

# **Work organization factors associated with patient-handling injuries among nurses and nurses' aides**

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# Background

- Compared to workers in other occupations, nursing personnel are at high risk for work-related musculoskeletal injuries
- Injury burden among nursing personnel attributed, in part, to physical demands of patient-handling tasks
  - Nurses' aides at particularly high risk

# Background

- Current efforts to prevent injuries often focus on reducing physical exposures
  - “No-lift” or “Minimal-lift” policies
  - Specialized lifting teams
  - Patient lift equipment



# Background

- Non-physical work factors have also been associated with musculoskeletal injury
  - Adverse work schedules
    - e.g., long work days, overtime, shift work
  - Poor staffing
  - Low social support at work
  - Low job control
  - High psychological work demands

# Study Aim

- To measure the association of worker characteristics and work organization factors with self-reported musculoskeletal symptoms and patient-handling injuries
- To measure differences in patterns of work organization and outcomes of interest between nurses and nurses' aides

# Nurses' aides...

- Are predominantly African-American
  - Growing immigrant population as well
- Have low educational requirements
- Receive low pay
  - Average<sub>North Carolina</sub> = \$9.66/hour (\$20,090/year)
- Have few opportunities for advancement

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# **Nurses' aides...**

***Why are they considered  
vulnerable workers?***

***What factors contribute  
to their vulnerability?***



# Study Participants

- Nurses (RN/LPN) and aides
  - Large tertiary-care medical center
  - Smaller associated community hospital

## *Background...*

- 2004: Stated policy shift to a 'Minimal-Manual Lift Environment'
- Mechanical patient lift equipment introduced on inpatient units



# Study Data

*Part of an ongoing 4-year evaluation of these interventions at preventing patient-handling injuries*

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## Baseline questionnaires

Worker characteristics  
Patient-handling tasks  
Musculoskeletal disorders  
Work organization factors

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## Focus groups

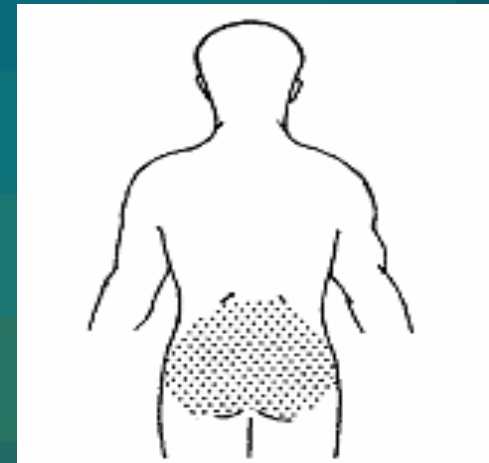
Patient load and staffing levels  
Work organization  
Equipment use/Barriers to use

