Nevada Hospital Association

Safe Patient Handling and Mobility: A Toolkit for Program Development

Section 3
Hazard Identification & Assessment

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The ***Safe Patient Handling and Mobility: A Toolkit for Program Development*** offers comprehensive guidance and resources to assist hospitals and other healthcare organizations in establishing and sustaining effective safe patient handling and mobility (SPHM) programs.

The complete toolkit can be accessed at **https://www.nvha.net/safe-patient-handling-and-mobility-toolkit/**

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Hazard Identification and Assessment

Contents

Hazard Identification and Assessment 1
Step 6. Determine the scope of the issue & program needs 1
Introduction 1
Hazard Identification and Assessment Activities 2
Figure 3.1 A Summary of Hazard Identification and Assessment Activities that can be used to Identify and Prioritize SPHM Program Needs. 4
I. Gap Analysis 5
Why Conduct a Gap Analysis? 5
Table 3.1 SPHM program components included in the Gap analysis tool. 6
Completing the Gap Analysis 7
Table 3.2 The Importance of Assessing an Organization's Culture. 9
II. Worksite Assessment 9
Introduction 9
Figure 3.2 Data to be Collected during Worksite Assessment. 10
When to Conduct the Worksite Assessment 11
Who Should Conduct the Worksite Assessment? 11
A. Employee Surveys and Interviews 13
Employee Perception Surveys 13
Symptom Survey 14
Employee Interviews 15
Employee Focus Groups 15
B. Manager Survey of Unit/Department Characteristics 16
Table 3.3 Summary of a Manager Unit/Department Survey 17
C. Review of Additional Data Sources 17
D. Site Visit of Priority Units/Departments 18
The Goal of Conducting a Site Visit 18
When to Conduct a Site Visit(s) 18
Who should Conduct a Site Visit(s) 19
Preparing for a Site Visit(s) 19
Scheduling the Visit 19
Conducting a site Visit(s) 20
Opening Conference 20
Observing Patient Handling Tasks 21
Table 3.4 Summary of Activities Observed when Assessing Patient Handling Tasks 23
Assessing the Physical Environment 24
Table 3.5 Information to be Collected during Assessment of the Physical Environment 26
Closing Conference 26
After a Site Visit(s) 27
Conducting Ergonomics Evaluation to Quantify Risk fFctors for WMSDs 27
Step 7. Analyze and prioritize survey and site visit data 30
Table 3.6 Example of a Risk Assessment Summary. 32
Assessing Readiness for Change 33
Section Summary 35
References and Resources Used in this Section 36

Hazard Identification and Assessment

Step 6

Determine the scope of the issue & program needs

Introduction

The primary purpose of hazard identification and assessment is to determine the hazards and level of risk associated with patient handling activities that have caused or may cause harm to caregivers and patients. Solutions are then developed and implemented to eliminate or minimize the risks identified.

Hazard identification involves identifying the physical hazards that contribute to work-related musculoskeletal disorders (WMSDs) associated with manual patient handling tasks such as repeated forceful exertion and awkward posture. However, as discussed in Section 1, psychosocial and organizational-related risk factors contribute to the development of WMSDs and must also be evaluated. These hazards are considered within the *Worksite Assessment* activities discussed in ***Step 6***.

Risk assessment involves determining the likelihood of injury or harm that occurs together with the potential severity of harm to caregivers and patients during patient handling tasks. For example, manually boosting a non-mobile patient of size in bed is a frequently performed task that is known to increase risk of caregiver back injuries, and can contribute to pressure injury for the patient (due to friction and shear). Thus, potentially resulting in career-ending harm for caregivers and grave consequences for patients.

Initial and ongoing hazard identification and assessment provide the foundation of a comprehensive SPHM program. The goals are to:

1. Identify the hazards (risk factors) related to patient handling and mobility tasks that may contribute to caregiver and patient injury.
2. Provide a basis for prioritizing identified hazards by risk and severity to help determine units or departments that should be a priority for SPHM interventions.
3. Inform decision making when choosing and implementing controls to prevent hazards i.e., choosing SPHM technology and best work practices.
4. Determine organization-wide, and unit or department readiness for change by assessing work culture and identifying barriers to implementing SPHM solutions and the overall program.

Tools that Support Content in this Section

3a. Gap analysis tool

3b. Employee perception survey

3c. WMSD symptom/discomfort survey

3d. Manager survey of unit/department characteristics

3e. SPHM technology inventory survey

3f. Site visit assessment checklist

3g. Worksite assessment summary

3h. Tips for choosing a consultant

5. Determine SPHM program components and program implementation strategies that facilitate program success and sustainability.
6. Provide an opportunity to engage employees in the development and ongoing management of the SPHM program and prepare them for change.
7. Allow the SPHM committee with leadership support to design an SPHM program that will serve the needs of your facility and meet industry best practices and standards.

Identifying hazards, assessing patient handling tasks, and evaluating SPHM program activities are ongoing processes that follow a continuous-improvement model ***(Refer to Section 1).*** These activities require regular monitoring, reviewing, and communication to ensure the effectiveness of SPHM solutions and to address new hazards promptly.

Periodic program evaluation is a critical activity that supports the achievement of program goals and sustainability and facilitates program adaptation to ongoing changes in healthcare delivery, staffing and leadership. *Refer to* ***Section 8 Program Evaluation*** *and* ***Section 9 Program Sustainability,*** *for more information.*

The tools provided in ***Section 8*** will also help SPHM committees who need to complete hazard identification and risk assessment activities in an *existing* SPHM program.

Hazard Identification and Assessment Activities

The review of injury data described in ***Section 2*** provides a starting point for determining what patient handling tasks need to be addressed, the frequency and severity of injuries and where they occur i.e., potential high priority units/departments.

However, injury reports do not always provide enough information about root cause and context of patient handling related incidents. Underreporting and miscoding of injuries in health care can also limit the quality of data that is needed to determine what, and how, to prioritize patient handling related hazards that need to be addressed.

The following activities are highly recommended to identify and develop solutions to address patient handling related hazards, as well as determine the processes needed for the successful implementation of the SPHM program. Together they facilitate SPHM program development from a systems perspective.

I. Comprehensive gap analysis of existing patient handling injury prevention efforts or SPHM program (if a program already exists). This includes assessment of an organization's safety culture and readiness for change.

II. Worksite Assessment

   a) Surveys and interviews that engage employees and determine their perception of the risk and challenges they experience when performing patient handling related tasks.

   b) Survey of units to evaluate patient characteristics, the physical environment, staffing practices and any existing equipment that is used for patient handling and mobility tasks.

   c) Site visit of units/departments with the highest number or rates of patient handling injuries/incidents (i.e., priority units/departments) as identified through analysis of injury data ***(Section 2)***, to assess patient handling tasks performed, the physical work environment and culture.

The following are examples of *additional* data sources that can also be used to identify SPHM program needs in your facility. The data source you choose to evaluate will depend on the availability and quality of the data, and resources available to evaluate the data.

- Employee focus groups (***Refer to page 3-15)***
- Existing employee survey data e.g., satisfaction surveys
- Feedback from employee suggestion programs
- Minutes from safety meetings
- Patient focus groups and/or surveys to elicit information about their experience when being mobilized manually and/or with SPHM technology. *Refer to* ***Section 8*** *and* ***Tool 8c*** *for more information about patient surveys.*
- Patient reports or quality surveys e.g., Press Ganey
- Patient safety data such as incidents of patient falls that occur when caregivers are manually mobilizing patients and/or pressure injuries due to lack of in-bed repositioning and out of bed mobilization. Refer to ***Section 1*** for information about the relationship between SPHM and patient outcomes
- Employee and patient safety rounding and inspection reports conducted by facility staff e.g., *Environment of Care* surveys, and/or external agencies e.g., workers compensation insurance carriers, accreditation entities such as DNV, the Joint Commission etc.

Quick Tip

Hazard assessment activities described in this Section can be adapted to the size of a health care facility, and service line provided. The activities you choose to complete depend on the quality of hazard related data you may already have, resources available to complete assessment activities, and recommendations from leadership.

However, it is recommended that at a minimum a Gap Analysis, surveys to determine unit/department characteristics and if any SPHM technology exists, and site visit activities are completed. These activities are essential to provide sufficient data to inform SPHM program planning and development.

If it is not feasible to conduct a facility-wide survey of employees who perform patient handling activities, then have a strategy to engage employees in high priority units/departments *as* identified by review of injury data *(Refer to Section 2)* using surveys, interviews and/or focus groups as described in this Section. Soliciting employee input about current patient handling practices is crucial to informing solution development and facilitating change.

- State or federal OSHA consultation or enforcement reports related to patient handling and mobility tasks
- Grievances made to union/labor representatives related to employee safety, staffing, and patient handling tasks

Once completed, information collected from the Gap Analysis together with data from surveys, site visits, injury and incident data and any other additional data sources, will provide a framework to develop your SPHM program or enhance an existing program. *Refer to* ***Steps 7 and 8*** *for more information.*

Figure 3.1 summarizes the hazard identification and risk assessment activities that can be used to identify and prioritize SPHM program needs.

