



**Integrating Business Metrics
and Analytics to Sell Your
Case: A Healthcare Perspective**

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Ergonomics at Work
PREVENTING INJURIES AND ENHANCING PERFORMANCE

Objectives



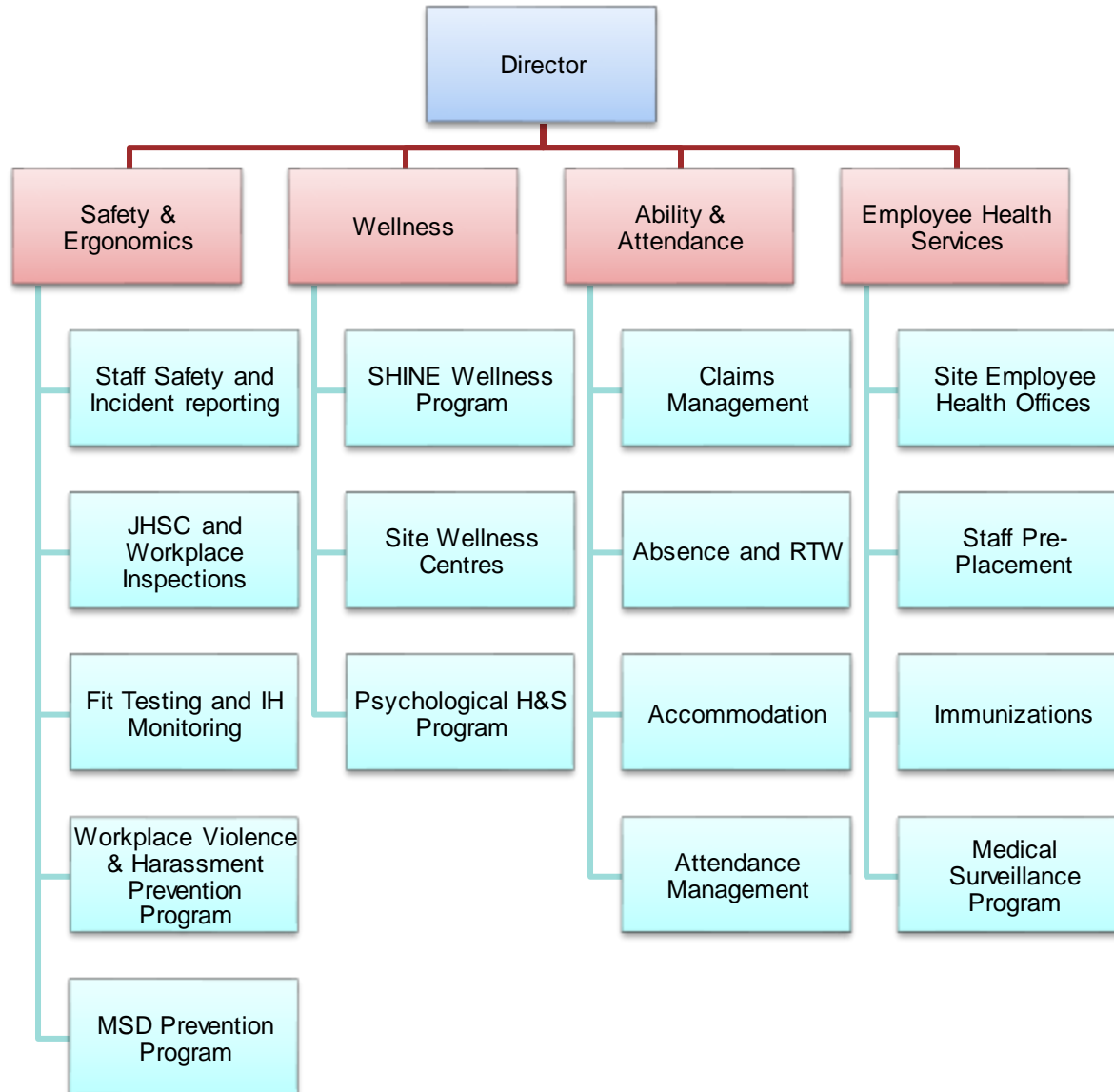
- ▶ Identify key actions that support gaining buy-in from senior leaders
- ▶ Share examples of metrics used and how they were collected
- ▶ Recognize the benefits of organizational alignment
- ▶ Demonstrate advancements made in MSD Prevention and Psychological Health & Safety at HHS