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# Low Back Symptoms

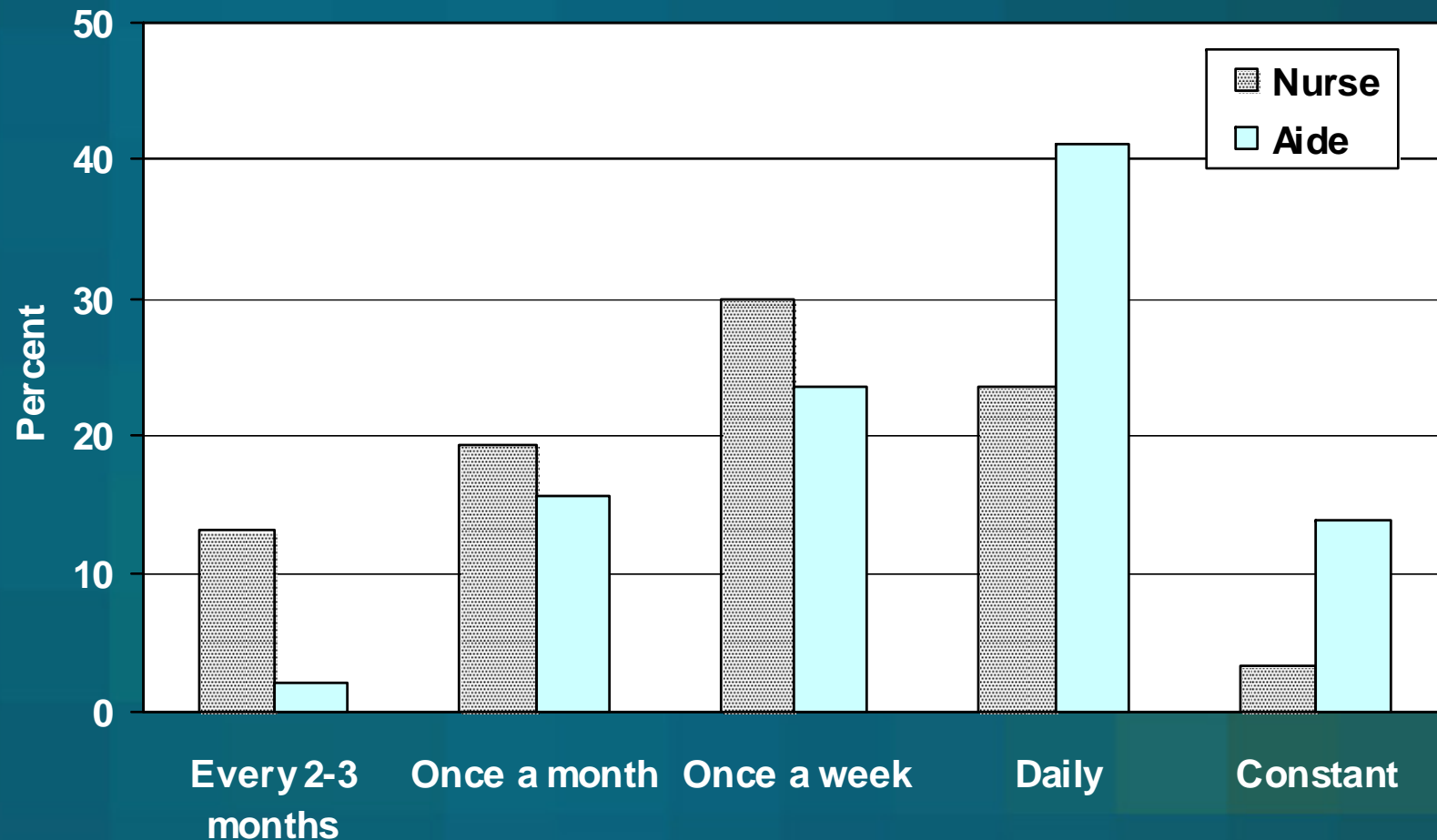
*“In the last 6 months, have you had low back symptoms >3 times or lasting a week or longer?”*

- 50.3% of respondents reported low back symptoms
- Low back symptoms more prevalent among aides (58.6%) than nurses (49.9%)



