Evidence Based Decision Making in Occupational Health and Safety

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Occupational Health and Safety Agency for Healthcare (OHSAH)
Presentation Outline

Health care sector statistics - WorkSafe BC

O HSAH

- Mandate
- WHITE™ database
- An Example - Ceiling Lift research in VCH
• Healthcare system difficulties
  - Concern about musculoskeletal injuries, infectious diseases, chemical-induced disorders, violence, stress
  - High rates of injury/illness among staff
  - Escalating compensation costs, loss of productivity
  - Impact on quality of care
  - Changes in the nature of care provided, shifts in work patterns
  - Change in profile of patients/residents
  - Staff issues- aging, shortage
OHSAH’s Mission

To work with all members of the healthcare community to develop guidelines and programs designed to promote better health and safety practices and safe early return-to-work

To promote pilot programs and facilitate the sharing of best practices

To develop new measures to assess the effectiveness of programs and innovations in this area.
Collaborative & Evidence-Based Methods

- Use **evidence**, (local and published internationally) to develop and disseminate best practice guidelines.

- **Create partnership** initiatives with funding based on labour-management cooperation and scientific validity.

- **Rigorous evaluation** of effectiveness, and cost-benefit of workplace interventions.
OHSAH fundamentals

- Non-profit provincial agency; funding from the Ministry of Health
- Jointly governed by employers and unions

Departments at OHSAH:
- Injury Prevention
- Disease prevention
- Disability prevention
- Education and training
- Mental health and organizational development
- Statistics and evaluation
- Information Systems
Statistics on Health and Safety in Health Care
Injury Rate by Sector

0 1 2 3 4 5 6 7 8 9 10

Year

-general Construction
-Health Care and Social Assistance
-Transportation
-Forestry
-All Sectors

Injury Rate/100 person-years

Healthcare only claims excluded

(WorkSafeBC)
## 2006 Statistics

<table>
<thead>
<tr>
<th>Sector</th>
<th>Number of Claims</th>
<th>Days lost from Work</th>
<th>Claims Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Construction</td>
<td>19,062</td>
<td>359,476</td>
<td>108,714,808</td>
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<tr>
<td>Health Care and Social Assistance</td>
<td>12,419</td>
<td>297,491</td>
<td>52,397,554</td>
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<tr>
<td>Transportation</td>
<td>8,806</td>
<td>246,113</td>
<td>66,785,305</td>
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<tr>
<td>Wood and Paper Products</td>
<td>9,826</td>
<td>137,979</td>
<td>65,508,397</td>
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<tr>
<td>Forestry</td>
<td>2,560</td>
<td>90,433</td>
<td>57,047,503</td>
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<tr>
<td>Other sectors</td>
<td>78,445</td>
<td>1,809,629</td>
<td>496,681,965</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>131,118</strong></td>
<td><strong>2,941,121</strong></td>
<td><strong>847,135,532</strong></td>
</tr>
</tbody>
</table>

- Days lost from work: for current year and prior years’ injuries; 56% current year
- Number and costs of claims: Health care only + short term disability + long term disability + fatal

(WorkSafeBC)
Injury rate by Sub-sector

- Acute Care
- Community Health Support Services
- Long Term Care


Injury rate:
- Acute Care: 11.2, 8.2, 8.4, 8.1, 10
- Community Health Support Services: 5.4, 3.9, 4, 4.5, 4.9
- Long Term Care: 6.3, 5.1, 4, 3.8, 4.1

(WorkSafeBC)
Type of Injury: 2006

- Overexertion, bodily motion: 59%
- Struck by/against an object: 10%
- Falls: 14%
- Caught In: 1%
- Rubbed or abraded: 0%
- Harmful substances: 9%
- Transportation: 1%
- Miscellaneous: 6%

(WorkSafeBC)
Workplace Health Indicator Tracking and Evaluation (WHITE)™ Database

Web-based system, facilitating analysis of incidents, injuries, risk factors and prevention/ follow up measures
Comprehensive WHITE Modules

- **Incident Investigation** - collection of incident details
- **Secondary Injury Prevention and Case Management**
- **Employee Health** - TB status, immunizations, etc.
- **Health and Safety** - records of training, exposure assessments, control measures, respirator fit testing.
- **Extensive analytical features** - multidimensional analysis (i.e. data cubes)
## Incident Investigation

