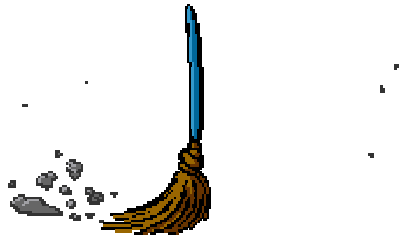


ENVIRONMENTAL SERVICES



Health Care Facilities *An Ergonomic Review*

Deborah Behl, Joanna Kolton, Mariah Levitt

May 1, 2003

Agenda

- Introduction
- Methodology
- Description of Employees
- Discussion of Injuries
- Literature Review
- Activities
 - Potential Problems
 - Recommendations



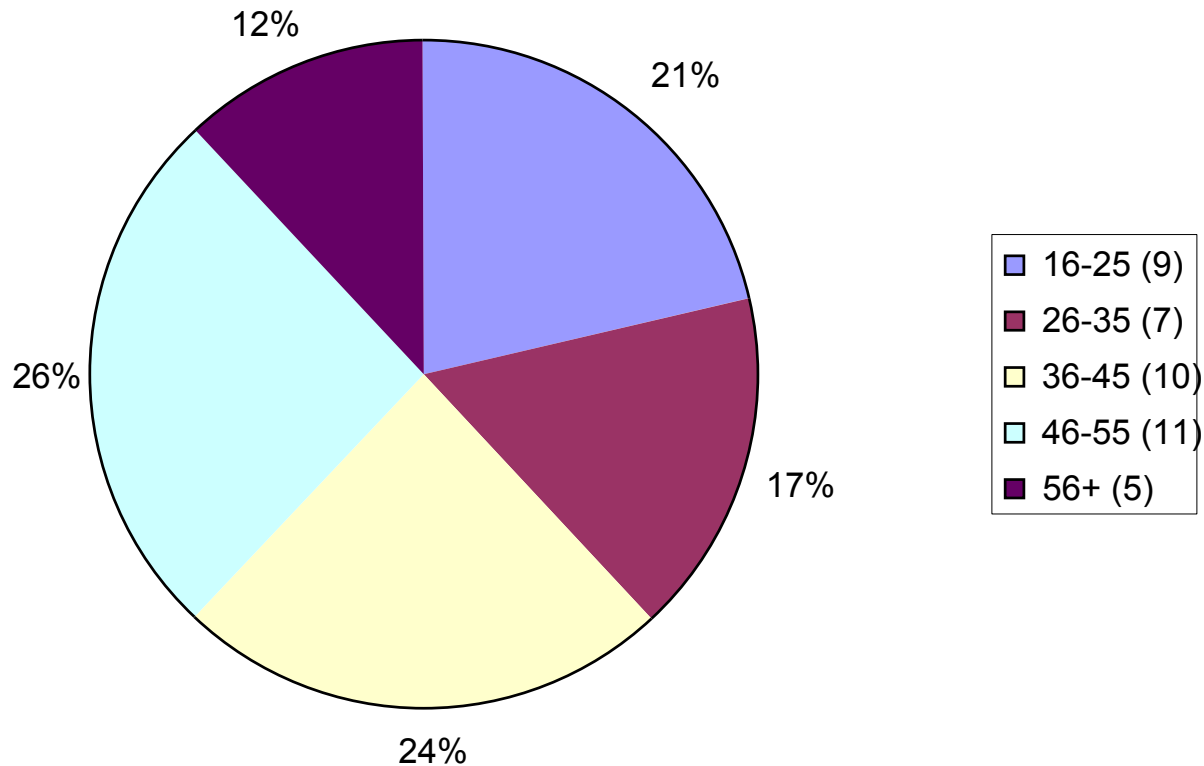
Methodology

- Literature Review
- Site Visit / Data Collection
- Client Profile & Analysis
- Data Analysis (REBA)
- Data Compilation
- Recommended Actions



