Critical Elements for a Successful SPHM System: VHA

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The contents do not represent the views of the Department of Veterans Affairs or the United States Government.

Objective

- Primary:
  - Identify SPH program-related significant predictors of injuries
- Secondary:
  - Describe impact of SPHM on patient dignity
  - Describe effects of slings on skin interface pressures

Summary: Critical Elements of a Program

1. Technology
   - Deployment of celling 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 and 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 (e.g. equipment fairs)
   - Support from key stakeholders
6. Implementation Aids and Tools
   - Algorithms implemented in all clinical areas

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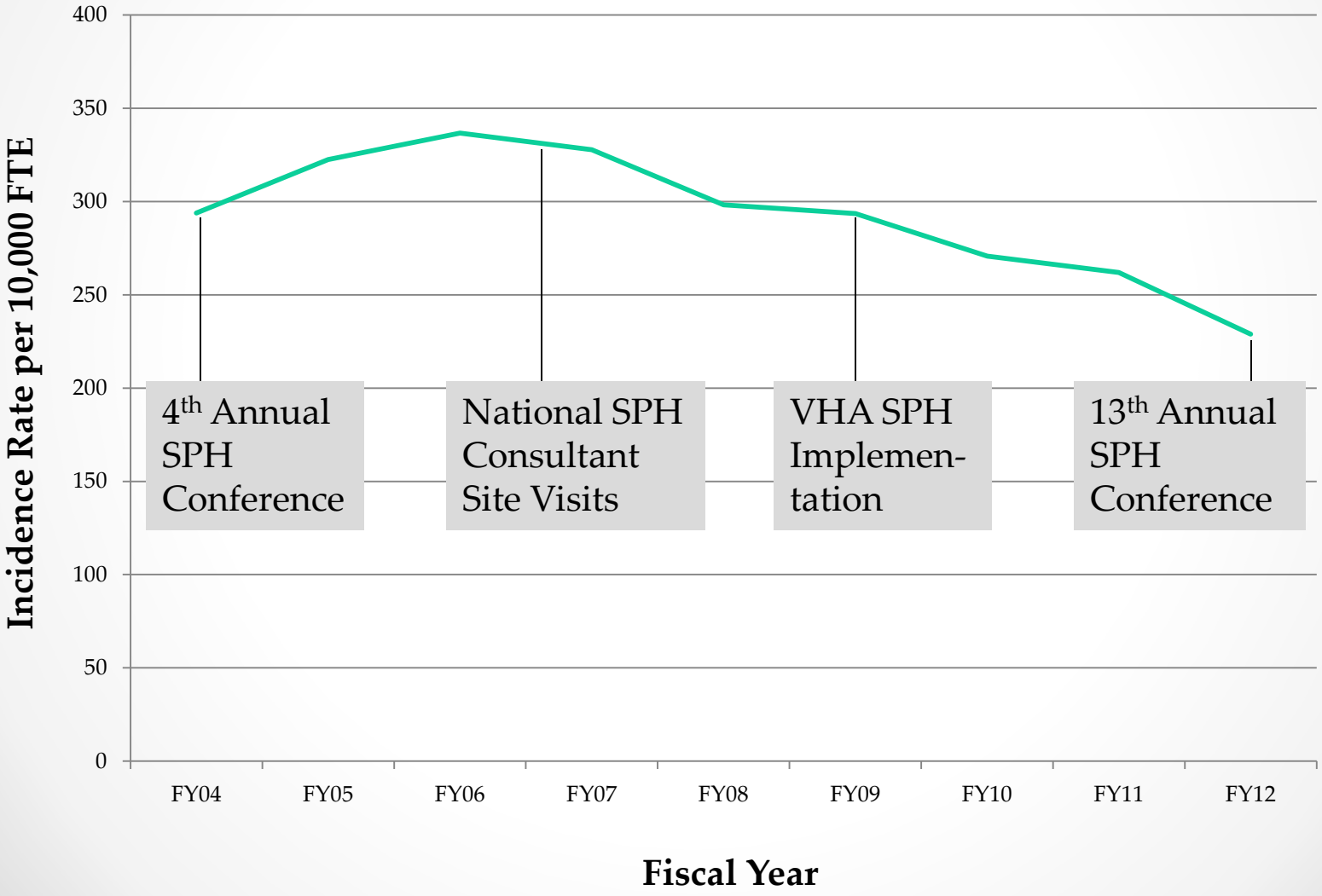
VA SPH Implementation Timeline 1995-2011

