Implementation Works!
Findings from a Six-Year Program of Research in Safe Patient Handling & Mobility

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Link to VA SPHM Implementation Tools: www.tampavaref.org/conferences.htm

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Points of Discussion

1. Staff Outcomes of VHA SPHM Program
2. Processes of Implementation
   a) Peer Leadership Processes and Outcomes
   b) Successful Facilitation by Facility Coordinators
   c) Barriers and Facilitators of SPHM Implementation
   d) Social Marketing of SPHM
3. Patient Outcomes of SPHM in the VA
   a) Resident Outcomes in VA Nursing Homes
   b) Patient Dignity and SPHM in SCI
   c) Threats to Skin Integrity of SPHM in SCI
4. Patient Adverse Events and SPHM

References

VA SPH Implementation Timeline 1995–2012*

1995  Nelson’s research implementation project
1996–98  Nelson’s HSR&D Study, High Risk Nursing Tasks
1998–99  Implementation at one VA hospital (CLC and SCI)
2001  First Annual SPH Conference
2001–03  Implementation in 3 VA Networks (VISN)
2005  VHA SPH Information Letter
      National SPH Consultant Site Visits
      Some facility/VISN SPH Program implementation
2008  Beginning of National Roll Out
      Executive Decision Memo approved for $205 M for
      National SPH Program Implementation (funding for
      equipment and ½ time facility champion) [June]

Evaluation of the national program was initiate


VA Implementation Timeline 1998–2012

2009–11  Facility Champion participate in SPH Conferences
2010  SPH Directive (SPH Program & Design)
2011–12  SPH Surveys through DUSHOM Data Calls
2011  VA Office of Nursing Service supported two positions for leadership in Peer Leader program
2012  VA Office of Nursing Service (1) named SPH within their Initiative Healthy Workforce Environment, (2) Funded a national meeting for VA peer leaders
2012+  Program sustainability
2014  National Facility Coordinator Meeting
Partnerships in SPHM

- National Institutes of Occupational Safety and Health (NIOSH)
- American Nurses Association
- American Physical Therapy Association
- Orthopedic Nurses Association
- Association of periOperative Registered Nurses
- Association of Safe Patient Handling Professionals
- America Association of Safe Patient Handling & Movement
- American Association for Long Term Care Nursing

ANA Past Presidents:
Barbara Blakeney
Rebecca Patton
Karen Daley

Staff Outcomes

What have we learned about the effects of the VA SPHM Program on Staff Outcomes?
Evaluation of VHA–Wide SPHM Program*

- **Objective:**
  - Identify SPH program–related significant predictors of injuries


Evaluation Methods

- **Design:** Repeated Measures 6 time points between Oct 2008 and June 2011
- **Outcomes:** Standardized Patient Handling Musculoskeletal Injuries
- **Processes:** Implementation of Program Elements
- **Data Sources**
  - Questionnaires completed by facility champions
  - VHA administrative databases
Injury Incidence Rates for Lifting–Repositioning Patients Among Nursing Occupations for All Facilities (N=139)

Incidence Rate per 10,000 FTE

Fiscal Year

Incidence Incidence Rates for Lifting–Repositioning Patients Among Nursing Occupations for All Facilities (N=139)

Injury Incidence Rates for Lifting–Repositioning Patients Among Nursing Occupations for All Facilities (N=139)
% Change in Injury Incidence Rates for Lifting–Repositioning Patients Among Nursing Occupations for All Facilities (N=139) from 2006 to 2012

<table>
<thead>
<tr>
<th>Nursing Occupation</th>
<th>% Change from 2006 to 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse</td>
<td>-29</td>
</tr>
<tr>
<td>Practical Nurse</td>
<td>-41</td>
</tr>
<tr>
<td>Nursing Assistant</td>
<td>-28</td>
</tr>
<tr>
<td>Combined</td>
<td>-32</td>
</tr>
</tbody>
</table>

Percent Deployment at Follow-up 5 of Each SPH Program Elements for All Facilities (n=141)

- Error Bars: 95% CI
Facility Champion Activities

Hours/week spent on SPH duties averaged over time (N=141)

<table>
<thead>
<tr>
<th>Number Hours/Week</th>
<th>Frequency (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 19</td>
<td>36 (25.5)</td>
</tr>
<tr>
<td>20 – 29</td>
<td>50 (35.5)</td>
</tr>
<tr>
<td>30 – 39</td>
<td>40 (28.4)</td>
</tr>
<tr>
<td>&gt;39</td>
<td>15 (10.6)</td>
</tr>
</tbody>
</table>
### Percent increase in the explained proportion of variation in FY 2011 Injury incidence rate attributed to combined SPH components