SPHM Hazard Identification and Assessment Process

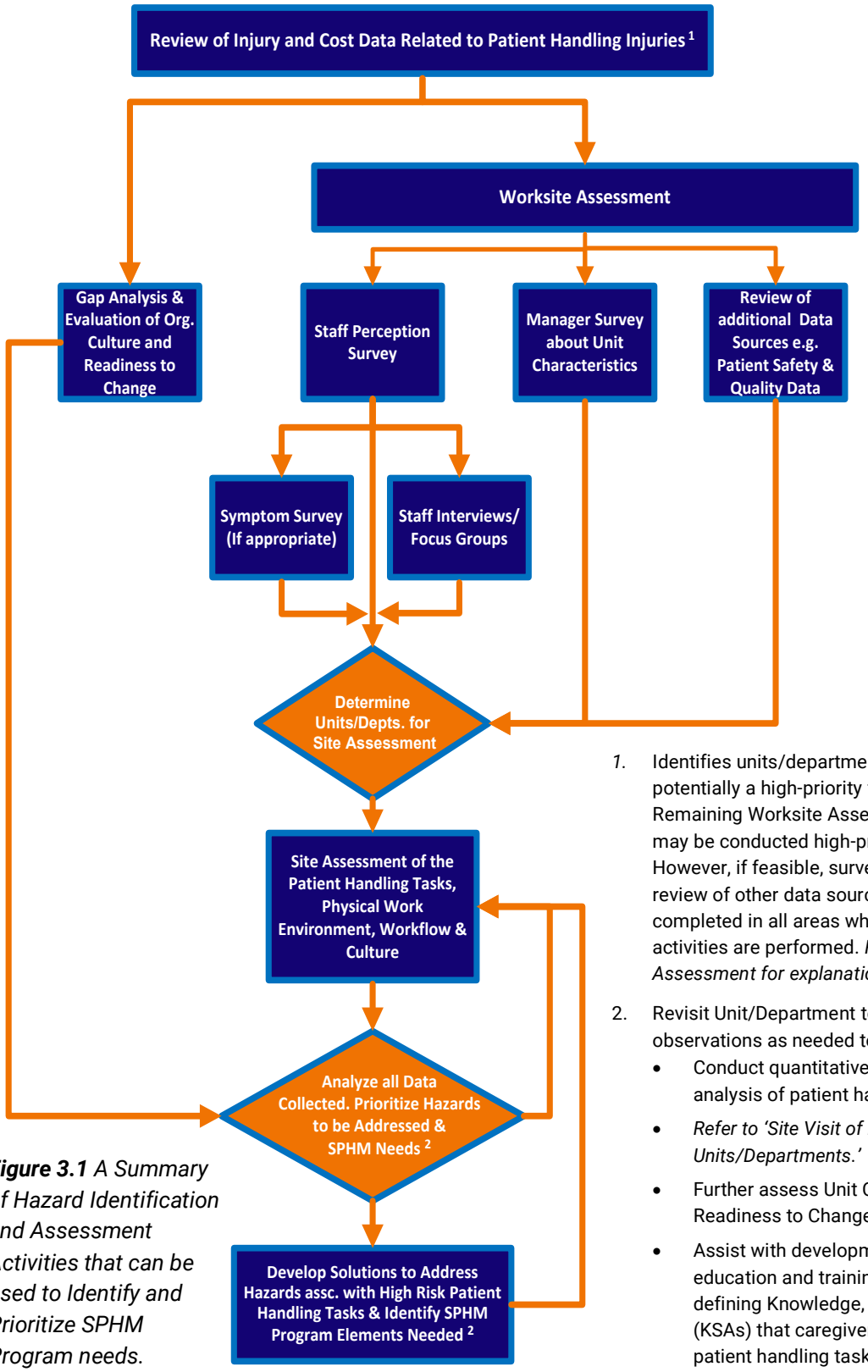

Figure 3.1 *A Summary of Hazard Identification and Assessment Activities that can be used to Identify and Prioritize SPHM Program needs.*

1. Identifies units/departments that are potentially a high-priority for SPHM solutions. Remaining Worksite Assessment activities may be conducted high-priority units only. However, if feasible, survey activities and review of other data sources should be completed in all areas where patient handling activities are performed. *Refer to Worksite Assessment for explanation.*

2. Revisit Unit/Department to conduct further observations as needed to:
   - Conduct quantitative ergonomics analysis of patient handling tasks
   - *Refer to 'Site Visit of Priority Units/Departments.'*
   - Further assess Unit Culture and Readiness to Change
   - Assist with development of the SPHM education and training program e.g., defining Knowledge, Skills, and Abilities (KSAs) that caregivers need to perform patient handling tasks using SPHM technology ***(Refer to Sections 4 & 6)***

I. Gap Analysis

Why Conduct a Gap Analysis?

The purpose of a gap analysis is to determine the current state or *what's happening* and desired future state or *vision* of an SPHM program**.** It facilitates the comparison of current SPHM activities in your facility and within individual units and departments with recommended best practices in SPHM.

The Gap Analysis tool ***(Tool 3a)*** includes details of published recommended evidence-based elements and current best practices of effective SPHM programs. ***Table 3.1*** provides a summary of contents.

Conducting a gap analysis allows the SPHM committee and other stakeholders to determine:

- What SPHM program elements and activities are in place
- Completeness and effectiveness of existing SPHM program elements, policy, and procedures
- Barriers that may impact SPHM program implementation and/or hinder sustainability of previous SPHM program efforts *(if any)*
- Which SPHM program elements and practices should be developed and implemented
- Prioritization of program activities to be completed

Completing a Gap Analysis also allows SPHM committee members to become more familiar with evidence-based program components and activities required to implement and sustain a successful SPHM program.

It also provides an opportunity to **assess organization culture and readiness for change.** Assessing readiness for the implementation or enhancement of an SPHM program is an important activity that helps the SPHM committee determine and prioritize implementation strategies. They can develop strategies to address potential barriers identified that can be discussed when presenting the draft SPHM program plan to senior leadership.

Change in a health care organization's leadership team and/or delivery of business services also necessitates that an organization's culture and readiness for change is evaluated on an ongoing basis to facilitate sustainability of the SPHM program.

The importance of assessing an organization's culture is summarized in ***Table 3.2.*** Determining the readiness of a health care facility to implement an SPHM program is discussed at the end of this Section.

The first section of the Gap Analysis tool provided, i.e., 'SPHM Program Foundation and Management,' identifies behaviors and practices that help determine if a culture of patient *and* employee safety exists, and any potential culture-related barriers to implementation of a successful program and associated procedures.

It is recommended that a gap analysis is completed *periodically* as a part of an ongoing program evaluation e.g., annually, as discussed in ***Section 8*** of this toolkit.

Quick Tip

The Gap Analysis can be completed by the SPHM committee while other assessment activities are being completed e.g., employee surveys, site visits etc.

Information gathered from surveys and onsite evaluation activities may help the committee to complete the Gap Analysis.

SPHM Program Components Included in the Gap Analysis Tool

- The *Gap Analysis* tool ***(Tool 3a)*** was developed from several resources and includes all elements of the ANA Safe Patient Handling and Mobility Interprofessional National Standards, 2nd edition, and OSHA recommendations for SPHM programs. It can be customized as needed e.g., to include required elements of state laws for SPHM. Program elements or activities can be adapted and/or added to the tool as the SPHM program matures.
- The tool is provided in several formats; however, the *MS Excel* version allows you to prioritize responses to individual questions and then offers a project planning format to identify specific strategies to address identified gaps; potential barriers and how anticipated problems will be averted or minimized; those responsible to carry out the strategies; timeline for implementation and resources needed. This tool focuses primarily on SPHM programs in hospitals and ambulatory care settings. Additional information may be needed when reviewing an SPHM program for long-term care or home health services. ***Section 10*** *provides more information about SPHM for these health care settings.*

SPHM Program Foundation and Management

A. Management Leadership
B. Employees Involvement
C. Written SPHM Policy
D. Program Management
   I. Program Champion
   II. SPHM Committee/Team
   III. SPHM Program Manager/Coordinator
   IV. SPHM Program Plan
E. SPHM Champion Program
F. Lift Team Program – if applicable
G. Communications/Social Marketing

SPHM Program Hazard Analysis, Abatement and Evaluation

H. Ongoing Hazard Identification/Analysis and Program Evaluation
   I. Data Analysis - Injury & Incident Data
   II. Data Analysis – Other Outcome Measures
   III. Program Process Evaluation

SPHM Program Hazard Analysis, Abatement, and Evaluation cont.

I. Equipment Selection, Tracking and Maintenance
   I. Equipment – General
   II. Sling Management Process
   III. Infection Control Policy Related to Cleaning of SPHM Technology
   IV. Maintenance and Inspection
   V. Ongoing Equipment Management
J. Patient Assessment Protocols
K. Education
L. Post Incident or Injury Management

SPHM Program Proactive Hazard Prevention

M. Proactive Design
N. Proactive – Hazard Identification and Gap Analysis

Table 3.1 *SPHM program components included in the Gap analysis tool.*

Completing the Gap Analysis

The SPHM committee and any other key stakeholders should complete the gap analysis. However, to expedite completion, it is recommended that a program section(s) of the tool is assigned to individual committee members or small groups within the committee for completion. For example, a committee member from the Employee Health department could complete questions related to Data Analysis if they have the best insight into collection and analysis of employee injury data. Unit managers and caregivers could complete questions related to selection, tracking and maintenance of any existing SPHM technology.

This approach allows you to gather different perspectives on current SPHM practices within your facility before establishing program priorities. It also facilitates input from individual committee members who may not be comfortable in expressing their viewpoint about existing safety culture and injury prevention practices in a committee meeting.

Individual committee members can also complete their assigned section of the gap tool together *with other staff* they work with to facilitate information gathering and employee engagement in program efforts.