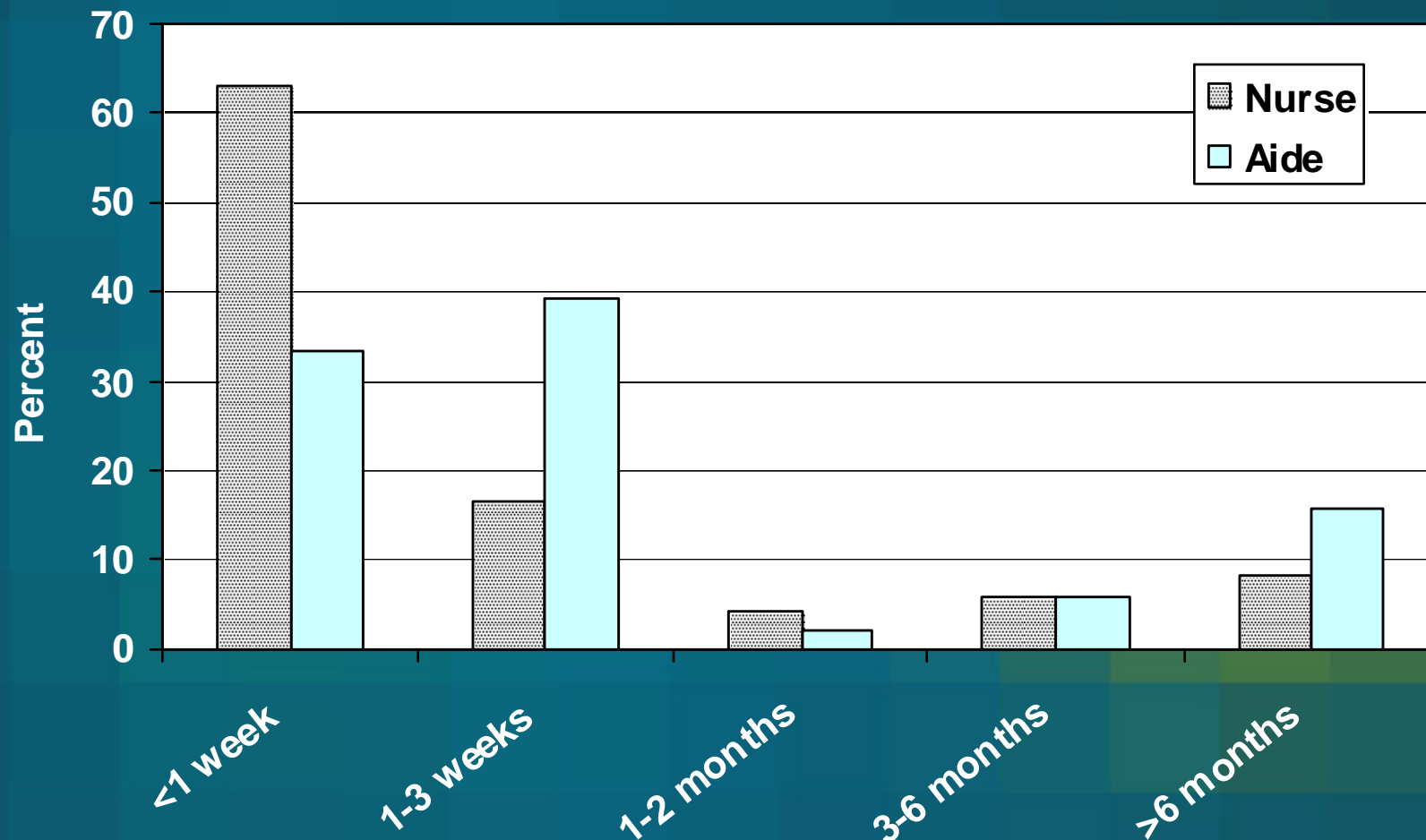
# Low Back Symptoms: Frequency

*“How often have you had low back symptoms?”*



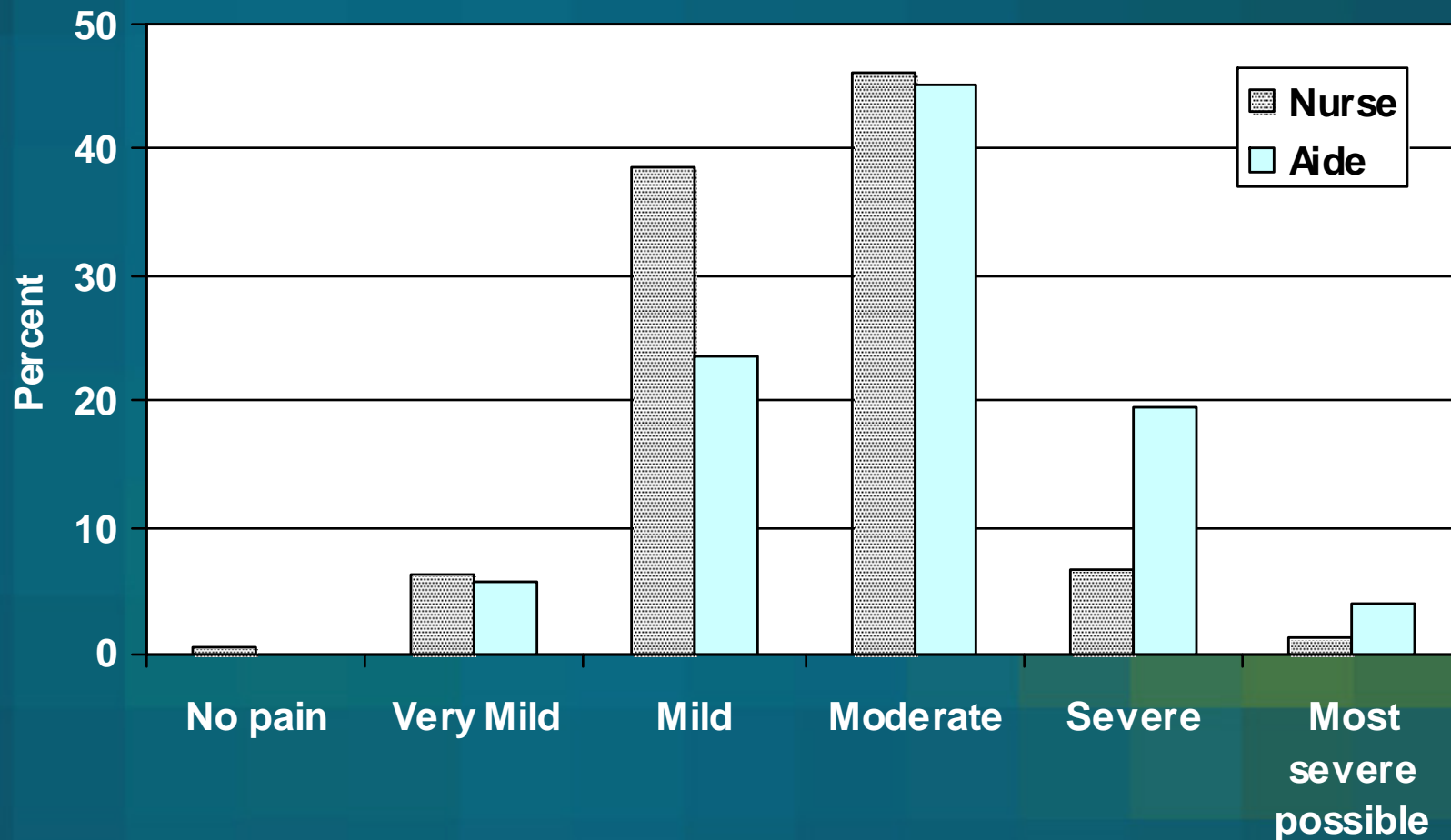
# Low Back Symptoms: Duration

*“How long did your symptoms usually last?”*



# Low Back Symptoms: Severity

*“Describe how bad your symptoms have been.”*



# Patient-Handling Injuries

*“In the last 6 months, how many times have you injured yourself as a result of moving or assisting patients?”*

- 35% of respondents reported at least one patient-handling injury
- Injuries were more prevalent among aides than nurses
  - Prevalence Ratio 1.3
  - 95% Confidence Interval (1.0,1.7)

# Patient-Handling Injuries

- Among those who sustained a patient-handling injury in the previous 6 months:
  - 12% missed work

• 32% sought medical care

*Aides more likely to seek medical care*

• 64% who sought medical care did not file a workers' compensation claim

*Aides more likely to file WC claim for medically-treated injuries*



# Pain as “part of the job”

*“I think as a nurse, we all learn not to be honest with ourselves.”*

*“The pain that I would have 2 years ago, I would rate it 10 out of 10. Now after 2 1/2 years, it’s 3 out of 10 to me. My body got adjusted to that pain.”*

*“I didn’t hurt this morning because I had 3 days off, but give me to Wednesday. When I wake up, my whole body going to be hurting.”*