Hamilton Health Sciences

- ▶ Community of 15,000 staff, physicians, residents, learners, researchers, and volunteers
- ▶ Serve Southwestern Ontario residents; specialized programs serving the province
 - 5 main hospitals, 5 specialized centers, numerous clinics and support services
- ▶ Only hospital in Ontario that cares for all ages, from pre-birth to end-of-life



HSW Program Overview



Key Accomplishments



~4500 staff
educated in
safe patient
handling



45%
reduction in
reportable
MSDs



\$4 million
invested in
equipment &
education



4 completed
HSEP topics
in 2022-23



Gaining buy-in for MSD prevention and employee wellbeing is much more than signing a policy





The starting line . . .

the environmental scan

What is the current state in your organization?

What is going on in peer organizations / sector?



Environmental Scan

Root Cause

- Injury / Incident data
- Risk Assessments / Inspections
- Staff feedback

Needs

- Resources
- Infrastructure (design and/or space)
- Organizational readiness

Gaps

- Standards / regulations
- Literature / Leading practice
- Peer organization benchmarking



Metrics

- ▶ Understand organizational priorities and find alignment opportunities
- ▶ Quantitative vs qualitative data
 - Qualitative data is valuable
 - Look for themes
 - Quantify it





Safety

- MSD-specific injury rates
- WSIB claim type
- Injury severity; days lost / modified
- Nature of injury
- Perceived safety



Cost

- Direct injury costs
- Cost of resources, i.e. equipment, education
- Projected cost savings, ROI



Productivity

- Workflow analysis (time)
- Perceived time savings
- Perceived ease of use
- Perceived accessibility



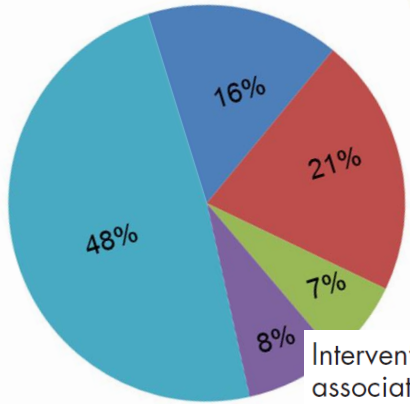
Quality

- Patient experience / comfort
- Perceived patient safety
- Errors in use
- Clinical outcomes (i.e. pressure injuries)



Percent of MSDs by Task

Apr 2014 to Mar 2015



- Lifting or Carrying an Object
- Pushing or Pulling an Object
- Workstation Computer/Office
- Workstation Other
- Patient Handling

Intervention strategies to reduce musculoskeletal injuries associated with handling patients: a systematic review

S Hignett

Occup Environ Med 2003;60:e6 (<http://www.occenvmed.com/cgi/content/full/60/9/e6>)

Aims: To report, analyse, and discuss the results of a systematic review looking at intervention strategies to reduce the risk factors associated with patient handling activities.

Methods: A search strategy was devised to seek out research between 1960 and 2001. Inclusion/exclusion criteria limited the entry of papers into the review process. A checklist was selected and modified to include a wide range of study designs. Inter-rater reliability was established between six reviewers before the main review process commenced. Each paper was read by two reviewers and given a quality rating score, with any conflicts being resolved by a third reviewer. Papers were grouped by category: multifactor, single factor, and technique training based interventions.

Results: A total of 2795 papers were found, of which 880 were appraised. Sixty three papers relating to interventions are reported in this paper. The results are reported as summary statements with the associated evidence level (strong, moderate, limited, or poor).

Conclusion: There is strong evidence that interventions predominantly based on technique training have no impact on working practices or injury rates. Multifactor interventions, based on a risk assessment programme, are most likely to be successful in reducing risk factors related to patient handling activities. The seven most commonly used strategies are identified and it is suggested that these could be used to form the basis of a generic intervention programme, with additional local priorities identified through the risk assessment process. Health care providers should review their policies and procedures in light of these findings.