It is recommended that all committee members answer the questions in '*Section A Management Leadership'* and '*B. Employees Involvement'* of the Gap Analysis tool, as it is important to gather all committee members' perception of the organization's culture.

Once individual responses are collected, review responses to each question together as a committee using a brainstorming approach. Discuss overall 'gaps' identified in each program component section to arrive at consensus to determine what program elements and activities:

- Exist and are functioning well
- Are only partially implemented
- Need to be developed
- Will not be implemented or are not applicable

Once complete, rank items in each program component section by those that:

1. Need to be developed
2. Are only partially implemented
3. Exist and are functioning well
4. Will not be implemented or are not applicable (Note you may want to review these items again in the future to determine if they are applicable or should be addressed)

Quick Tip

As hazard identification and risk assessment activities are being conducted, identify all stakeholders who will be involved and/or impacted by SPHM program planning and implementation activities.

Stakeholders include employees such as senior leadership, unit/department managers, caregivers, and support service staff; departments; and external entities such as Emergency Medical Services (EMS).

Developing a Communications plan for the SPHM program is discussed in Section 4. *Tool 2f* provides examples of stakeholder groups who may be impacted by the SPHM Program.

Conducting a Gap Analysis on a Priority Unit

There is some evidence from other health care safety-related programs such as workplace violence prevention, that having individual units or departments complete a gap analysis related to their work areas can enable change and program sustainability.

This activity facilitates ownership of solutions by addressing specific processes and issues that are meaningful to that employee population for example, SPHM technology and training that is designed to address needs for how to move and mobilize a specific patient population (Hamblin et al., 2017, Wright, 2015).

The next step as a committee is to determine what you think must be done to move from the current state to the desired future state of the SPHM program at your facility or within your organization. This is discussed in ***Section 4, Step 8.***

The Importance of Assessing an Organization's Culture

Competing business and service demands together with changing health care reimbursement rules and staff recruitment and retention challenges can make sustainability of comprehensive worker safety programs such as SPHM challenging.

Healthcare organizations that foster a "culture of safety for patients and workers" characterized by an atmosphere of mutual trust, shared perceptions of the importance of safety, confidence in the efficacy of preventive measures, and a no-blame environment that facilitates reporting of unsafe conditions and behaviors may be more successful at preventing harm to both patients and workers (TJC, 2012, HRET, 2016, NIOSH, 2023, OSHA, ND).

Assessing the organization's culture and readiness for change involves reviewing the organization's approach to a 'culture of safety.' OSHA summarizes an organization's culture as the product of individual and group beliefs, values, attitudes, perceptions, competencies, and patterns of behavior that determine the organization's commitment to objectives such as quality and safety.

Healthcare organizations that foster a culture of safety characterized by an atmosphere of mutual trust, shared perceptions of the importance of safety, confidence in the efficacy of preventive measures, and a no-blame environment are *more successful* at implementing programs that reduce injuries to both patients and workers.

Typical attributes of a culture of safety include:

- Staff and leaders who value transparency, accountability, and mutual respect
- Safety as everyone's priority
- Not accepting behaviors that undermine the culture of safety
- A focus on finding hazardous conditions or "close calls" at early stages before injuries occur

The Importance of Assessing an Organization's Culture
• An emphasis on reporting errors and learning from mistakes • Careful language to facilitate conversation and communicate concern • Principles of High Reliability Organization (HRO) and Just Culture are embraced (OSHA, 2015) Assessing organizational culture and readiness to change, together with incorporating change management principles into program implementation efforts are critical for SPHM program success. ***Assessing readiness for change*** *is discussed at the end of this Section.* ***Change management*** *is discussed in* ***Section 7***. Implementing an SPHM program that is manageable within an organization's current *business* capabilities, is designed to have a *positive impact or contribution* to the organization's business goals and contributes to achieving the organization's mission and stakeholders' (patients, staff) safety and satisfaction, has a greater likelihood of being sustained (ANA, 2021; Matz et al., 2019). As discussed in Section 1, caregiver safety and wellbeing as a key factor in improving delivery of safe patient care. A well designed, implemented, and managed SPHM program may support progress towards or enhance a culture of patient and caregiver safety.

Table 3.2 *The Importance of Assessing an Organization's Culture.*

II. Worksite Assessment

Introduction

The analysis of injury data, as detailed in ***Section 2***, should have identified and ranked the units and/or departments that should be a priority for SPHM program efforts. Specifically, units should be prioritized by the number or rate and severity of patient handling-related injuries.

The next step is to find out more about the patient handling tasks that have caused caregiver and/or patient injury on the priority units and identify SPHM solutions.

This involves soliciting information from caregivers, other employees, and management on priority units/departments about patient handling tasks conducted, the patient population and physical environment, staffing practices and existing SPHM equipment (if any). This is achieved using surveys and interviews followed by unit/department site visit(s) to assess patient handling tasks performed, the physical work environment, work practices, and culture.

Information to be collected in the Worksite Assessment is summarized in ***Figure 3.2.***

Focusing SPHM program efforts on one or more priority units/departments helps provide direction for prioritization of program efforts and use of resources when starting an SPHM program.

However, injury data analysis may *not* yield enough information or detail to prioritize units based on the number or rate of patient handling related injuries. Conducting surveys of *a majority* or *all* units and departments where patient handling tasks are performed *before* conducting site visits can help better determine which units/departments are prioritized for on-site assessment.

The SPHM committee and program coordinator together with guidance from the program champion (with input from leadership) should make the decision to survey all units/departments or priority areas only.

Surveying *all* units or departments where patient handling tasks are performed can help to identify:

- Units/departments where the risk for patient handling-related injuries is high, but *few or no* injuries are reported, and further investigation is needed. *Also refer to Symptom surveys on* ***page 3-14.***
- Where high-risk patient handling tasks needs to be addressed as soon as possible
- Where SPHM technology or solutions may already exist and the effectiveness of these solutions to reduce injury risk
- Planned changes to patient populations, or service lines e.g., a unit where the patient population will change and become more physically dependent thus increasing the need for SPHM technology such as powered lift systems
- Planned changes to the physical design of a unit/remodel or new build etc. For example, a unit and/or a unit that is to be remodeled or moved to another location within the facility providing an opportunity to install ceiling/overhead lift technology

Figure 3.*2 Data to be Collected during Worksite Assessment.*

Surveying all units also helps you gain a broader picture of the scope of patient handling activities in the facility for long term program planning purposes and ongoing efforts to prioritize SPHM program activities.

If only priority units are to be included in *Worksite Assessment* activities when starting or evaluating an SPHM program, then a strategy to investigate and address SPHM needs on other units must be determined and included in the SPHM program plan.

Considerations for selecting validated **measurement instruments** are discussed in ***Section 8 Choosing SPHM Program Evaluation Tools.***

When to Conduct the Worksite Assessment

Employee and unit or department surveys are conducted before a site visit(s) to priority units/departments.

Survey data collected will help facilitate effective site-visit planning and assessment. Data gathered from these surveys can help to further prioritize which units/departments require a site visit and assessment.

Planning and communication with unit/department managers throughout the assessment process is critical for successful data gathering. Send information about the assessment process, and what you need managers to do and allow them time to gather data.

Allow sufficient time for survey data to be collected, analyzed and reviewed by the SPHM committee *prior* to the unit/department visit, to determine which locations are a priority for site assessment, and how observation of specific tasks, equipment, and work areas will be prioritized.

Who Should Conduct the Worksite Assessment?

A participatory ergonomics approach is recommended when conducting the worksite assessment. This approach focuses on engaging the caregivers who perform patient handling and care tasks and soliciting their expertise to ensure that the best SPHM solutions are implemented and are accepted by staff.

Worksite assessment should be conducted by a multidisciplinary group of employees that *includes* the SPHM program manager/coordinator together with members of the SPHM committee while working closely with employees and management from units and departments that are the target of SPHM efforts.

This approach can help:

- Provide context for observations conducted during site visits to priority units/departments
- Promote the likelihood of acceptance of SPHM solutions and program activities by caregivers, other employees, and managers
- Allow for a more effective and comprehensive identification of patient handling problems and solutions because input is solicited from a *diverse* group of employees related to the way patient care is delivered and work culture at your facility
- Provide the SPHM committee with invaluable information to assist with the development of the SPHM education and training program

- Set realistic goals for caregivers and managers about which patient handling tasks can and should be addressed immediately and in the future. Thus, caregivers understand potential limits of initial program efforts due to resources, budgetary constraints, etc., and why higher risk tasks must be addressed first followed by a plan to address all manual patient handling-related issues
- Those conducting the site visits to further develop problem solving skills/competence and build on their knowledge base
- Bring varied perspectives when identifying hazards and developing solutions/problem solving

It is important that the members of the Worksite Assessment group receive fundamental SPHM education about the hazards and risk factors associated with manual patient handling, SPHM program components and development process ***(Section 2),*** and SPHM technology and best work practices to reduce risk of employee and patient injury. *SPHM training resources are listed in* ***Section 6*** ***Tool 6a.***

This group should include *at least* one person with ergonomics expertise that is familiar with health care ergonomics and SPHM, together with employees that have direct knowledge of the tasks, equipment, and environments being evaluated. The group should include employees from nursing, physical/occupational therapy, and employee health and safety. It is also important to include employee representation from other patient care departments that may provide services on the unit/departments being assessed e.g., diagnostic imaging, respiratory therapy etc.

