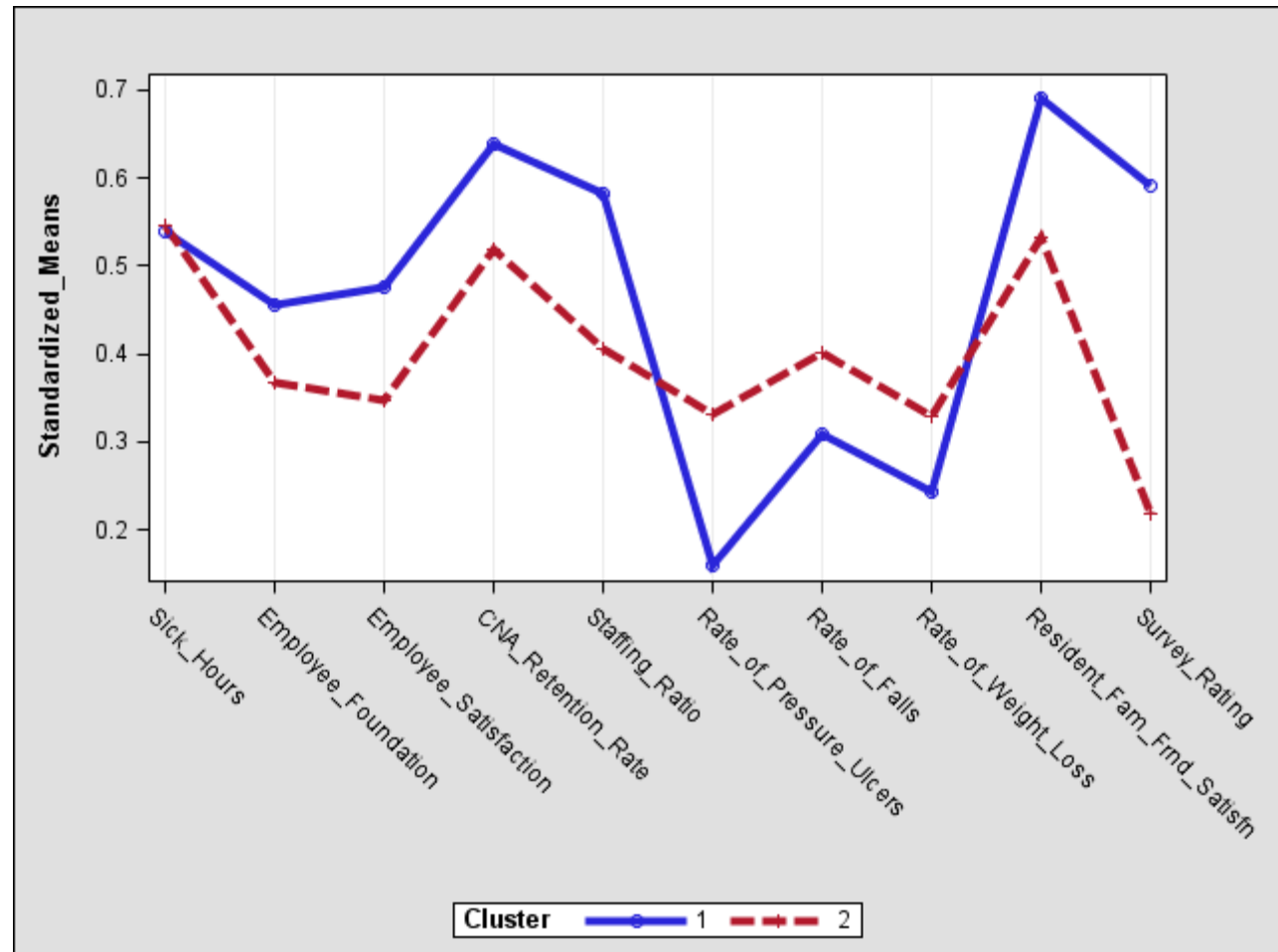
Punnett L, et al. [under review] How does the nursing home work environment affect nursing home residents?



Average values of center characteristics for two clusters of skilled nursing facilities

Cluster 1:

- Higher employee satisfaction & retention
- Fewer resident falls, pressure ulcers, or weight loss
- Higher CMS ratings
- Fewer WC claims



Summary of results

1. Equipment use ↑
2. Ergonomic exposures ↓
3. Injury claim rates & costs ↓
4. Recurrent injuries ↓
5. Return on investment: 1-2 years
6. Low back pain ↓
7. Better work environment => residents' well-being and medical outcomes



How could the program be stronger?