<table>
<thead>
<tr>
<th>Facility factors (base model)</th>
<th>A</th>
<th>B</th>
<th>Percent increase in Explained proportion over base model: ((B - A)/A)*100</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 FY2006 Injury Incidence Rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 FY2009 Bed Days of Care (BDOC)</td>
<td></td>
<td></td>
<td>0.21</td>
</tr>
<tr>
<td>3 FY2011 Facility Complexity</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

### SPH Components

1. Deployment of Ceiling mounted lift & other new technology
2. Link between Facility Champion & Safety Committee
3. Competency in use of SPH equipments
4. Peer Leader effectiveness as rated by Facility Champions
5. Peer leader training

Note: Explained proportion = Adjusted R-squared estimated from the multiple regression model.

### What effect did the program have on reducing Staff injuries

Controlling for 2006 Injury rate, Bed Days of Care, and Facility Complexity

- Program components explained 21% of the variance in injury outcomes
- The more ceiling lifts and other equipment present the lower the injury rates
- The higher the peer leadership effectiveness as rated by FC’s the lower the injury rates
- Non-linear relationships were found for (a) link of FCs to safety committee; (b) conduct of staff competencies; (3) peer leader training
### Additionally: Individual Predictors (after adjusting for facility factors)

<table>
<thead>
<tr>
<th>Variable Description</th>
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</thead>
<tbody>
<tr>
<td>Incorporation of SPH into routine <em>orientation</em> of all new clinical employees</td>
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<tr>
<td><em>Equipment fairs</em> and other methods used to assure active involvement of caregivers in SPH equipment selection</td>
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<tr>
<td><em>Algorithms</em> implemented across all clinical areas</td>
</tr>
<tr>
<td>Conduct <em>facility-wide assessment</em> of SPH policies, procedures, and protocols to match VHA delineated program elements</td>
</tr>
<tr>
<td>A facility-wide <em>SPH policy</em> in effect that is non-punitive and emphasizes the need to minimize manual patient handling</td>
</tr>
<tr>
<td><em>Performance score based on 36 milestones</em></td>
</tr>
<tr>
<td><em>SPH support</em> from key stakeholders</td>
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</table>

### Summary: Critical Elements of a Program

1. **Technology**: Deployment of ceiling lifts and other technologies
2. **Leadership**: Effective peer leaders
3. **Systems Issues**
   - Linking of facility champion with safety committee
   - Facility-wide assessment of SPH policies, procedures, and protocols to match VHA delineated program elements
4. **Training/Education**
   - Completion of annual competency ratings
   - Peer leader training
   - Incorporation of SPH into new employee orientation
5. **Engagement**
   - Active involvement of staff in equipment selection (equipment fairs)
   - Support from key stakeholders
6. **Implementation Aids**: Algorithms implemented in all clinical areas
What do we have yet to learn about Staff Outcomes in the VA?

- Effect of program on non-nursing staff injuries
- Factors that sustain positive staff outcomes after CO funding
  - E.g. What is the role of the FC network on sustaining positive staff outcomes
- Impact of program on other staff outcomes, e.g. satisfaction, retention, recruitment

Implementation Processes

What have we learned about the processes of implementing SPHM in the VA?
Barriers and Facilitators to Program Implementation in Safe Patient Handling

Karen Besterman–Dahan, PhD
Gail Powell–Cope, ARNP, PhD, FAAN

Methods – Site Visits

- Data from qualitative interviews, participant observations, and open-ended survey questions
- “What gets in the way of implementation?”
- “What things make implementation easier?”
- Barriers could be at the facility / organizational, interpersonal or individual levels (patient or nurse or other caregiver)
What have we learned about Facilitators for Implementing SPHM?

- Guidance from Others
  - From regular FC calls, National Program Office (and Mary Matz!), VA web site, e-mail, VISNs
- Exposure to Evidence – Knowledge
- Via equipment fairs, vendor show and trainings at conferences
- Buy-In/Support
  - From leadership and all levels, across services
  - Critical role of managers
  - Front line staff

Broad-based Buy In & Support

I think it's important to have buy-in from as many disciplines because this is not a nursing program and this is not a Biomed program, this is a hospital program because patient care is a hospital function and you need to have the guy whose got control of the dollars, you need have a everybody’s buy-in.
Shout Out – Peer Leaders
Effective peer leaders are motivated, enthusiastic, volunteers, respected by peers