SPHM committee members from support service departments also provide valuable insight into current work processes and how they can be adapted to support SPHM program needs e.g., maintenance staff, and environmental services personnel, laundry services, and transportation etc.

Refer to ***Tool 2f*** *for stakeholder roles within an SPHM program.*

Soliciting Management Engagement in Worksite Assessment Activities

Before starting Worksite Assessment activities, ensure that the managers of the units/departments that will be evaluated, receive education about the SPHM program initiative, the importance of their engagement to the success of SPHM program development, and expectations/role in data collection and site visits.

To help managers prioritize and support SPHM efforts on their unit/department, it is imperative they understand that the purpose of SPHM activities is *not* to add more to their already busy and often challenging workload. They need to be able to understand how SPHM will assist them to address existing issues on their unit e.g., caregiver absence due to work-related injury, turnover and patient safety, and experience.

This activity helps the SPHM committee to build relationships with managers and facilitate 'buy in' for change.

However, using a participatory approach to worksite assessment may take longer because of the time required to train the assessment group and coordinate activities of multiple members.

An alternative approach is to have an SPHM/Ergonomics expert conduct *all or some* of the worksite assessment and assist with solution development. This expert may be an existing employee, or an external consultant.

External SPHM expertise can be *invaluable* especially in assisting to prioritize patient handling tasks that need to be addressed. They understand what SPHM technology will best reduce risk factors for WMSDs, is most compatible with the physical work environment, caregiver skills and abilities, and will meet the clinical goals for the patient population.

If the 'expert' approach is used when conducting the worksite assessment, then it is recommended that the benefits and drawbacks of this approach are carefully evaluated by the SPHM committee, program coordinator, and facility leadership.

If external SPHM expertise is used to conduct all or some of the Worksite Assessment, the SPHM committee, unit caregivers and management must remain actively engaged in the assessment, problem-solving, program implementation and evaluation process, to facilitate culture change and program success.

Tool 3i provides tips for choosing an SPHM/Ergonomics consultant to assist with SPHM program development.

Finding Ergonomics/SPHM Expertise

If you do not have internal ergonomics expertise, then your workers compensation insurance carrier, or state OSHA consultation department (if applicable) may be able to provide assistance at no cost.

External occupational health or rehabilitation clinics may have professionals who have training and experience conducting ergonomics assessments and may be able to provide fee for service assistance.

There are a few private companies that provide SPHM consulting services. Professional Ergonomics and SPHM related associations may offer a consultant's directory ***(Refer to Section 10).*** Some SPHM technology vendors provide clinical consulting services. However, you do not want to commit to using (or continuing to use) a specific brand of SPHM equipment because you likely do not know what solutions will best fit your patient population, facility design etc., at this stage of program assessment and planning.

Available courses in basic ergonomics at listed in ***Section 10.***

A. Employee Surveys and Interviews

Employee Perception Surveys

The goal of conducting employee surveys is to gain more knowledge about patient handling activities by assessing employees' perception of risks and challenges and their ideas for potential solutions in addition to their feedback about existing SPHM technology (if applicable).

As previously discussed, you may decide to survey employees on priority units as determined by review of injury data, or survey employees in *all* units and departments where patient handling tasks are performed to help prioritize initial focus of the SPHM program.

Survey design and content vary depending on whether you are:

i. Starting an SPHM program and have minimal or no SPHM technology at your facility, or

ii. Are enhancing or reviving an existing program and have implemented elements of an SPHM program and technology

When starting a program, it is important to collect information from caregivers about:

- The type and frequency of patient handling tasks that they perform in their unit or work area
- Their perception of the physical difficulty or perceived risk to perform each task

Responses should be grouped by individual units or departments and then analyzed by shift to determine what and how often specific patient handling tasks are performed and ranked based on the highest to lowest perceived risk as provided by caregivers.

Tools 3b provide examples of employee perception surveys that can be used to collect this data.

A survey that can be conducted to assess staff perception of SPHM activities in an existing program or after implementation of a new program is provided in ***Section 8, Tool 8b.***

How to conduct, analyze and report employee survey data is discussed in more depth in ***Section 8 Evaluating the SPHM Program.***

Regardless of the survey tool used, ensure that there is an opportunity for employees to provide feedback about the ways they think manual patient handling and mobility tasks should be addressed in their work area e.g., use of open-ended responses.

Symptom Survey

Conducting a symptom or discomfort survey for WMSDs, in addition to the employee perception survey, can be valuable in identifying instances of discomfort, pain, or disability that may be linked to workplace activities, such as patient handling.

Symptom surveys can help prioritize hazard analysis when injury data is unclear or underreported. For example, they can reveal if high-risk patient handling tasks in certain units lead to symptoms of WMSDs despite few reported injuries.

Symptom Survey for Work-Related Musculoskeletal Disorders (WMSDs)

Commonly used symptom/discomfort surveys are based on the Nordic Musculoskeletal Questionnaire (NMQ) that was developed from a project funded by the Nordic Council of Ministers. The aim was to develop and test a standardized questionnaire methodology allowing comparison of low back, neck, shoulder, and general complaints for use in epidemiological studies. The tool was not developed for clinical diagnosis. (Crawford, 2007).

Symptom Surveys typically include nature, onset, location, timing, duration, and severity of MSD symptoms, what work activities employees perceive contributed to any symptoms noted, and how these symptoms could be prevented. A body map can be included so that employees can illustrate their discomfort.

NIOSH recommends administering surveys that are anonymous, voluntary, and completed on work time. Rank-order the frequency and severity of complaints for each body part and then average this data for each department and/or job. Out of respect for workers' personal information, use surveys only if the company/employer is prepared to act on the results. (NIOSH, 1997)

An example of a symptom survey and related resources are provided in ***Tool 3c.***

Employee Interviews

Employee interviews can be conducted before *or* during the site visits to *priority units* based on scheduling preferences by the unit manager and the Worksite Assessment group.

Interviewing employees independently from management can facilitate open discussion about:

- Current practices related to patient handling tasks
- Whether existing SPHM technology is used or not and why
- What SPHM technology is needed
- Unit culture and
- Potential *barriers* and *facilitators* to implementing a SPHM program on a unit

Interviews can be used to verify and clarify information that has already been gathered prior to the site visit.

Gathering perspectives from employees with different service lengths and shifts, including unit managers, assistant managers, specialty practice leaders, clinical educators, and charge nurses, provides more accurate assessment of patient handling needs.

Including employees from other departments who provide patient care services, such as physical and occupational therapists and diagnostic imaging technicians, will help you understand how and when they handle and mobilize patients. This inclusion will also provide insights into their knowledge of SPHM protocols, how they collaborate with other unit staff and potential barriers to implementing SPHM solutions related to their patient care duties.

Employee Focus Groups

Another method to gain employee input about the SPHM program and facilitate readiness for change is to conduct focus groups. This can be used as an opportunity to engage and solicit input from all stakeholders ***(Refer to Section 4)*** or a specific group of stakeholders such as nursing and therapy staff, who will be impacted by the SPHM program. It can also be a useful way to gauge employee enthusiasm or buy-in for planned or existing SPHM program activities.

Schedule groups so that employees on all shifts have an opportunity to participate. Arranging in-person lunchtime meetings with boxed meals, while providing caregivers and other employees with the option to participate via video conference as necessary, may further facilitate attendance.

Determine what information you want to gather and have specific questions or discussion points to review with the group. Communicate the goal of the meeting and provide a brief presentation on SPHM and the program goals and activities that you are planning to conduct or implement etc.

It is also a good opportunity to communicate realistic expectations about the scope of SPHM solutions and program activities that a facility may or may not be able implement immediately.

This type of activity can also be used to check in with employee groups during program implementation and evaluation.

B. Manager Survey of Unit/Department Characteristics

Data about patient characteristics, the physical environment, staffing practices and any existing SPHM equipment should be gathered from each priority unit prior to the site visit. This will help plan and facilitate site visit activities.

As previously discussed, it may be beneficial to collect this data from *all* units and departments where patient handling tasks are performed to identify other units/departments that should be included in site evaluation.

Surveying all units/departments also provides a more comprehensive inventory of SPHM technology that may exist, a broader view of the patient population characteristics within the facility and help with future program planning activities. ***Tools 3d and 3e*** details the information that should be collected from each priority unit.

Having unit and department managers complete this survey facilitates their engagement and collaboration in SPHM program development and implementation. The information to be collected is summarized in ***Table 3.3.***

Manager Survey - Unit/Department Characteristics

Information to be collected includes:

- Patient characteristics - diagnosis, physical and cognitive characteristics, and ability to mobilize including demographics about patients of size
- Census, admit, discharge, and transfer data
- Staffing characteristics – by shift; license status; skill mix; turnover
- Physical characteristics – number of patient rooms; beds per rooms; storage and space constraints for patient care tasks & use of portable equipment
- Patient assessment protocols used to determine mobility status and decision making for use of SPHM technology

Manager Survey - Unit/Department Characteristics
• The unit/dept. manager's perception of high-risk patient handling tasks, SPHM, and the use of SPHM technology (if available) by staff i.e., what is working well and any barriers • Planned changes to the patient population, staffing, and physical design of a unit • SPHM equipment inventory   ○ The type of SPHM technology or assistive device; quantity; weight limit; condition; and frequency of use • Interactions with other units/departments in the facility such as rehabilitation, perioperative services, diagnostic imaging, transportation etc.