Employee involvement in selection of lifting devices

Barriers to consistent equipment use should be addressed:

- Attention to device availability and maintenance
- Better communication among staff
- Increase workers' decision-making opportunities & empowerment

Local champion within each center



More room for improvement

- WC claims for “move in bed” increased
 - Few slip sheets and transfer boards observed
- Still not enough equipment/supplies
 - Centers have to purchase replacement devices
- Adequate staffing (time pressure)
- Residents uncomfortable with or afraid of devices
 - Resident/family education
- Assault prevention as an OSH measure



Overview of U.S. SPH legislative efforts

- Prompted by ANA's "Handle with Care" Campaign (2003), 12 states have enacted SPH laws, regulations, rules or resolutions:
 - CA, HI, IL, MD, MN, MO, NJ, NY, OH, RI, TX, WA
 - 10 states require a comprehensive program in health care facilities:
 - 1) Established policy
 - 2) Guidelines for equipment and training
 - 3) Data collection
 - 4) Evaluation



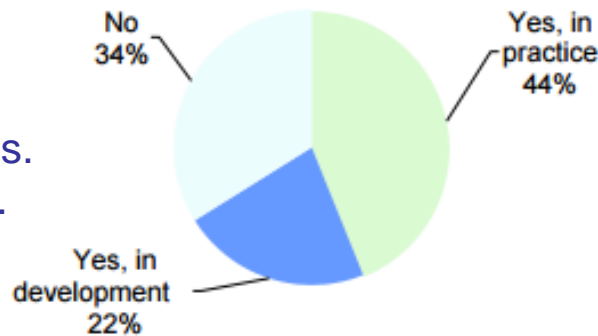
MA Department of Public Health survey of hospitals

- Surveys mailed to occupational health staff of the 98 MDPH licensed hospitals (April 2012)
 - 88/98 hospitals completed (90%)
- Goals:
 - Understand policy & practice in MA hospitals
 - Identify program components in place
 - Identify barriers to SPH implementation



Overview of Findings (1)

Figure 6-1: Percentage of hospitals with written SPH policies (n=85)



Among these 34% (29 hospitals), 13 had PH committees. But 16 had neither.

Department involved in the evaluation of patient lifting devices prior to purchase (n=88)³

Department	n	%
Front line nursing staff	74	84
Materials Management	59	67
Other direct patient care staff	59	67
Other	48	55

¹Excludes missing observation(s)

²Excludes "Not applicable" responses

³Respondents were asked to select all applicable responses; therefore, percentages may not add to 100

Table 6-9. Assessment of events relating to patient handling (n=87)¹

	n	%
Patient handling event assessment for patients		
Always	85	98
Sometimes	2	2
Patient handling event assessment for providers		
Always	76	87
Sometimes	10	12
Rarely	1	1

¹Excludes missing observation(s)



Overview of Findings (2)