My Unit Peer Leaders are wonderful! They are energetic and hard working! I am putting the all day training together for them and I am so excited about it and they are too! We are doing mostly interactive things so that we can pool our knowledge.
Five most commonly reported activities by PLs

- One of your coworkers asked you for your advice about patient handling & movement
- You demonstrated the use of patient handling equipment
- You met in person with a caregiver on a one-to-one basis about patient handling tasks
- You evaluated a potential patient handling safety hazard on your unit
- You were asked to deal with a problem in the operation of a lifting device

Shout out – Facility Coordinators

You have to have someone that is championing the program that is really committed to it and not just somebody who is doing it...because somebody told them they had to. You have to have somebody that really believes in it.
Essential Qualities / Skills of an FC

- Commitment to/belief in outcomes of SPHM
- Clinical knowledge and experience
- Program leadership – ability to motivate
- System thinking
- Computer/data skills
- Ability to multi-task
- Project management skills
  - organization, communication, delegation

Insights from Qualitative Data

- Consistent FCs over time
  - When faced by similar barriers consistent FCs have experience upon which to draw
- Over time consistent FCs build momentum through
  - Program customization (UPL who incorporated SPH into change of shift template)
  - Strong and wide base of support from staff, unit peer leaders and leadership (e.g., administration provided funds for conference attendance, equipment purchases, competency fairs twice per year, marketing banners)
  - Shared leadership (ER Charge Nurse who completed UPL training)
What have we learned about Barriers for Implementing SPHM?

- **System / Infrastructure**
  - Staffing shortages / turnover (institutional knowledge)
  - Training (space, travel funds, release time)
  - Equipment
  - Funding (equipment, training)
  - Culture
  - Systems complexity (contracting, purchasing)

- **Staff Behaviors**
  - Resistance to Change
  - Inadequate Time (part time FC)
  - Inadequate Knowledge

- **Physical / Structural**
  - Storage, building codes, size/complexity of facility

Behavior – Culture

A UPL told me of an incident where he was called to a room to assist with a lateral transfer with an RN and a Charge Nurse. They expected the UPL to help them manually transfer him, but the UPL said “wait, let me get a hovermat.” The patient refused to be rolled to get the mat underneath him; the UPL explained why it was necessary and he still refused. The UPL said the RN and the charge nurse were silent and did not back him up, so he finally just left and did not assist.
What do we have yet to learn about Program Implementation in the VA?

- We know so much!!
- How do we sustain successes over time?
- What can social network science tell us about how facility coordinators work together to promote success? (Rugs)

Patient Outcomes

What have we learned about the effects of the VA SPHM Program on Patient Outcomes?
Patient Outcomes in Long Term Care


- **Objective:**
  - Examine relationship between safe patient handling and quality of care measures (MDS — cognition, depression, anxiety, physical functioning, continence, adverse events [e.g. pneumonia, dehydration, fall, PrU], activity, healthcare utilization, participation in therapy)

- **Methods:**
  - quality domains were compared before and after implementation of the program for 111 residents living on 24 units in six Veterans Administration nursing homes using a general linear regression model with repeated measures clustered within time and adjusted for age.

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Pressure Ulcer Risk of Patient Handling Sling Use for Veterans with SCI

Matthew J. Peterson, PhD
Joseph Gutmann, MD, Jeffrey Harrow, MD, PhD
Julie Kahn, MS, Michael Kerrigan, MS

James A. Haley VAMC, Tampa, FL
Objectives
1. Identify the at-risk anatomical locations that are generated at the sling–patient interface
2. Describe and quantify risks associated with pressure ulceration due to normal forces

Study Design
- Laboratory–based, descriptive, observational study
- Twenty-three patient handling slings were examined on persons who were able bodied, and persons with spinal cord injury
- High-resolution sling–patient interface pressure measurements were recorded

Results
- Interface pressures are maximal while suspended in a sling
- Interface pressures are prominent and elevated along the sling seams, independent of the sling type or manufacturer
- The back of the upper and lower thighs, towards the groin and knee respectively, were the areas of high pressure
- Interface pressure results for Veterans with SCI were similar to the nondisabled participants, however, Veterans with SCI tended to have more high pressure areas than nondisabled participants.
Interface pressure images

The color bar represents interface pressure magnitude in mmHg.
Left: Example of a participant seated on a sling in a wheelchair.
Middle and Right: Suspended positions in a high performing sling and a low performing sling, respectively. Note the high pressures densely localized along the seams.