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Hospital/company	Hours worked/task in role	Main focus of role	MSD Prevention Committee? How did you recruit?	Do you offer/provide?	MSD Prev Training Format (video, lecture, etc)	MSD Prev Training group size, frequency?	MSD Prev Training rooms	Online Learning (modules, hand-sets)	Video Library (How many, how frequent)	Onsite Assessors (If yes, what what freq)	Phone Assessors (If yes, what what freq)	Inspections? (Freq, who performs)
Royal Victoria Regional Health Centre (RWH)	22.5 eps	MSD prevention/education (patient handling, manual handling, workstations)	JISC used	as requested, usually monthly	Requested guidelines on intranet - no well as video on handling equipment - training on at handover best	10 in class, then one on one	no	no	no	JISC functions annually in each area - or if manager sees		
Quinte Health Care	40	Safety Consultant/WSIB Claims Manager		as requested, offered irregularly	manager/mentor have simulation room new this year							
Health Sciences	37.5	Ergonomic Program, MSD prevention, Rehab Ergonomics		Through Unit Leaders	all of the above	5-10 with ad hoc members	1997 Not sure what this means, but No. no ded. training rooms	all of the above	not really, gave out 10-30 hand videos, more online now	1-use on info, no phone, no assessmt	in - just on via phone, no assessmt	JISC do monthly, supervisors do monthly/weekly (not all comply)

Phase I | Project Charter: MUSCULOSKELETAL DISORDER PREVENTION

Table of Contents

1. Project Details
2. Document Details
3. Purpose and Background of the Project
4. Objectives
5. Deliverables
6. Scope
7. Benefits & Risks
8. Financials
9. Project Charter Phase I Approval



Problem Statement

Musculoskeletal disorders (MSDs) account of nearly 50% of all Lost Time Injuries (LTIs) at Hamilton Health Sciences. Many of these injuries are related to moving patients through lifting, transferring or repositioning.

Goal

Ensure a safe and healthy workplace through improving the MSD Prevention Program at Hamilton Health Sciences.

Resources

- Previous MSD incident statistics
- MSD Prevention Initiative funding
- Dedicated Health, Safety & Wellness Ergonomist (x1)
- Current Health Safety & Wellness Initiatives team support (x4)
- Public Relations - communication dissemination
- Patient Equipment - purchasing
- MSD Prevention Committee - management feedback
- Pilot Departments - management buy-in

Activities

- Identify dedicated space and purchase equipment for training rooms at each site
- Develop training schedule for designated training spaces
- Implement new ceiling lifts for training and deliver Safe Patient Handling training program to pilot units at Juravinski Hospital
- Conduct MaxIT transfer sheet product trial in unit at St. Peter's Hospital
- Purchase and install new equipment in high risk areas (Transfer Stations) at each site
- Provide training on new equipment implemented in high risk areas
- Develop MSD prevention training schedule

Deliverables

- Dedicated training space at all sites
- MSD prevention videos to support training
- Safe Patient Handling training program utilizing peer-coaches
- Implement MaxIT transfer Sheets (new product) based on pilot results
- MSD prevention training schedule for dedicated training spaces
- Implement and train on new equipment in high risk areas (Transfer stations)
- Safe Patient Handling references and communication materials
- Summary report of initiative results and implementation impact

Long-Term Objectives

- 20% reduction in LTI rate
- 20% reduction in MSD injury rate
- 10% reduction in injury severity rate
- 30% increase in hands-on safe patient handling training for staff
- 50% increase in video based MSD training for staff

Short-Term Objectives

- Reduction in workplace injuries for pilot departments
- Increased accessibility/availability of patient handling equipment
- Increased intention to use patient handling equipment in proper manner
- Increased compliance in proper patient handling techniques
- Improved patient handling knowledge and skills
- Improved staff confidence in equipment use
- Positive shift in organizational culture for Safe Patient Handling

Leadership Commitment

- ▶ Support to provide resources required
 - Fiscal budgets
 - Capital development
- ▶ Identified executive champions
- ▶ Leadership representatives in a multidisciplinary committee
- ▶ Alignment / inclusion in organization strategic planning



STRATEGIC PLAN

North Star Objectives



Patients

- ▶ Be a top ranking hospital for the quality of our care and the excellence of our patient and family experience.