# Working injured

## When co-workers are injured

- *“try to give the lighter assignment”*
- *“folks are very protective”*

## ...but it is a burden

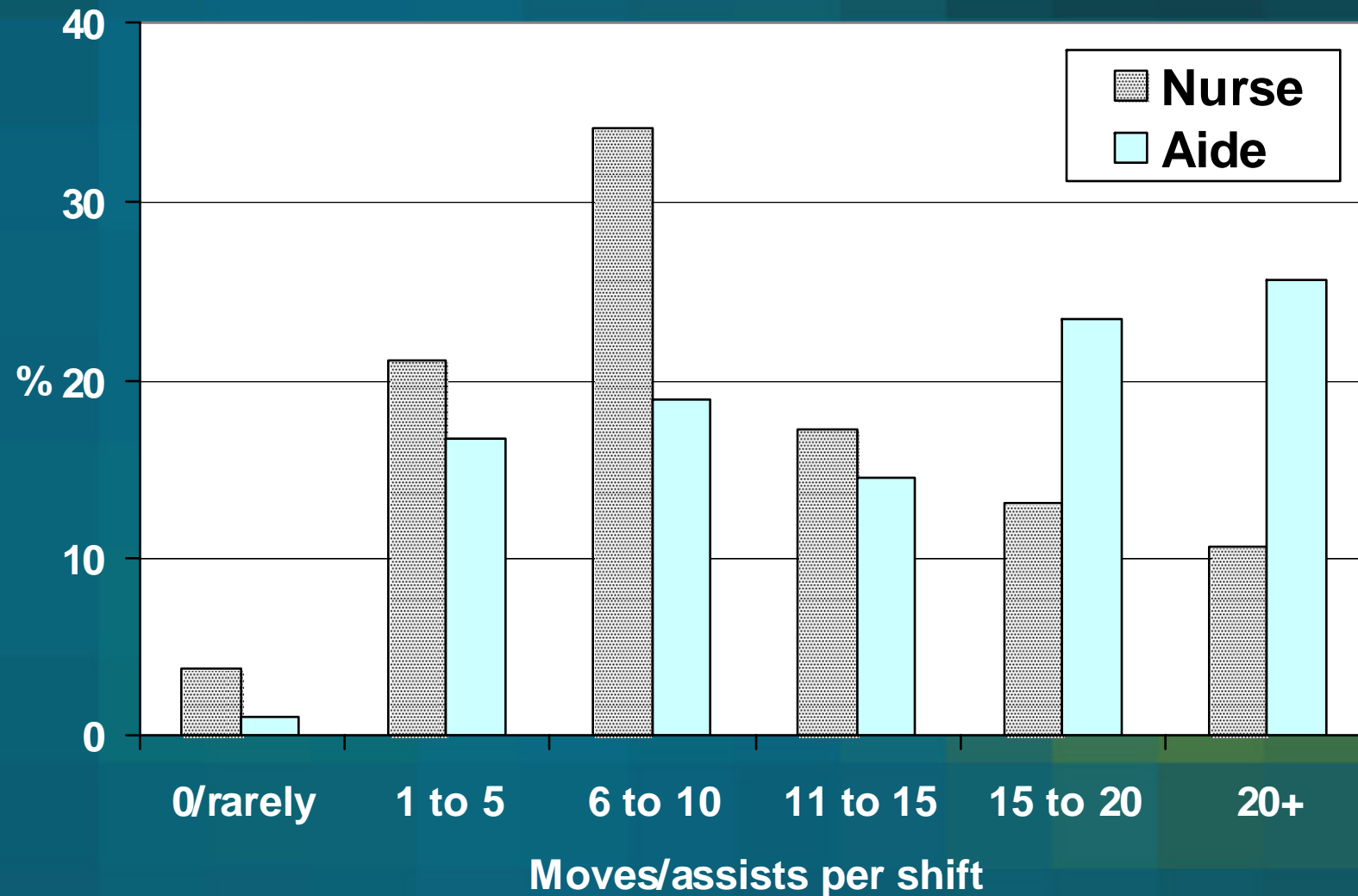
- *“That means you have heavier patients on you. That’s a lot of work.”*
- *“I think it also affects morale of the staff.”*
- *“I would rather someone stay out ...rather than not be able to take a full assignment.”*

# Working injured

## Lift equipment not helpful for staff on restricted work duty

- “Heavy” and “cumbersome”
  - *“It’s hard for me to maneuver the [sit-to-stand lift] because of my back problem.”*
- Use often requires re-arranging of patient room