Mid 1990s	Identification of high-risk nursing tasks, redesign of tasks, confirmation in laboratory setting
1998-99	Implementation at one VA hospital (Nursing Home and SCI)
2001-2003	Implementation in 3 VA Networks (VISN)
2006-2008	National Consultant Activities, Annual Training Meetings
2008 -2011	National Roll Out $205 M allocated for National SPH Program Implementation (funding for equipment and ½ time facility champion) Evaluation conducted

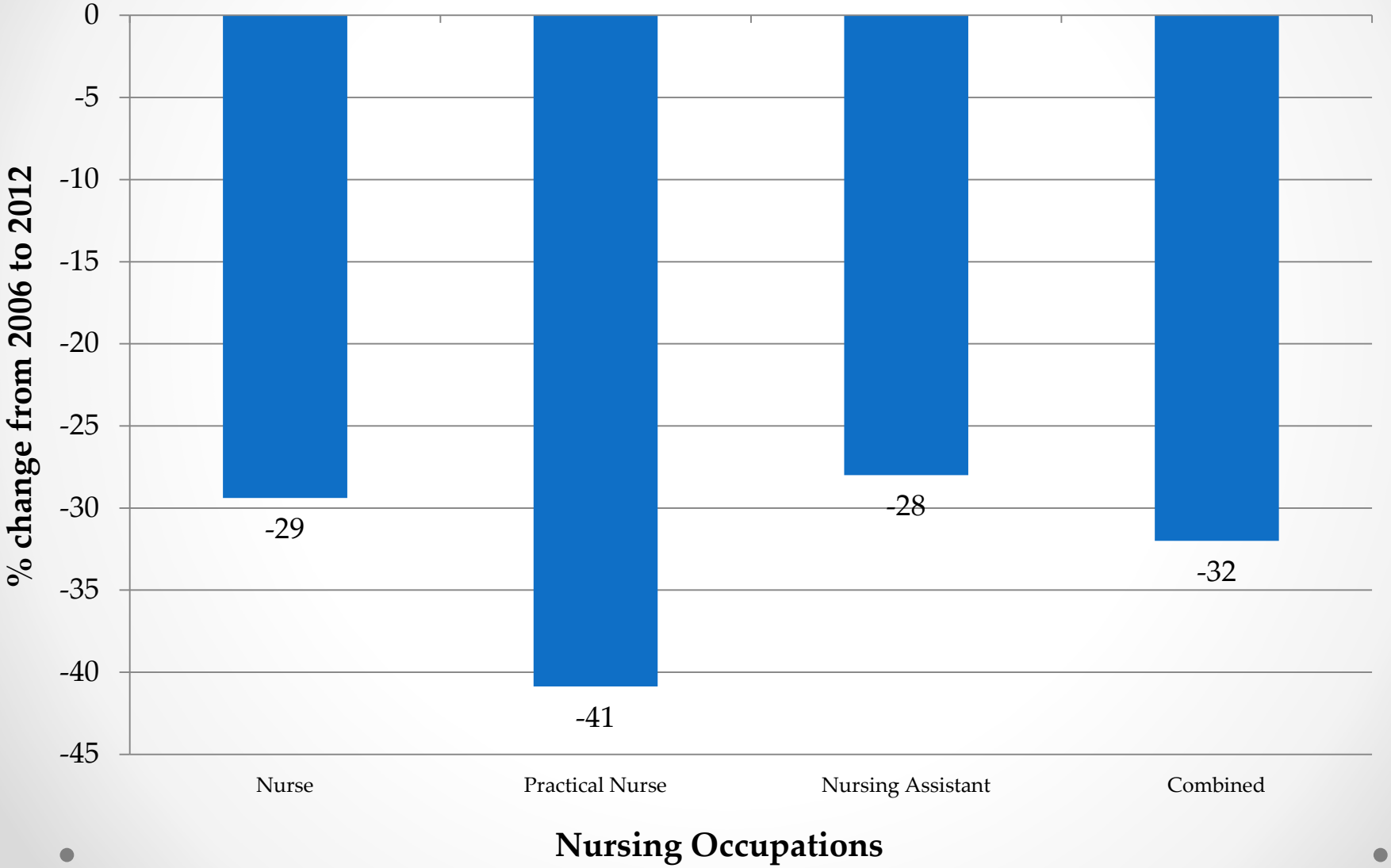
Evaluation Methods

- **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)