Table 6-4. Safe patient handling policy components (n=35)¹

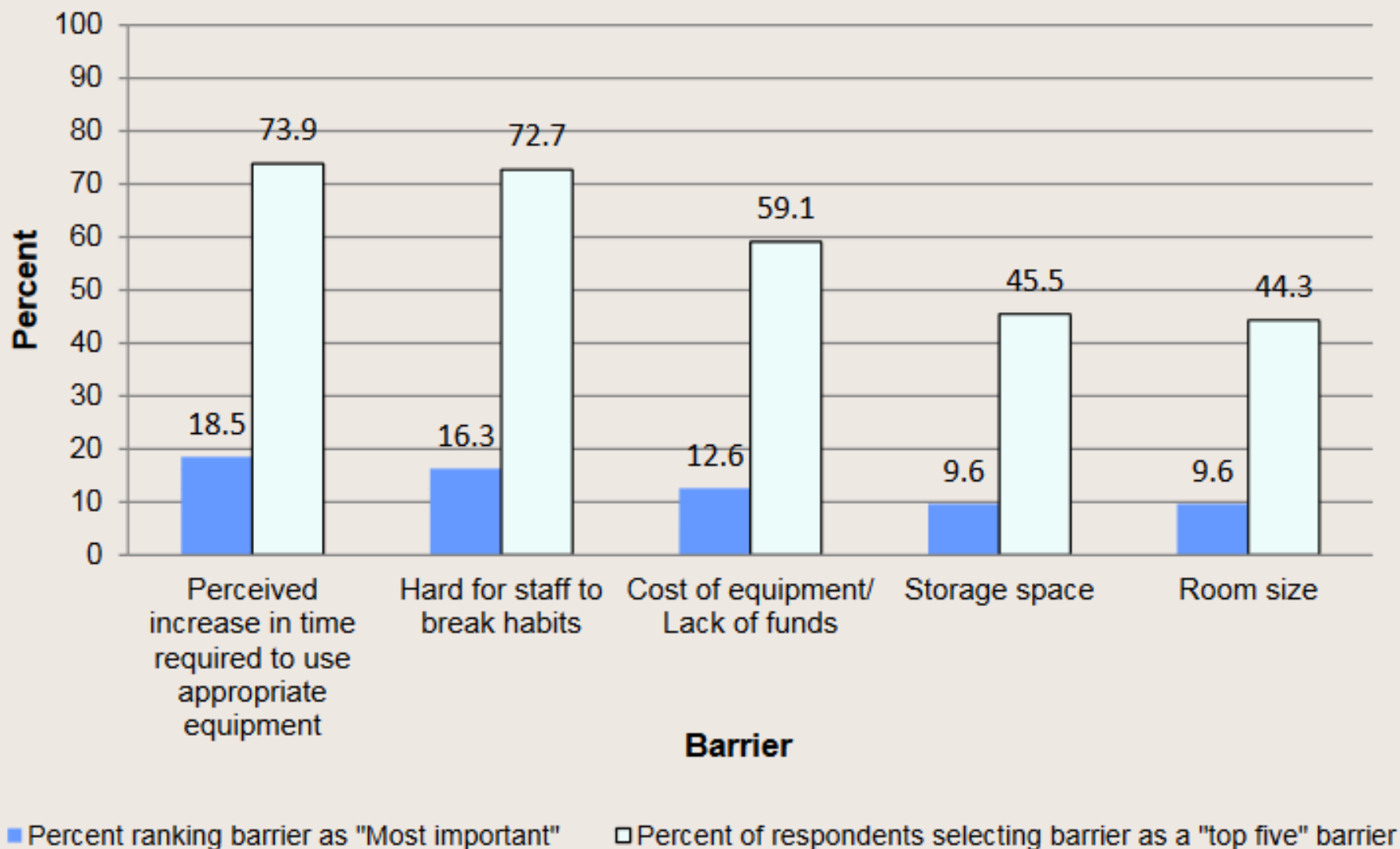
	n	%
Clinical Practice		
Assessment of patient functional mobility and transfer needs	30	86
Guidelines for selecting the appropriate patient handling method	26	74
★ Patient skin integrity/ prevention of breakdown	12	34
Prevention of patient falls	23	66
Equipment		
Accessibility, maintenance, and replacement of lifting equipment	22	63
Injury surveillance		
★ Reporting of injuries that are related to patient handling	22	63
★ Reporting of near misses or incidents without injury that are related to patient handling	15	43

	n	%
Training		
Training of employees on the use of lifting equipment	27	77
Training in assessment of patient mobility and transfer needs	23	66
★ Patient and family education	17	49
Other		
Compliance of employees with policy requirements	21	60
★ Special provisions for employees under the age of 18	3	9

¹Limited to hospitals with written SPH policies and excludes missing observation(s)



Figure 6-2. Top five barriers to addressing SPH in MA hospitals as perceived by respondents (N=88)¹



¹ Several hospitals tied multiple barriers as "most important"

MA Hospital Ergonomics Task Force Recommendations

To Hospitals:

1. Implement comprehensive & sustainable SPH programs
2. Design injury surveillance systems to distinguish PH-incidents
3. Document a mechanism for communicating concerns about patient handling tasks that expose a patient or worker to risk of injury
4. Incorporate infrastructure needs for SPH into design & planning phases of new construction or renovation



MA Hospital Ergonomics Task Force Recommendations

To other stakeholders:

1. Organizations providing risk management services to hospitals should assist in developing/maintaining SPH programs
2. Training programs for direct care workers should include SPH education and training
3. Professionals involved in designing health care facilities should receive training on requirements for SPH to incorporate into building design



MA Hospital Ergonomics Task Force Recommendations

To DPH:

1. Produce annual report on PH-related MSDs
2. Maintain website with useful resources on SPH
3. Advise hospitals regarding data collection/analysis on PH incidents
4. Incorporate FGI 'patient handling & movement assessment' in design for construction/renovation
5. Issue guidance to promote hospital implementation of comprehensive SPH programs
6. Establish coalition of SPH stakeholders
7. Periodic stakeholder meetings to share information





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