# Baseline questionnaire: Patient-handling activity per shift



# Characteristics of patient population

## More obese

- *“Fatter and fatter,” “More and more of our patients are coming huge”*

## Higher acuity

- *“Sicker and sicker,” “multi-system problems”*

## Faster turnover

# Staffing levels

## *“Tighter than a rubber band”*

- Affects patient care
- Variability in day/night resources

## *“Stretched pretty thin”* with additional job responsibilities

- Joining committees
- Leadership for adjunct initiatives

# Work Organization Factors

(Job Content Questionnaire, Karasek)

Decision latitude

Psychological demand

Physical demand

Hazardous conditions

Job insecurity

Job dissatisfaction

Social support

Isometric load

***All associated with patient-handling injury!***

# Compared to nurses, aides reported significantly....

*lower* Decision latitude

Psychological demand

Physical demand

Hazardous conditions

Job insecurity

Job dissatisfaction

Social support

Co-worker support

Supervisor support

Isometric load



*“If you notice, nurses they like they supervise us, and I tell my nurse, ‘You all the nurses, not the supervisors. You just the nurses.’ I think that’s what it is, ‘cause they give them a lot of authority over [aides]. Nurses have a lot of authority. You’re basically working for the nurses.” ~ Aide, Surgical ICU*

# Compared to nurses, aides reported significantly....

***lower*** Decision latitude

Psychological demand

Physical demand

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***lower*** Co-worker support

Supervisor support

Isometric load

*“I had one [nurse]...She was in the patient’s room...and the patient told her that she needed to use the bathroom. She walked out of the patient’s room, closed the door, walked around and looked for me. [She] said, ‘Number five needs a bed pan.’*

*My quick response was (‘cause I had just observed her), ‘What are you doing?’*

*[She said], ‘I’m busy.’ So she waited about five or ten minutes... ‘[Mary]...DID WE get the bed pan for room five?’*

*I don’t know, did we?”*

*~Aide “Mary,” Heart Services*

# Compared to nurses, aides reported significantly....

*lower* Decision latitude  
Psychological demand

*higher* Physical demand  
Hazardous conditions  
Job insecurity  
Job dissatisfaction  
Social support

*lower* Co-worker support  
Supervisor support  
Isometric load

*“[That nurse aide] had worked all that day, like I said, by herself. Did all the work on the unit, all the baths, all the accu-checks, all the beds, everything. And then that nurse, the charge nurse, had the nerve to tell her, ‘Now you can go to 3100 and help them out.’ She said they just threw her away like a dog.”*

*~Aide II, Heart Services*

# Compared to nurses, aides reported significantly....

*lower* Decision latitude  
Psychological demand

*higher* Physical demand  
Hazardous conditions

*higher* Job insecurity

*higher* Job dissatisfaction

Social support

*lower* Co-worker support  
Supervisor support

Isometric load

*“When you go in, in the morning, depending on who the nurse is, they have a certain expectation from you. If you have 10 nurses that have all those expectations, some days it can be totally impossible... You feel like you’re always disappointing somebody, so that’s what I don’t like about the job.”* ~ Aide, General Surgery

# Conclusion

- Work performed by nurses' aides is crucial to fulfilling direct patient care tasks
- Nurses' aides characterized by relative lack of autonomy in the workplace
  - Less able to cope with physical, psychological or social burdens
    - Difficulty in adjusting work schedule or tasks
  - Less able to prevent subsequent health consequences



# Conclusion

- Low-back symptoms and patient-handling injuries were prevalent among this group of acute care nursing staff
  - Aides at higher risk than nurses
- Our findings suggest
  - Advantages to considering various research methods to reach vulnerable workers
  - Interventions aimed at reducing musculoskeletal disorders should focus on physical and psychosocial factors of direct patient care

***“Just work with me. I work with you; you work with me. It’s a team effort; it’s not no ‘big I’s’ and ‘little u.’ It’s just working together...”***

***“We gotta have some kind of understanding, ‘cause we have to all make this work.”***

# THANK YOU

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