Table 3.3 *Summary of a Manager Unit/Department Survey***.**

C. Review of Additional Data Sources

Reviewing other data such as patient safety and quality can offer valuable insight into patient safety trends that can inform SPHM program development and evaluation.

Risk management and/or patient safety and quality departments may be able to help identify relevant data such as patient falls related to manual mobilization activities; pressure injuries that may be attributed to lack of in-bed repositioning and mobility; and/or poor patient experience data related to missed mobility tasks etc.

Determining where patients of size e.g., over 300 and over 600 lbs. are typically admitted, their mobility needs, frequency of admission, and length of stay may be verified through the Manager Survey. However, evaluation of Electronic Health Records may provide a system-wide view that will be needed when determining SPHM technology needs for patients of size. Work with Information Technology to determine if this data can be provided.

Did You Know?

Find out if your organization participates in surveys that may provide useful information about patient experience, care, and safety at your facility such as the:

- **Consumer Assessment of Healthcare Providers and Systems (CAHPS) https://www.ahrq.gov/cahps/index.html**
- **AHRQ Patient Safety Culture™ (SOPS®) https://www.ahrq.gov/sops/index.html**
- **AHRQ SOPS® supplemental items related to workplace safety https://www.ahrq.gov/sops/index.html**
- **National Database of Nursing Quality Indicators (NDNQI). Some hospitals track and report various nursing-sensitive quality indicators to this national database. https://info.pressganey.com/press-ganey-blog-healthcare-experience-insights/your-comprehensive-guide-to-the-press-ganey-national-database-of-nursing-quality-indicators-ndnqi**

D. Site Visit of Priority Units/Departments

The Goal of Conducting a Site Visit

Site visits assist the Worksite Assessment team (and the SPHM committee) to 'fill gaps' or expand their understanding about information collected from the review of injury data and existing SPHM related policies, the gap analysis, employee and manager surveys and other data sources.

Use all data collected so far to identify priority units and/or departments for site visits, along with specific patient handling tasks and activities that require assessment.

These units/departments will be part of initial SPHM program efforts if you are starting a program, or where SPHM program activities need to be improved in an existing program.

The goals of a site visit are to:

- Evaluate high risk patient handling tasks that were identified from the review of data and determine hazards or risk factors that need to be addressed.
- Continue to prioritize handling and mobility tasks that need to be addressed based on the level of risk.
- Identify any other existing or potential conditions or hazards associated with patient handling tasks that may increase the likelihood of caregiver and patient injury e.g., patient characteristics such as risk of violence, and work tasks, point of-care work, clinical or nursing practices and procedures, that may increase risk of injury.
- Assess the physical workspace where patient handling tasks are performed, storage and access to equipment and other potential work environment issues that may impact the safety of patient handling.
- Verify the inventory and working condition of SPHM technology.
- Identify SPHM technology and ergonomics work practices that will address the hazards and risks associated with patient handling tasks.
- Identify organizational culture and processes and factors that may facilitate or impede implementation of SPHM technology and related processes on a unit/department.
- Continue to solicit employee engagement through one-to-one conversations with individual caregivers and their ideas about potential SPHM solutions to minimize caregiver and patient risk of injury and to prepare them for change *(Refer to Employee Interviews)*.
- Start collecting basic information about the knowledge, skills, and abilities that caregivers need to perform patient handling tasks which will provide a foundation for development of SPHM education and training programs.

When to Conduct a Site Visit(s)

Site visits should be conducted during the planning phase of a new SPHM program or when enhancing an existing program, and then periodically as part of a proactive approach to hazard prevention.

After completing *initial* site visits to priority units/departments and analyzing data collected as described in this Section, you can determine if additional visits are needed to gather more information to support SPHM solutions development. This includes visits to trial specific SPHM solutions ***(Refer to Section 7)***.

Site visit and assessment can also be used as part of the investigation process following a patient handling related incident to help determine if specific work practices or procedures, the physical design and/or maintenance of the work environment and/or SPHM technology etc., contributed to the event, and can be changed to prevent future incidents etc.

Who should Conduct a Site Visit(s)

Members of the multidisciplinary team who are performing the SPHM Worksite Assessment together with a person(s) with ergonomics/SPHM expertise should conduct the assessment of priority units/departments. *Refer to 'Who Should Conduct the Worksite Assessment?' on* ***page 3-11.***

Having members with differing professional expertise involved in the site assessment process can provide broader insight into the work area being reviewed. In addition, committee members who may not provide direct patient care, can become familiar with the worksite from a safety perspective and gain insight into employees' perspectives about SPHM needs.

Preparing for a Site Visit(s)

Scheduling the Visit

- Coordinate with unit and department managers to discuss the purpose of the site visit and schedule the assessment.
- Follow your organization's process to gain permission to observe patient handling tasks and ensure HIPPA compliance. Your SPHM program champion and unit/department managers can provide guidance.
- When scheduling a site visit, consider the best time for accessing all areas of the unit or department and interviewing employees. Prior to the visit, provide the manager with a schedule of assessment activities and any materials needed to prepare the unit or department for the visit.
- Determine if the site visit team will assess all priority units or departments, or if the team should divide into smaller teams and be assigned to a specific unit(s)/department(s). Having a small group (e.g., 2-4) conducting the site visit is the least disruptive when assessing busy work areas such as an intensive care unit. Work with unit/department management to determine the size of the site visit team.
- Discuss protocols for observing patient handling tasks and interacting with patients with the unit manager and determine who from the unit/department can accompany the site visit team to answer questions and facilitate activities. This person should be knowledgeable about the unit, patient population, and workflow, etc. For example, a SPHM coach or peer leader (as applicable) on units with an existing SPHM program.
- It is recommended that at least one member of the site visit team is familiar with the work area being reviewed, as well as the patient population and tasks being observed, to expedite the assessment process. Such individuals can provide valuable insights into procedural activities and

ensure a comprehensive review of the workspace.

- Scheduling formal employee interviews to be conducted during the visit should be arranged unit/department management prior to the visit. Ensure there is a process to relieve those employees who the site assessment team want to interview.
- Schedule the site visit during times when the high-risk patient handling tasks to be observed are more likely to be performed e.g., rehabilitation tasks, wound care tasks, or specific clinical procedures that are more likely to be performed at certain times on a day shift.
- Conducting the assessment during *all shifts* also helps to engage employees and will highlight variations in work tasks and demands, and procedures. This will also help the site visit team gain a broader understanding of the unit and its culture.
- The length of a site visit will vary and be guided by the manager's input; site visit team members availability; and the assessment activities to be performed during the visit.
- Site visit team members should review all unit/department specific data collected prior to the visit (e.g., injury and incident data, employee, and unit survey data) before conducting an assessment.
- Before the visits, ensure the site visit team reviews the 'Site Visit Assessment checklist' ***(Tool 3f)*** and make necessary additions based on data already collected and/or recommendations from team members.
- Developed a concise plan that details the schedule of activities during the site visit including the patient handling tasks to be observed and work areas to be evaluated.

  Team members must have a clear understanding of how site visit activities and observation of patient handling tasks will be performed. It may not be possible to have more than 1 – 2 team members observe a single patient handling task at one time due to patient privacy concerns and workspace limitations.

It may be necessary to visit a unit/department more than once to gather required information e.g., additional visits may be needed to ensure all high-risk patient handling tasks are observed.

The site assessment should be conducted without assigning fault or blame for patient handling-related or safety hazards that may be found. The process should be considered as an opportunity to address hazards and improve the environment using a systems approach.

Conducting a Site Visit(s)

Opening Conference

Start the visit with an opening conference between the site visit team and the unit manager and other designated staff who will assist the team during the visit.

Introductions should be made, and goals and activities of the visit confirmed based on earlier communication with the unit/department manager.

The following should be discussed and verified.

- Information obtained from the pre-site visit data collected. This includes confirming characteristics of the patient population including patients of size, and patients who are

cognitively impaired; patient handling tasks to be evaluated; staffing details, and planned changes to the patient population/service line and/or the physical location.

- Use of existing SPHM technology and reasons for non-use (if applicable), and if there are plans to purchase SPHM technology (for what purpose, type, and quantity).
- How a patient's mobility status is assessed and if a standardized assessment tool is used by nursing and physical and occupational therapy. If a tool(s) exists, when is a mobility assessment conducted and how is a patient's mobility status is communicated and documented between disciplines. Are the tool and communication processes etc., used accurately and consistently. If not, why? *SPHM patient assessment tools are discussed in* ***Section 5***.
- Information such as room assignments by patient dependency e.g., total care; clinical acuity and diagnosis, physical and/or cognitive criteria. This can be helpful when choosing ceiling lift location and accessible storage for other SPHM technology.
- Communication processes used and their effectiveness, e.g., change of shift handover protocols; staff huddles; after incident review (patient or employee related); nursing team meetings, display boards, unit newsletters., etc. This will help to identify communication methods that will help when implementing the SPHM program etc.

Employee input about the above unit/department characteristics should also be solicited during the visit.

Following the meeting, a designated unit staff member or the unit manager should leas the site visit team on a tour prior to observing patient handling tasks and assessing the physical environment.

This allows the team to become familiar with the physical space as well as gain a better idea of the design, flow, and overall goals/activities of the unit and location of patients (e.g., room number), that they may observe.