Description of Employees

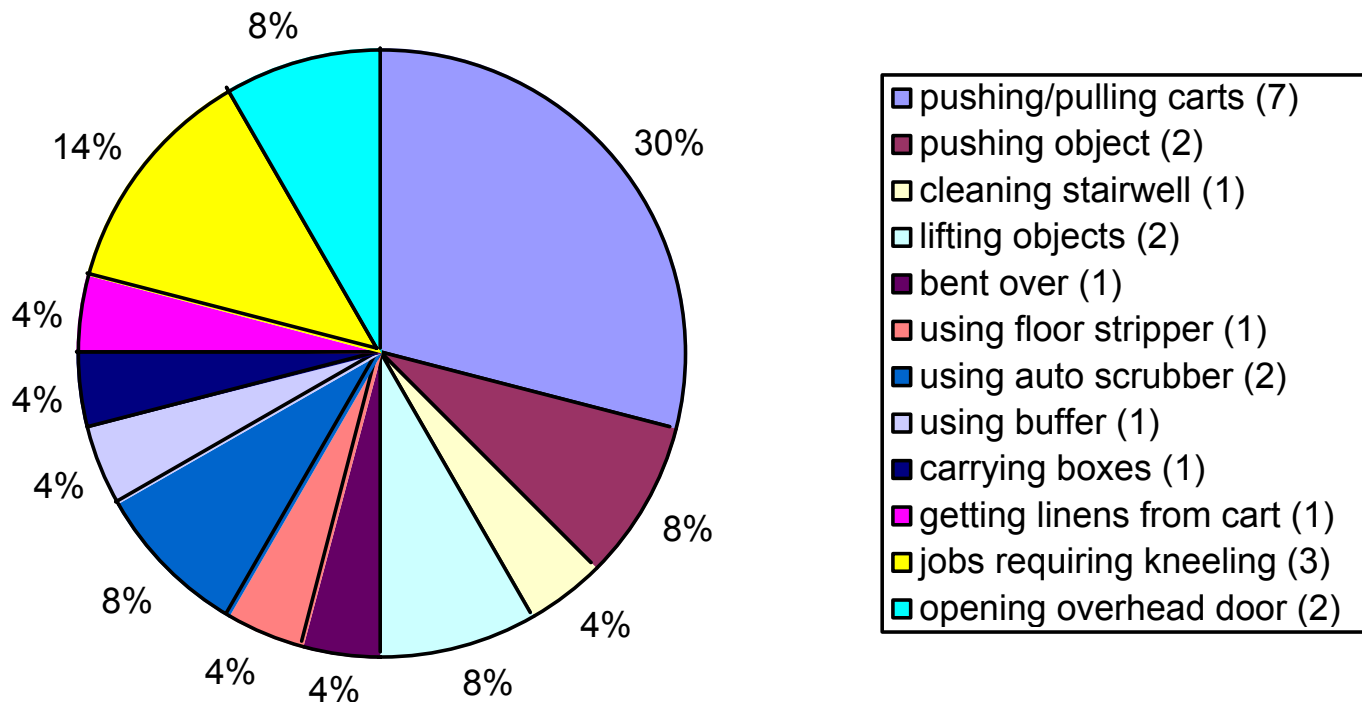
Number of Employees



N=42

Discussion of Injuries

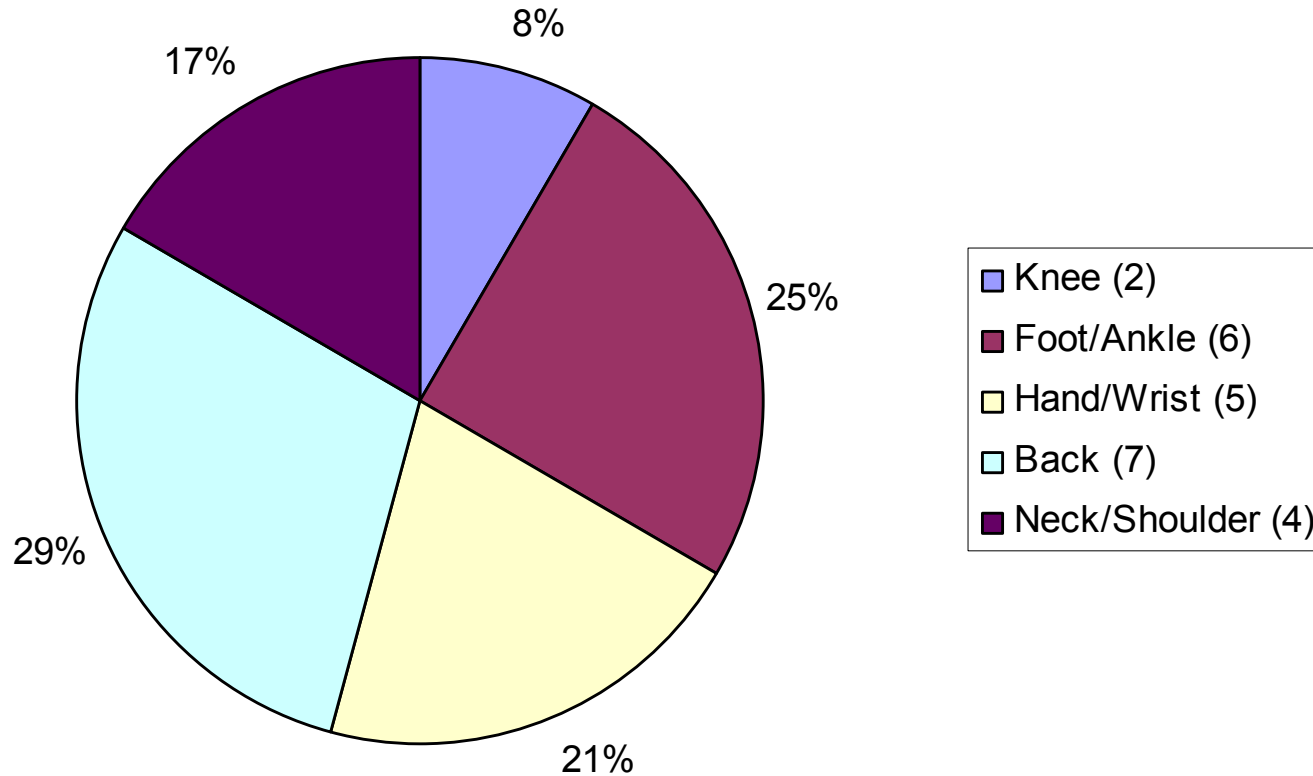
Injury Activity



N=24

Discussion of Injuries

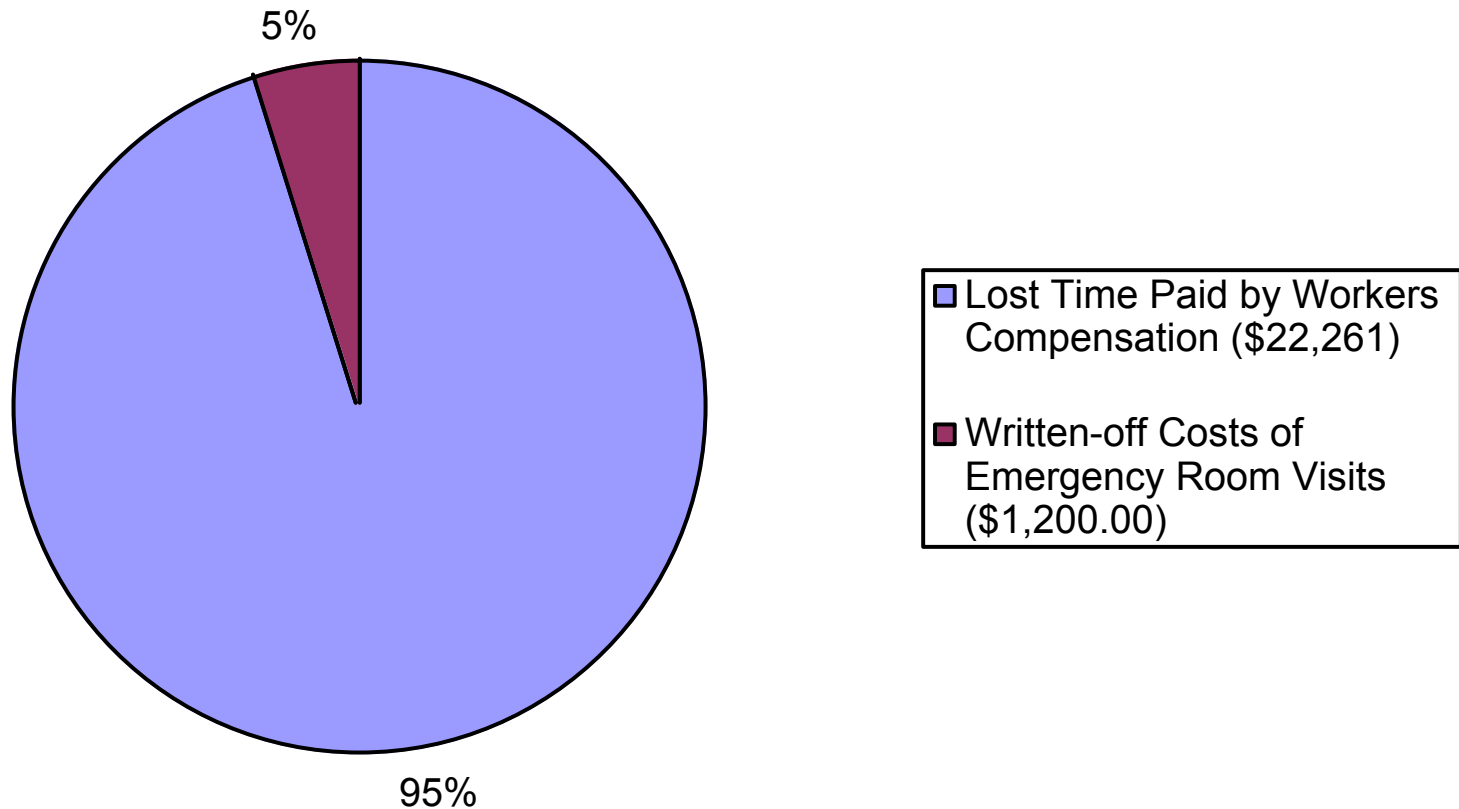
Injury Type



N=24

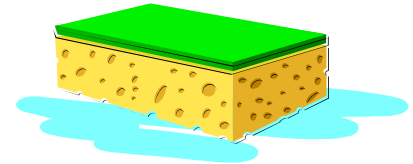
Discussion of Injuries

Breakdown of Injury Costs



Activities

- Scrubbing toilets & beds
- Pushing & pulling heavy carts
- Mopping under beds
- Buffing floors



Scrubbing Toilets & Beds

REBA Score: 13

REBA Score: 12

High Risk Level



POTENTIAL PROBLEMS:

Wrist: flexion & extension

Shoulder: abduction & twisting

Back: flexion greater than 65 degrees

One-handed task: static vs. dynamic