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

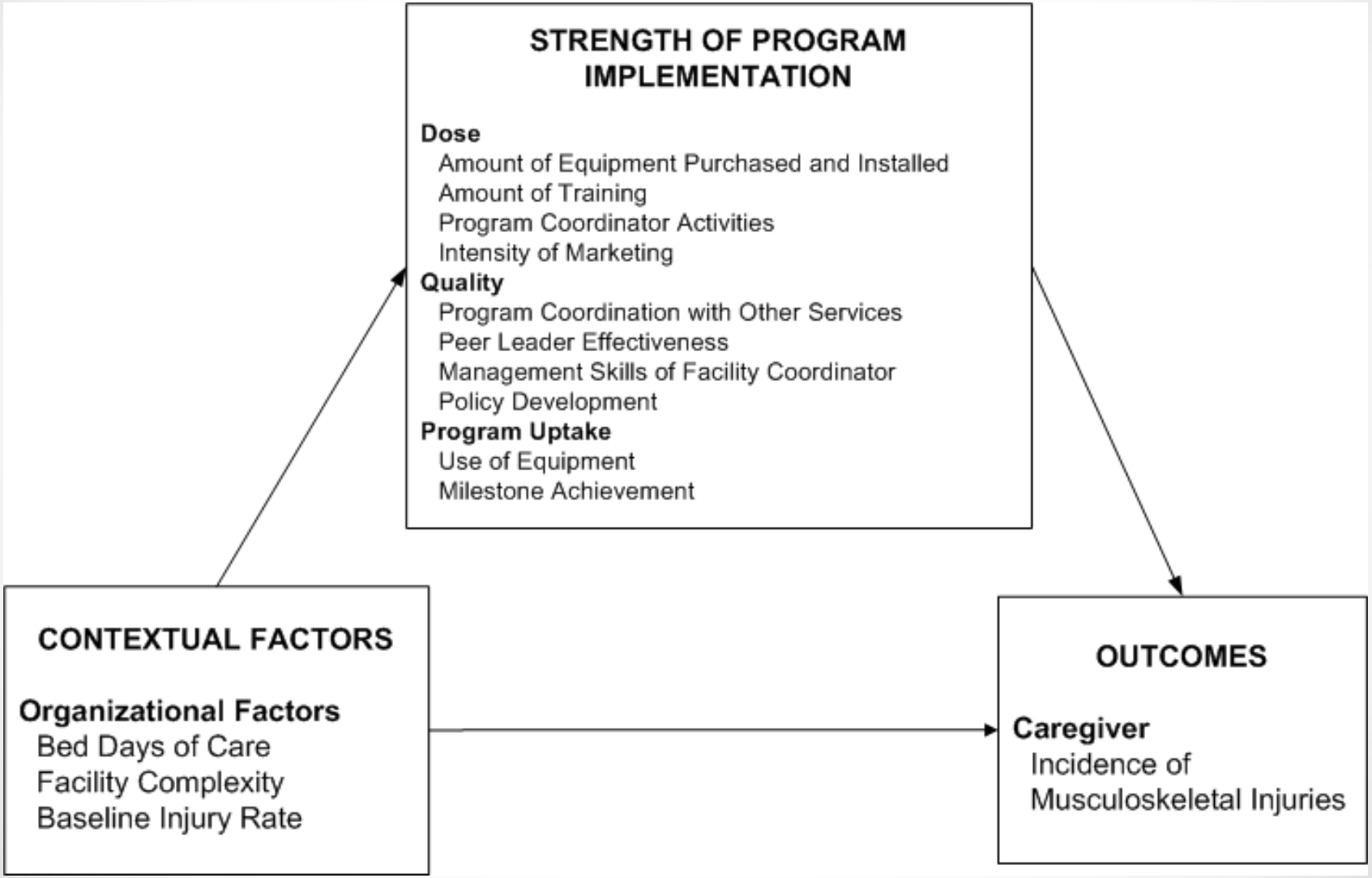


Hypotheses

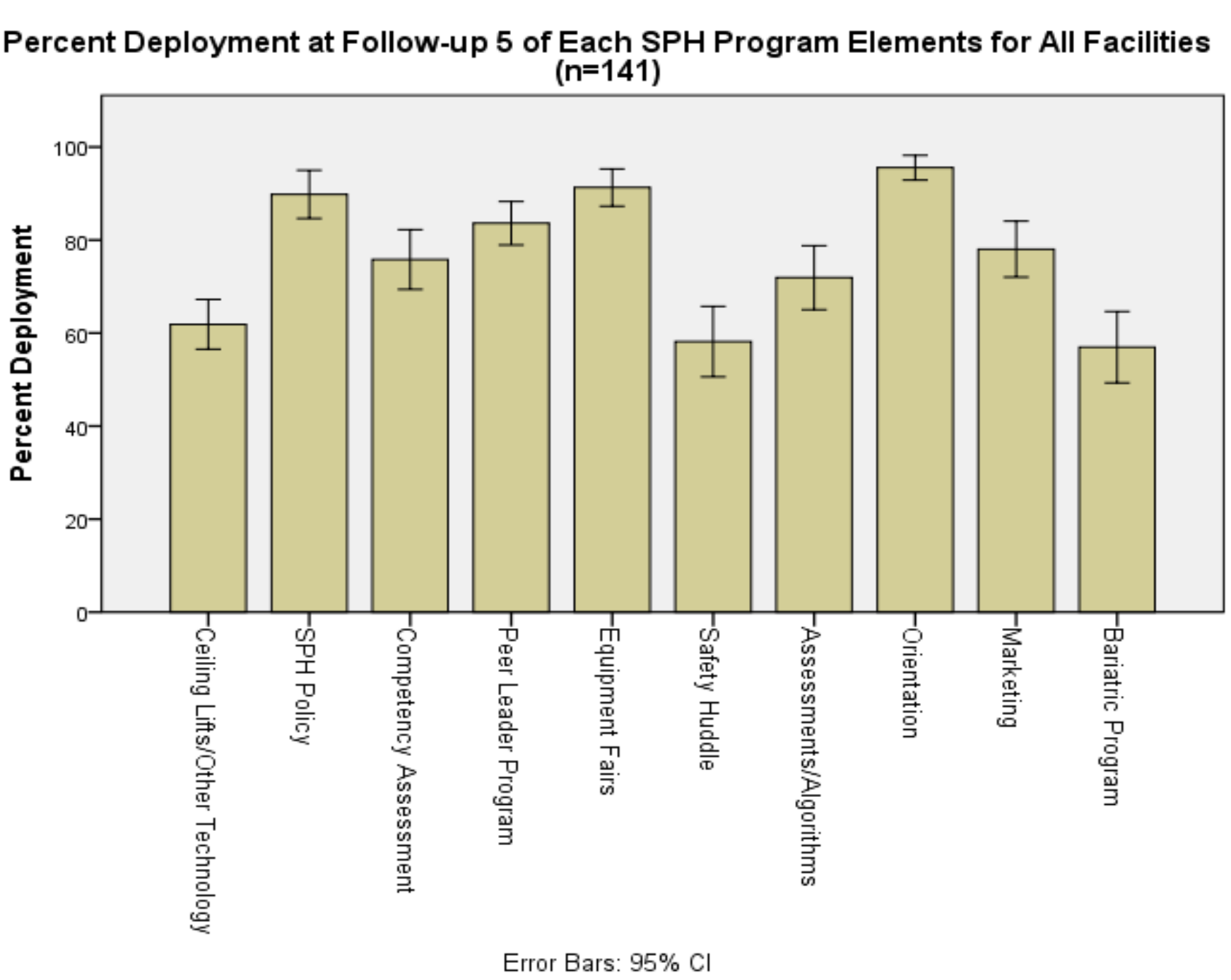
1. Bed Days of Care (BDOC), facility complexity level and previous injury incidence rate (FY2006) will be predictive of later FY2011 injury rate.