Observing Patient Handling Tasks

The goal of observing patient handling tasks is to identify and determine the root cause of risk factors for WMSDs such as excessive lifting, awkward postures, repetitive movements, and other hazards that may contribute to both caregiver and patient injuries during mobility-related activities. Determining the root cause of risk factors is essential for determining SPHM solutions. A summary of hazards and risk factors that should be considered when observing patient handling and mobility tasks is provided in ***Table 3.4.***

Quick Tip

The following tools can be used to guide assessment activities:

3b. Employee perception survey

3d. Manager Survey of unit/department characteristics

3e.SPHM technology inventory survey

3f Site visit assessment checklist

Section 10 for other relevant resources

Observing Patient Handling Tasks – A Summary

Physical Risk Factors

- Forceful exertion associated with lifting, pushing & pulling, carrying, and gripping
- Awkward postures
- Sustained or static postures
- Unstable or unbalanced postures
- Repetitive movement
- Exposure to environmental factors such as vibration, extreme heat or cold
- Overall duration of exposure to the task i.e., number of times a caregiver may perform the observed task(s) in a shift and if the same task(s) is performed every shift or occasionally.

Work Practices to be Observed

- Use of pre-task mobility assessment or check or information about a patient's mobility status to determine how the task is to be performed
- The number of staff performing the task and if sufficient for the task
- Availability of assistance from other caregivers if needed
- Environment prepared to reduce hazards
- Communication between caregivers and how well the task was coordinated
- Communication between the patient and caregiver(s)
- Soliciting patient assistance as much as possible
- Use of SPHM technology (if available)and appropriateness for task, and if used correctly
- The caregiver wears inappropriate footwear and clothing e.g., clothing that restricts movement, footwear with poor traction
- Caregiver lacks knowledge or training

The Physical Environment

- Physical layout of the room or work area e.g., caregivers' access to three sides of a patient's bed, and/or chair and toilet; other space limitations e.g., lots of equipment, clutter, etc.
- Access and clearance to patient surfaces if lift equipment is being used
- Slip, trip, and fall hazards such as wires and wet floors
- Poor lighting

Also refer to '*Assessing the Physical Environment*'

The Patient

- Level of ability to assist during mobilization and reasons for any limitations to provide assistance and ability to mobilize e.g.,
  - Clinical condition/diagnosis and physical limitations such as pressure injuries; risk of falling; body size, sensory limitations etc.

Observing Patient Handling Tasks – A Summary
○ Cognitive issues such as confusion and dementia ○ Language and cultural differences ○ Client anxiety and fear of moving ○ Pain ○ Medical attachments to client • The patient's experience during the patient handling task. If feasible, ask the patient if they felt safe and comfortable during the task

Table 3.4 *Summary of Activities Observed when Assessing Patient Handling Tasks.*

The following approach is recommended when observing patient handling tasks.

- Observe a specific patient handling task such as turning and boosting in bed *as many times* as possible with *different* patients.
- If feasible, observe a *variety* of caregivers performing a specific high-risk patient handling task with the *same* patient e.g., a stand pivot transfer.
- This will give the assessment team a broader 'sense' of risk factors and provide insight into the variation of work practices, i.e., identify poor and better work practices and procedures that caregivers use when performing patient handling tasks.
- Ask caregivers questions to clarify process and techniques *immediately* (if feasible) after you have just observed them performing patient handling tasks.
- Capture the frequency that each task is performed and if, and how, tasks are performed differently from shift to shift**.** This information can be compared to data captured from the employee survey and further investigated for any discrepancy reported.
- If feasible observe high-risk patient handling tasks being performed with patients of size and with those who are cognitively impaired to identify differences in work practices/use of SPHM technology (as applicable) when handling these patients as compared to handling of other patients.
- Determine the root cause of physical risk factors observed and poor work practices.
- Discuss specific ideas to improve patient handling tasks and activities that were gathered from previous SPHM employee surveys, focus groups, and other interviews (as applicable) with caregivers to gauge interest and feedback.
- Ask caregivers if there are patient handling tasks that are missed during a shift and if so, find out more about which tasks are missed and why e.g., ambulation from bed to chair, and repositioning in bed.
- Document observations, including potential solutions as observations are conducted e.g., SPHM technology including the type and size of slings that might be needed, work practice solutions etc.

- Observe workflow throughout the task to identify root cause of any inefficiencies observed. For example, delays in gathering supplies, SPHM technology (if used) and caregivers to perform the task; having too many caregivers performing a task; time-consuming task elements etc.

Solicit information from the following employee groups if present during the visit:

- Assistant nurse managers, specialty/clinical practice leaders and clinical educators as applicable, to gain their perspectives on patient handling needs, unit culture, education, and training processes, etc.
- Service providers such as physical therapists and diagnostic imaging technologists providing patient care services (therapeutic/diagnostics), to gain their perspectives about patient handling related risks challenges and potential solutions on the unit. Rehabilitation therapists should be interviewed to gain their perspective on safe and early mobilization of the patient population, effectiveness of mobility assessment protocols, experience, and views on use of SPHM technology, and their relationship with nursing staff related to patient care and rehabilitation needs.
- Physicians should also be engaged to gain an understanding of their perspective of patient care and mobility needs and clinical challenges that SPHM may be able to help address etc.
- Support or ancillary employees such as environmental service employees can share information about cleaning protocols, clean and dirty linen handling etc.
- Transporters (if they exist) can provide insight into the patient handling tasks and challenges they may have when transporting patients to and from the unit/department.

If it is not feasible to gain information from the above employee groups during the site visit, you can do so later as you will work with these groups (and others) when you develop and implement your SPHM program plan.

Quick Tip

The patient handling tasks and associated work practices that create the highest risk of injury to employees have been clearly defined by over 20 years of research *(Refer to Section 1)*. Therefore, when starting or evaluating an existing SPHM program it is not usually necessary to *quantify* the level of risk for WMSDs using ergonomics analysis tools. However, there are some situations when formal ergonomics analysis of patient handling tasks should be conducted. This is discussed on *page 3-28*.

Assessing the Physical Environment

Information collected during assessment of the physical environment is summarized in ***Table 3.5.*** ***Tool 3f*** provides a detailed list of physical characteristics in a patient care area that should be assessed.

Make sure that the team captures reasons for lack of use of any SPHM technology that is available on the unit/department and suggestions to increase use by caregivers, managers, and the site-visit assessment team members.

Remember before purchasing SPHM technology and implementing a program, further review of the physical environment needs to be conducted to ensure technology will 'fit' and can be safely and easily be used in a unit/department. ***Refer to Sections 5 and 7.***

Assessing the Physical Environment – A Summary of Information to be Collected

Confirm and update the information collected from the Unit survey about:

- Existing SPHM technology:
  - Type, brand, model, and quantity
  - Weight capacity
  - Condition
  - Accessibility
  - Use
  - Cleaning instructions that are clear and concise
  - Instructions for use that are easily accessible
  - Who repairs and maintains equipment and the process
  - Sling management if applicable
- Patient rooms: number of beds; size and configuration

Review

- Availability and accessibility of storage location(s) and capacity to house SPHM technology including lifts and accessories such as slings.
- Availability and location of power sources (outlets and batteries) for equipment.
- Physical characteristics of patient rooms, treatment areas and where transportation of patients occurs e.g., to and from a unit.
  - Structural, furniture and equipment issues that impede use of SPHM technology:
    1. That is already available in the unit/department
    2. May be purchased in the future

    This includes:
    - Ceiling characteristics (height, approximate space available for a lift track system over and around the patient's bed)
    - Location of HVAC vents/TVs/sprinklers/lights/headwalls/storage cabinets etc)
    - Hazardous materials located above the ceiling (e.g., asbestos) or in the walls (e.g., lead in paint, asbestos) if known.
    - Toileting, showering and bathing facilities including design and capacity of commodes; height of toilet seats and if wall mounted
    - Location of grab rails in bathrooms, toilets, or corridors
    - Flooring - thresholds, coverings, changes between surface coverings
    - Ramps
    - Clearance through doorways on a unit and into, and within, a patient room or treatment area
    - Clutter, limited space and access to working areas

Assessing the Physical Environment – A Summary of Information to be Collected

– Physical characteristics of beds, stretchers, treatment surfaces, and chairs, including commodes, wheelchairs, bedside chairs, recliners etc.
  ○ Height if fixed
  ○ Height range if adjustable.
  ○ Adjustable features e.g., head raises, beds that convert to chairs or tilt to stand, reclining chairs etc. Note if adjustment mechanism is powered, hydraulic assist or manual
  ○ General physical/working condition of features and controls including casters on mobile equipment
– Clearance under surfaces e.g., beds etc and around/under chairs
– Make and model of typical beds, stretchers and chairs used. Note specialty bed use e.g., Posey® and sand beds.

Table 3.5 *Information to be Collected During Assessment of the Physical Environment.*

Closing Conference

Once the observation period is completed, a closing conference or post-visit discussion can be conducted with the unit manager and key staff to summarize and verify the information collected and review the next steps. This can include discussion about SPHM technology and related processes that could be used to address existing patient handling-related hazards and the manager's response to these suggestions from the team.

The feasibility of the unit/department to be a potential *pilot site* for SPHM program implementation or enhancement of an existing program should also be discussed. Document the manager's and staff response including concerns and potential barriers.

Note that throughout the site visit the assessment team are gaining an understanding of the unit/department culture and identifying factors that support or hinder implementing a SPHM program on the unit/department. *Choosing a Pilot Unit(s) for SPHM implementation is discussed in* ***Section 7.***

Quick Tip

Document potential SPHM-related solutions and ideas identified by site visit team members and unit/ department employees as the assessment is completed while ideas are fresh.
If there are any safety related hazards or issues that need to be addressed *immediately*, discuss these with the unit/department manager (and/or shift charge nurse or supervisor as needed) *during* the visit. Follow your facility protocol for reporting and addressing urgent safety hazards.