Conclusions

- Additional research is needed:
  - Additional slings, larger study in the clinical setting, sling design improvements
- Prolonged suspension in a sling should be limited
- Compared to Veterans without SCI, those with SCI appear to be at greater risk for skin integrity risks while suspended in a sling due to greater tissue areas exposed to elevated interface pressures.
Patient Dignity and Safe Patient Handling in VA Spinal Cord Injury Units


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Study Objectives

**Objectives**
- Explore patient dignity from the perspective of both patients and staff
- Identify patient care handling tasks, equipment, and SCI staff that potentially threaten and preserve patient dignity in VA SCI Units.

**Methods**
- Descriptive design, interviews, participant observation
- Sample: 52 Veterans with SCI hospitalized at one of 4 VA SCI Centers and 54 staff who provided direct care
Dignity and SPH Tasks

- Dignity hinges on the way patient care handling tasks are performed – not on the task itself
  - Being in a rush to get tasks done can adversely affect dignity
  - Communicating with the patient about the procedure is critical in reducing the threats to dignity
- Veterans valued the benefits of SPH on freedom and independence

Best Practices to Promote Dignity

- Attend to individual patient preferences and condition: especially on shift change
- Provide clear communication to patients during patient care handling tasks
- Be consistency in how tasks are performed from provider to provider
- Express patience in performing SPH tasks
- Allow patient to assist to extent he/she is able (autonomy)
- Empathize with patient’s experience
“You’re exposed to a certain amount, you know, but the lifts are really nice. I mean they have to get you from point A to point B and usually they make sure to cover you up and everything, so you’re not just dangling there in front of everyone. – (Veteran)

“Make sure you ask the veteran, but also treat him as a human being. I have patients who have spinal injuries and we should treat them as if they were ourselves. Explain to them what we are doing. Don't just go in there and just start doing stuff and not saying anything to them. All of our patients need to know that we are listening to them and taking care of their needs.” – (SCI Staff)

What do we have yet to learn about Patient Outcomes in the VA?

Effects of SPHM on patient outcomes in:
- Acute Care
  - Adverse events (thrombophlebitis, pneumonia, falls, fractures, TBI)
- Long Term Care
  - Cognitive functioning; Affective functioning (depression, anxiety); problematic behaviors (wandering); physical functioning (ADLs, transfers); continence; safety (pneumonia, falls, fractures, pain)
Implications for patient safety in the use of safe patient handling equipment (in press)

- **Objective:**
  - Explore adverse patient events associated with SPH programs and preventive approaches in VAMCs

- Survey of FC’s (54% response rate)
Implications for patient safety in the use of SPH equipment (in press)

- The majority of participants reported that no adverse patient AEs in the prior year
  - 71–90% for contusions, lacerations, pressure ulcers
- Superficial abrasions
  - 54% reported no occurrence
  - 38% reported rarely (once or twice in past year)

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Patient safety and use of safe patient handling equipment*

- Among skin–related AEs—superficial abrasions were the most frequent (46%), followed by contusions (27%), stage 1 and 2 PrUs (9%), lacerations (7%)
- Among fall–related AEs, sprains and strains were most frequent (25%), followed by compound fractures (9%), simple fractures (7%), concussions (7%), intracranial bleeding (4%), uncontrolled bleeding (2%)

Factors Associated with AEs

- Organizational Factors
  - Short staffing, lack of support from managers and leaders, equipment not available, lack of training in use of equipment
- Human Factors
  - Improper choice of equipment, poor assessment of patient, staff non-compliance, patient factors
- Technology / Equipment Factors
  - Sling texture, improper battery recharging, break failure on chairs and beds

Mitigating Adverse Events with Patient Handling Equipment*

- **Goal**: to explore adverse patient events associated with patient handling and movement equipment
- **Methods**: Photovoice
- **Sample**: Seven FCs who took part in the survey took part in a photo narrative section of the study.

Five themes related to equipment

- Safety issues – equipment, recharging
- Equipment assessment – ongoing vigilance required
- Serviceability – preventive maintenance
- Usability – for location
- Installation – best when there was FC input

What have we learned about SPHM Patient Adverse Events in the VA?

Patient Safety Alert

Veterans Health Administration Warning System
Published by VA Central Office

AL14-07    July 28, 2014
This Patient Safety Alert AL14-07 replaces and supersedes
Patient Safety Alert AL10-07 issued on March 22, 2010

Item: Issues continue to occur due to improper ceiling mounted patient lift installation, maintenance and inspection
This pie chart shows how much pie I ate while making this chart.

Questions / Comments