2. SPHM program components will moderate the effects of the risk factors on FY2011 injury rate in a beneficial way (i.e. so as to reduce incidence rates).

Conceptual Model for Analysis



Overview of Explanatory Variables


Percent Deployment at Follow-up 5 of Each SPH Program Elements for All Facilities (n=141)
Percent Deployment
100
80
60
40
20
0
Ceiling Lifts/Other Technology
SPH Policy
Competency Assessment
Peer Leader Program
Equipment Fairs
Safety Huddle
Assessments/Algorithms
Orientation
Marketing
Bariatric Program
Error Bars: 95% CI

Adjusted effects of individual SPHI components on FY11 Injury Rates - Regression Models

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Modeling FY 2011 injury rate

- Test for the effects of Program components while controlling for relevant facility-level sources of variation in the outcome:
  - FY 2006 Injury rate
  - FY 2009 Total Bed Days of Care (BDOC)
  - 2011 Facility Complexity Level

Percent increase in the explained proportion of variation in FY 2011 Injury incidence rate attributed to combined SPH components

		A	B	
		Explained proportion due to non-SPH covariates (base model)	Explained proportion after SPH components were added to base model	Percent increase in Explained proportion over base model: ((B-A)/A)*100
	Facility factors (base model)			
1	FY2006 Injury Incidence Rate			
2	FY2009 Bed Days of Care (BDOC)	0.21		
3	FY2011 Facility Complexity			
	SPH Components		**0.44**	109.5
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

Further interpretation of Model Results

1. Linear relationships for
   - Effect of ceiling lifts and other technologies
   - Effect of peer leader effectiveness
2. Effects for other predictors was not as straight-forward

Non-Linear/Interaction Effects

1. The risk for FY2011 Injury associated with high BDOC is significantly less when Facility Champions were linked with Safety Committee by 2nd Follow-up (left bar) than when Champions were not linked.
2. The risk for FY2011 Injury associated with Facility Complexity Level is significantly less among facilities with higher score on competency in the use of SPHI equipment than for facilities with lower competency scores.
3. The risk for FY2011 Injury associated with baseline injury in is significantly less among facilities with higher score on Peer Leader training than for facilities with lower scores Peer Leader Training Scores. However, Peer Leader training appears to be effective only among low complexity facilities.

Individual Predictors (after adjusting for facility factors)

Variable Description
Incorporation of SPH into routine *orientation* of all new clinical employees
Equipment fairs and other methods used to assure active involvement of caregivers in SPH equipment selection
Algorithms implemented across all clinical areas
Conduct *facility-wide assessment* of SPH policies, procedures, and protocols to match VHA delineated program elements
A facility-wide *SPH policy* in effect that is non-punitive and emphasizes the need to minimize manual patient handling
Performance score based on 36 milestones at Follow-up 5
SPH support from key stakeholders

Summary: Critical Elements of a Program

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Gaps

- What are the Research Gaps?
  - Relationship between program components and *Patient Outcomes (mobility, falls, pressure ulcers, physical functioning)*
- What are the Implementation Gaps?
  - Interprofessional Education (Nursing, PT, OT)
  - Linking staff safety to patient safety
  - Healthcare inertia – implementation uneven across healthcare

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

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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

Patient Dignity and Safe Patient Handling

A Study of 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 using interviews and participant observation
- Sample included 52 Veterans with spinal cord injury hospitalized at one of 4 VA SCI Centers and 54 staff who provided direct care
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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

Questions / Comments