It is also important to manage employee and management expectations during and after the visit so that the unit does not anticipate immediate action and SPHM-related activities that may not be feasible for the organization to complete at that time.

After a Site Visit(s)

Arrange a debrief for the site-visit team(s) immediately after the unit/department assessment to capture and discuss ideas about SPHM needs while the information is fresh.

Summarize information collected and identify and prioritize patient handling tasks and situations that should be addressed e.g., consider injury risk factors observed (to employees and patients), the frequency that tasks are performed, and input from employees and management. Discuss potential SPHM technology solutions that may be best for the unit/department about the physical, cognitive, and clinical needs of the patient population and the physical design characteristics of the location etc.

Formal problem solving and solution development will be conducted by the Worksite Assessment team and SPHM committee ***(Steps 7 and 8).***

Provide a summary report of the site assessment to the unit/department manager. This can also be used by the SPHM committee for problem solving activities described in ***Section 8***.

Conducting Ergonomics Evaluation to Quantify Risk Factors for WMSDs

Formal ergonomics analysis is useful to evaluate:

- Hazards related to patient handling tasks that were observed during site assessment visit(s) and need further quantification to assist with prioritizing tasks to be addressed.
- Potential risk of WMSDs when new patient care tasks or processes are developed, and to quantify reduction of injury risk after implementing a new SPHM protocol or practice. For example, pre- and post- ergonomics analysis when implementing a process to prone a patient using different SPHM technology such as, a floor lift versus friction reducing sheets.
- Patient care tasks and workspaces that are to be created as part of a remodel or new building project where ergonomics design elements are proactively integrated in design concept phase and analysis is conducted during mock-up phase of new workspaces. Thus, eliminating or minimizing risk of injury to employees and mitigating risk of employee error when performing care tasks. *Refer to* ***Section 9*** *for information about proactive design.*
- Patient care tasks and workspaces after remodel or new build to determine if new risk factors for WMSDs (and other safety related hazards) were created inadvertently and need to be addressed. This can happen when ergonomics is not considered during design and construction planning.
- Effectiveness of SPHM technology to reduce risk of WMSDs when conducting trials of new SPHM technology including evaluation of different SPHM technology to reduce the risk of employee injury when being used for a specific patient handling task ***(Refer to Section 5).*** For example, evaluating force required to transfer a patient in a supine position to/from bed to stretcher when using assorted designs and/or brands of friction reducing devices such as air-assist mats and slippery sheets.

Formal ergonomics evaluation involves identifying and carefully evaluating the sequence of job steps that are required to complete a task, the physical and cognitive effort required, the tools and equipment used, and the physical environment where the task is performed, to determine the risk of WSMDs.

This detailed information can also be used to develop comprehensive employee job descriptions that include the essential physical requirements of a job that aid in the organization's hiring process.

Additionally, health care providers and employers can use this data to determine if, and when, an employee is able to return to work and safely perform their duties following an injury that required time away from work. *'Return to Work' programs are discussed in* ***Section 7***.

Lastly, ergonomics evaluation can support development of the SPHM education and training program e.g. defining Knowledge, Skills, and Abilities (KSAs), that caregivers need to perform patient handling tasks using SPHM technology ***(Refer to Section 6).***

Conducting Ergonomics Evaluation to Quantify Risk Factors for WMSDs

There are several validated **ergonomics analysis tools and methods** that can be used to assess MSDs injury risk to caregivers when performing patient handling tasks.

The following is a list of some of the tools that are more commonly used to evaluate the risk of WMSDs associated with patient handling and other tasks involving lifting, pushing, pulling, and carrying.

- **Rapid Entire Body Assessment (REBA)** Sue Hignett and Lynn McAtamney, Rapid entire body assessment (REBA); *Applied Ergonomics.* 31:201-205, 2000.

  REBA is a validated postural analysis tool for estimating the risks of WMSDs. It is designed to be sensitive to the type of unpredictable working postures found in health care and other service industries.

  A REBA assessment can be used quickly and systematically to assess body postures, forces used, types of movement or action, repetition, and couplings or hand holds to determine the degree of injury risk for a task via a scoring system (negligible, low, medium, high, or very high).

  It can assist to determine root cause of risk factors and be used to quantify change in risk factors for MSDs before and after an ergonomics intervention is implemented.

  Cornell University Ergonomics Web - Workplace Ergonomics Tools REBA
  https://ergo.human.cornell.edu/ahREBA.html

  The 'REBA app' is also available from the Apple IOS store.

- **Physical Job Evaluation Checklist - Washington State's Department of Labor & Industries (L&I) SHARP (Safety & Health Assessment & Research for Prevention)**
  The purpose of the Physical Job Evaluation Checklist is to help identify aspects of the job that pose a risk for back, shoulder, hand/wrist, and knee injury, and prioritize injury prevention efforts by identifying the jobs or the aspects of the job that pose the greatest risk of injury. The Checklist is customized for various industries including health care and social assistance.

  The interactive checklist can be downloaded from https://lni.wa.gov/safety-health/safety-research/ongoing-projects/identifying-risks-wmsd#physical-job-evaluation-checklist

- **The Physical Job Evaluation Checklist User Guide Health Care and Social Assistance. July 2017 SHARP Publication No. 40-21-2017** *can be downloaded from* https://lni.wa.gov/safety-health/safety-research/files/2017/PhysJobEvalChecklistHealthcare.pdf

Conducting Ergonomics Evaluation to Quantify Risk Factors for WMSDs

- **Manual handling of people in the healthcare sector: Technical report ISO/TR 12296: Annex A,** *provides examples of other* tools that can be used for risk assessment of manual patient handling tasks. https://www.iso.org/standard/51310.html (requires purchase)
- **The Revised NIOSH Lifting Equation** can be used to assess risk of low back disorders associated with *manual lifting* tasks that involve lifting and lowering. *NIOSH [1994]. Applications manual for the revised NIOSH lifting equation* https://www.cdc.gov/niosh/docs/94-110/

  The Revised NIOSH Lifting Equation (RNLE) Applications Manual guides users on how to use the RNLE.
  https://www.cdc.gov/niosh/ergonomics/about/rnle.html?CDC_AAref_Val=https://www.cdc.gov/niosh/topics/ergonomics/nlecalc.html

  The RNLE is also available on an app (from Apple IOS store or Google play store) together with the composite lifting index (CLI) that can be used to calculate risk for multiple lifting tasks https://www.cdc.gov/niosh/topics/ergonomics/nlecalc.html
- **Liberty Mutual Manual Materials Handling** website provides tools to calculate risk associated with *materials handling* tasks involving lifting, lowering, pushing, pulling, and carrying. https://libertymmhtables.libertymutual.com/

Wearable sensor technology is increasingly being used to conduct direct biomechanical evaluation of body posture and movements used and forces exerted during patient handling and care tasks.

This method of ergonomics analysis increases accuracy of assessment techniques and improves overall efficiency. Data gathered helps objectively predict injury risk, and guide workplace or process improvements. (AIHA, 2024; Stefana et al., 2021; Bootsman et al., 2019).

This technology can also enhance occupational injury management by improving the accuracy of assessments regarding physical job demands and functional capacity evaluations, which can support worker accommodation following injury (Smith, 2018).

Future AI will be able combine workers compensation analytics data with employee specifics measurements and risk to predict the impact of solutions on future losses (Smith, 2018).

More information about Ergonomics analysis tools is provided in the ***Section 10 Resources.***

Users of ergonomics analysis tools should be trained to select the appropriate tool to evaluate a task, use it correctly to ensure accuracy in data collection and analysis, and understand its limitations. For example, the NIOSH lifting equation is not suitable for evaluating tasks that involve certain conditions such as, lifting/lowering with one hand, and lifting/lowering while seated or kneeling, or unpredictable movement of the object being handled. Thus, it is *not* suited to evaluate patient handling tasks that involve a lifting motion due to numerous variables and unpredictable conditions (Waters et al., 1994; Waters, 2007).

Step 7

Analyze and prioritize survey and site visit data

Once the initial site visit(s) of priority units/departments are completed, the Work Assessment team and SPHM committee will need to summarize their findings and together with all other data gathered (e.g., injury/incident and cost data, gap analysis findings, employee and unit survey information, and patient safety related data), identify and prioritize areas of concern/risk, program needs and gaps, and where SPHM program efforts are to be directed overall.

Tool 3g *provides a template to summarize hazard assessment activities*.