**Incident ID:** 00000444

### Employee Details

- **HCW Name:** Bates, Janet
- **Incident ID:** 00000444
- **Claim ID:** 00008043
- **WCB Claim #:** 097678765
- **Assigned To:** ADMIN
- **Occupation:** RCA
- **Employee #:** 659573
- **HSDA:** South HSDA
- **Primary Facility:** Sunshine lodge
- **Primary Department:** ECU1
- **Work Phone #:** 604 223 5494
- **Incident Facility Name:** Sunshine lodge
- **Incident Department Name:** ECU1
- **Incident Work #:** 604 783 1221

### Incident Details

- **Injury Date:** 5/24/2003 12:00
- **Date Reported:** 5/25/2003 08:30
- **Shift Start Time:** 5/24/2003 08:30
- **Shift End Time:** 5/24/2003 16:30
- **Did you finish your last shift?** Yes

### Corrective Actions Taken
Use of WHITE

- Injury reports periodically to Health Authority
- Effectiveness/Cost-benefit analyses of interventions
  - Ceiling lifts
  - PEARS
- Focused analyses on specific injury type (MSI, BBF...) and occupations (RN, LPN, Care Aides...)
- Answer Research Questions, like
- Is there any difference of injury risk by gender or job status (full-time, part-time and casual workers)?
Ceiling Lift Research
• Patient handling tasks are physically demanding, performed under unfavorable conditions, and unpredictable in nature.

• Patient factors complicate tasks - variations in size, functional status, cognitive functioning, cooperation, fluctuations in condition and fatigue

• Many patient lifts done in awkward positions - bending over beds/chairs

• Inadequate space and poorly designed work environments contribute to awkward positions

  - The average weight of an adult male patient is currently 185 pounds
  - The cumulative weight lifted by a nurse in one typical 8-hour shift is 1.8 tons
Patient care and health of Staff

Staff Injury ➔ short staffing ➔ workload

Impact on patient care
Several studies demonstrate safe patient lifting devices can reduce frequency, severity, and cost of caregiver injuries.

There is no evidence linking these programs to quality of care.
Improvements in quality of care are noticed, but largely anecdotal.

If these interventions have a direct impact on patient care, enhance organizational support of these.
Lifting devices are said to increase the frequency and ease of moving a patient and improve quality of life.

Possible outcome measures include:

- Cognitive functioning
- Physical functioning
- Skin integrity
- Improved behavior
- Less incidents of RTI and UTI
- Depression and anxiety,
- Toileting outcomes
- Decrease in combative
- Reduction in falls
- Improvement in behavior
- Reduction in falls

More mobile and better functioning patients are more likely to:

- Increase their level of activity,
- Decrease healthcare utilization,
- Increase their discharge potential,
- Increase participation in therapy,
- Improve their health status.
The Connection

Direct

Indirect
Vancouver Coastal Health

- Undertake systematic investigation of the worth of overhead mechanical lifts

- Work as template for future similar OH&S interventions
Study components

1) Observational study (timing and frequency of ceiling lift use)

2) Objective Patient outcome

3) Patient Perception

4) Staff Perception

5) Cost-benefit Analyses
Questions:

1) Does the use of a CL decrease time of patient transfer and number of staff required when compared to other patient handling methods?

2) What is the frequency of CL usage compared to other patient handling devices?

3) Are patients in facilities with CL transferred more frequently compared to those without?

Study Design:
Cross sectional study, facilities with and without ceiling lifts
II-Objective Patient Outcome

**Questions:**
Does the use of a CL improve patient outcome indicators?

**Study Design:**
Pre/post-intervention and Cross sectional study using standard databases

**Patient Outcome Measures:**
incidents of falls; incidents of pressure ulcers; RTI?, UTI?, Wounds?

**Data Sources:**
QUIST database, Wescom
III - Patient Perception

Questions:
Does the use of CL improve patients’ perceptions of safety, pain, comfort and overall satisfaction during transfers?

Design:
Cross sectional study by using questionnaires/Focus Group in acute care facilities
IV-Staff Perception

**Question:**
Does the use of CL improve staff’s perceptions of pain, safety, comfort and overall satisfaction during transfers?
What are the key barriers and facilitators in optimal use of ceiling lift?

**Design:**
Questionnaire/Focus Group using control groups in acute & extended care

**Outcome Measures:** Ease of use, availability, accessibility, versatility, storage; policy & procedures, training, safety culture
V-Cost Benefit Analysis

Questions:
Is it effective in reducing number of Patient handling related MSI claims, claims costs and time-loss?
What is the payback period and return on investment?

Design:
Pre- and post- intervention MSI claims and claim costs
Cross sectional and with control group
Challenges

- Literature on patient outcome
- Data sources
- Control group
- Pre-post trend
- Data availability
- Attribution
- Indirect costs
- Difficulty in studying LTC residents
Recent publications