Recommendations for Scrubbing Activities

- Use scrubbing tool rather than a rag
 - Adjustable handle angles could prevent wrist deviation
- Toilet placement
 - Accessible from all sides
 - Adjacent to bench
- Adjustable bed height



Pushing & Pulling Carts

REBA Score: 10

REBA Score: 9

High Risk Level



POTENTIAL PROBLEMS:

Wrist: deviation & flexion

Arm & Shoulder: abduction

Neck & Back: twisting & flexion

Recommendations for Pushing & Pulling Carts

- Reduce weight of cargo
- Only one cart at a time
- Push instead of pull
- Ergonomic wheels
- Motorized carts
- Handles
 - Presence
 - Placement
 - Power grip orientation



Mopping Under Beds

REBA Score: 8 (High Risk Level)



POTENTIAL PROBLEMS:

Back: flexion

Neck: flexion & twisting

Shoulder: fatigue to trapezius muscle

Upper Arm: repetition of abduction & adduction

Recommendations for Mopping Under Beds

- Ergonomic Mop
- Longer handles
- Switching hand positions
- Frequent breaks to relieve stress to trapezius muscle & elbow



Buffing Floors

REBA Score: 5 (Medium Risk Level)



POTENTIAL PROBLEMS:

Wrist: flexion & ulnar deviation

Upper/Lower Limbs & Back: MSDs

Whole Body: vibration

Recommendations for Buffing Floors

- Ensure high-traction floor
- Provide anti-vibration gloves
- Place handles at shoulder width
- Rotate handles 90 degrees
 - Replace palm-down grip with power grip
 - Eliminates dangerous shoulder, arm, and neck deviation and abduction

Palm-down grip



vs.



Power grip