When completing this step consider the following:

- **Determine** if there is more unit/department specific information that is needed to address gaps in data. This should be collected as soon as possible.
- **Identify** the patient handling and mobility tasks that require attention or intervention.
- **Identify** the root causes of risk factors associated with patient handling tasks identified and any other hazards observed, by generating a list of reasons that contribute to or are the source of issue. Using quality improvement tools such as a fishbone/Ishikawa diagram to help map the cause-and-effect of hazards identified.
- **Rank or prioritize** patient handling and mobility tasks by the risk of injury or potential harm to caregivers and patients. Data from patient handling incidents, employee perception surveys, and task observations can inform this process ***(Refer to Tool 3g).***

  If ergonomics analysis of patient handling tasks is completed, then use the magnitude score or risk level of risk factors for WMSDs to help you rank tasks. For example, a very high score from analysis using the REBA tool *(Refer to Ergonomics Tools in this Section)* indicates that risk of injury is high and risk should be addressed immediately.
- **Consider the consequence** if a manual patient handling task is not addressed i.e., the likelihood of that task contributing to or facilitating a negative or adverse event for employee and/or patients, and the *severity* of the outcome if this event occurred. Injury claims data can help determine severity e.g., number of patient handling related injuries with lost workdays; the number of days lost per injury and associated workers compensation costs and indirect costs ***(Refer to Section 2).*** Patient safety and experience data may assist if related to manual handling activities that are associated with negative patient outcomes (*Refer to 'C. Review of Additional Data Sources' on* ***page 3-17****).*
- When prioritizing tasks, consider tasks performed with dependent patients first, i.e., those who provide little or no assistance when being mobilized, and the frequency that those tasks are performed. For example, repositioning a patient in bed is a frequently performed task in an intensive care unit (ICU). If this task is performed manually, evidence supports that it

Quick Tip

The Institute for Healthcare Improvement's *'Quality Improvement Essentials Toolkit'* includes freely available tools and templates you can use to assist with problem solving activities.
https://www.ihi.org/resources/tools/quality-improvement-essentials-toolkit

More problem-solving tools can be found in *Section 10*.

creates a high risk of injury to nurses and aides etc. Additionally, the friction and shear that occurs may contribute to hospital acquired pressure injury in patients. Consider the consequences for the patient if this task is not performed as often as it should be because caregivers find it too physically challenging, and/or there is insufficient staff to complete the task e.g., when manually repositioning a patient of size who is immobile.

Consider patient handling and mobility needs for Bariatric patients and/or other patient populations that may be more challenging to move due to their diagnosis and/or clinical treatment protocols e.g., ventilated patients, patients on ECMO, patients with higher likelihood of aggressive behavior etc.

After evaluating all data gathered and prioritizing patient handling tasks, the SPHM committee should summarize findings to highlight areas of concern, risks, and program gaps. This will guide SPHM problem solving efforts described in ***Step 8 (Section 4)***.

Table 3.6 provides an example of a risk assessment summary and outlines the work or task, culture and program related elements that should have been evaluated and identified as needed to implement an effective SPHM program.

Risk Assessment Summary
Work or Task, Culture and Program Related Elements

Patient Handling: Work and Task Characteristics

- Unit/Department(s)
- Job categories/titles of employees at risk
- Type and frequency of patient handling tasks performed
- Job tasks/activities/point of-care work practices where patient handling activities occurs
- Characteristics of patients needing assistance with mobility
- Characteristics of the physical environment
- Risk factors for WMSDs, other employee injuries and patient harm
- Caregiver competencies e.g., related to work practices when performing patient handling tasks
- Types of patient handling activities associated with

Culture-Related

- Culture-Related
- Management leadership i.e., organizational/safety culture
- Within senior leadership, within high-priority units/depts., and between professional disciplines such as nursing and rehabilitation.

  Consider unit-level work organization: job demands, overtime, staffing, supervisor support for safety, teamwork, employee training, competence, and employee involvement in other program initiatives and procedural changes.
- Employees participation-employee perception of patient handling and knowledge of risks and prevention processes etc.

Program-Related

- Hazard identification/ assessment processes identified
- Hazard control and prevention ***(Addressed in Sections 4 & 5)***

  Engineering Controls
  - SPHM technology available and if used (compatibility to patient handling tasks/patient needs/physical environment; accessible; quantity; working condition etc.)
  - Patient handling-related workflow between units/departments
  - Support processes for the management of SPHM technology e.g., infection control; maintenance; logistics services etc.
  - Procurement process for SPHM technology

Risk Assessment Summary Work or Task, Culture and Program Related Elements		
employee injuries, discomfort, near miss incidents; the nature and severity of employee injuries reported and associated incident rates • Direct costs of injuries and indirect costs • Operational costs related to patient safety if measurable	• Written SPHM policy & procedures (if any) ***(Addressed in Section 4)*** • SPHM program management structure/organization • Communications structure ***(Addressed in Section 4)*** • Potential barriers and facilitators to program implementation and sustainability and overall readiness of the organization and individuals for change	*Administrative and Work Practice Controls:* – Incident reporting – Patient mobility assessment protocols – Unit-based support for SPHM e.g., coaches or peer champions – Incident response/ investigation & post incident procedures – Post-injury support of injured employees/ injury management – Proactive safety activities to identify potential hazards that may cause employee injuries (worksite audits, facility design -related) – Education & training ***(Addressed in Section 6)*** – Ongoing program evaluation, improvement, and sustainability

Table 3.6 *Example of a Risk Assessment Summary.*

Assessing Readiness for Change

As the SPHM committee is prioritizing needs and developing solutions, they should evaluate the organization's readiness for change i.e., to implement and sustain an SPHM program. Solicit input as needed from other stakeholders outside of the SPHM committee who are or will be impacted by the SPHM program including other senior leaders and mid-level managers.

Ensuring readiness prior to beginning the finalization and implementation of the SPHM program plan, eliminates potential time and resources wasted, and further identifies gaps in the safety culture and organizational structure that may need to be addressed.

This process begins when completing the Gap Analysis ***(Tool 3a)*** and continues as you develop SPHM solutions and identify barriers to implementing the program.

Determining the organization's readiness to change includes evaluating the readiness of the C-suite leadership, management of all unit/departments and employees that will be involved in the SPHM program. Understanding change management and being prepared for resistance to change is critical when implementing and sustaining a SPHM program. *Change management is discussed in* ***Section 7.***

Developing and implementing a Communications Plan for the SPHM program that will assist in facilitating change is discussed in ***Section 4.***

The following is a summary of key questions to consider when assessing readiness for change (RNAO, 2024; AHRQ 2024).

The SPHM committee should have addressed some of the questions below as they completed the program planning activities described in ***Sections 2 and 3***.

- Does your organization have the right culture to embrace the work that needs to be performed? i.e., a culture of employee and patient safety; a focus on a systems approach to error reduction; engagement of employees in all safety efforts, etc.
- Why is change needed? What is your current state, what do you want to accomplish, and why?
- Is the organization ready for change?
    - Does senior leadership understand why this change is needed?
    - Do management and employees understand why this change is needed?
    - Is there a sense of urgency about the change?
    - Does senior administrative leadership support this initiative?
- How will you prepare the organization for change and manage it effectively?
- Who will take ownership of this effort?
- Which SPHM prevention and management practices do you want to use?
- What resources are needed?
- Does your organization have the right infrastructure to begin the intended change process?
- How will you measure SPHM program practices implemented and program management strategies?
- How do you sustain an effective SPHM program?

- What are the challenges and opportunities that you are facing?
- What if you are not ready and unable to implement some of the program elements recommended?

When reviewing the above questions consider how your organization has implemented new patient and employee safety programs and changes in work practices in the past. What worked well and what challenges occurred and how were they addressed?

Determine as a team which elements of an SPHM program are most important for success, and which elements may be harder to implement at the current time and in the future, due to resource or organizational and professional culture related challenges. This approach will increase the likelihood of approval of the SPHM program plan by senior leadership and successful implementation of program elements.

Nilsen & Bernhardsson, 2019, stated 'that contextual factors are interrelated; these factors work synergistically to promote or hinder program implementation efforts. For example, lack of staff time and insufficient funding will likely affect the organization's readiness for change. On the other hand, enthusiastic leaders and the presence of champions can help create a positive organizational culture and climate'

They also noted that "Deadly Combinations" of contextual factors can exist. 'Different contextual factors that are unfavorable to your change initiative can work together to hinder or even halt implementation efforts. For example, a culture that is not supportive of change, coupled with limited resources (time, funding) dedicated to the implementation effort, will likely negatively influence the outcome.

Ultimately, the decision to implement and sustain a SPHM program and define its scope is based on the organization's values and safety culture.

Quick Tip

The Agency for Health Care Research and Quality Indicators (AHRQ) www.ahrq.org, have published several toolkits related to patient safety initiatives that provide information about how to assess a health care organization's culture and readiness for change that can be adapted for use with any patient or employee safety program or initiative. Refer to *Section 10* for other related resources.

Section Summary

Hazard Identification and Assessment

Step 6. Determine the scope of the issue & program needs

Hazard identification and assessment activities are completed to determine the hazards and level of risk associated with patient handling activities that have caused or may cause harm to caregivers and patients. These activities inform solutions to eliminate or minimize harm to caregivers and patients and facilitate SPHM program development from a systems perspective.

Hazard identification and assessment is achieved through several activities conducted by the SPHM committee and other internal stakeholders and external consulting assistance as needed.

Activities include:

- Completing a comprehensive gap analysis of existing patient handling-related injury prevention efforts or SPHM program (if a program already exists)
- Identifying all stakeholders who will be affected by the SPHM program
- Worksite Assessment that includes:
    - Employee surveys and interviews
    - Manager surveys to evaluate unit/department characteristics
    - Site visit of units/departments with higher risk of patient handling-related injuries
    - Ergonomics evaluation to quantify risk factors for WMSDs as needed
    - Assessment of the organization's safety culture and readiness for change

Step 7. Analyze and prioritize survey and site visit data

After completing the site visit(s) of priority units/departments, all worksite assessment information collected is reviewed to prioritize patient handling tasks by the risk of injury or potential harm to employees and patients. Findings are summarized to highlight areas of concern, risks, and program gaps and used to guide the development of solutions to address patient handling-related hazards.

Additional references and resources related to this Section are listed in ***Section 10.***

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