Sustainability

- ▶ Be responsible resource stewards.

TRANSFORMATION PROGRAM

- Our Healthy Future
- Epic Optimization
- Post-COVID Recovery
- Workforce Planning

CORPORATE PROJECTS

- Equity, Diversity and Inclusion Plan
- Staff Wellness
- Clinical Services Review
- Epic Stabilization
- Scheduling and KRONOS Renewal
- Environmental Management Plan
- Clinical Program Review - NICU
- 2023 Accreditation
- Physician Feedback Process
- Research Strategic Plan

People



- ▶ Create a safe work environment with highly engaged staff and physicians.

Research, Innovation & Learning



- ▶ Be one of Canada's top research hospitals.

IN-YEAR OBJECTIVES

- Sepsis
- Hospital deaths following major surgery
- Pressure injuries
- Lost time injury
- Bar Code Medication Administration
- Hand hygiene



OUR VISION:

Best Care For All

OUR MISSION:

To provide excellent health care for the people and communities we serve and to advance health care through education and research

OUR VALUES:

Respect | Caring | Innovation | Accountability

Alignment

- ▶ At all levels, in all teams
- ▶ Drives engagement of stakeholders
- ▶ Supports and fosters collaboration
- ▶ Improves communication



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Last updated: May 2023

Program Director (Department)

	Organizational Priorities (Transformation Initiatives, In-Year Objectives, Corporate Projects)			Program/Portfolio Specific Priorities (beyond operational responsibilities)		
	#	Name	Impact	#	Name	Impact
Transformation Initiatives	1			1		
	2			2		
	3			3		
In-Year Objectives	1			4		
	2			5		
	3			6		
Corporate Projects	1			7		
	2			8		
	3			9		
	4			10		
	5					

Impact Assessment
 3 - High impact
 2 - Moderate impact
 1 - Low impact
 0 - No net new impact

Factors affecting the impact on work effort / time
 • Proportion of staff and physician impacted - are all staff and physicians in the area of impacted or only a subset?
 • Will this require significant behavioural change?
 • Is there a draw on resource time outside of operations for the purpose of participation (e.g. training, workshops, etc.?)

Individual Annual Objectives

Department: _____

1. Employee/Leader Information

Employee Name: _____
 Employee Position Title: _____
 Leader Name: _____
 Leader Position Title: _____

2. Review Period

Review Period: _____
 Employee Signature & Date (physical or digital signature accepted): _____
 Leader Signature & Date (physical or digital signature accepted): _____

3. Annual Business Objectives

Annual Business Objective	Measure of Achievement	Outcomes

Project Name

Status Update

Date: _____ Overall Project Status (red, amber, green): _____

Executive Lead: _____ Status Explanation: _____

Activities completed this reporting period			Activities planned for next reporting period		
Key Activities/Deliverables			Key Activities/Deliverables		

Project Deliverables			Risks		
Deliverable	Est. Completion	Status	Risk	Description	Strategy to Address
		🕒			
		🕒			
		🕒			

MONTHLY SCORECARD WATCH INDICATOR PAGE (PDSA #1)

Watch Indicators: The Performance we are watching and may only respond to if the metric is changed to a DRIVER. COLOUR BOTH THE MONTH AND

Category or Measure	Source TN, SD, HQ, HC, HW	Watch Indicator	Owner	Target or Trigger (monthly/quarterly)	Goal	Previous Fiscal Year or Baseline	Baseline Data Source	Apr	May	Jun	Jul	Aug	Sept



Psychological H&S

The goal of the Staff Wellness Corporate Project is to **achieve incremental progress on the nationally recognized standard for Psychological Health and Safety in the Workplace** through an assessment of HHS' current state and identification of short-term actions to support compliance with these standards.

- A long-term (3-5 year) goal is to achieve compliance across all 15 standards.



Staff Wellness Deliverables



- ▶ Assess HHS against psychological health and safety elements.
 - ▶ Collection of operational data, communications, policies, procedures, survey results, and comparative data from external sources.
 - ▶ Review of existing programs, structures, and services offered by HHS to address psychological safety in the workplace.
 - ▶ Environmental scan of other organizations who have implemented the standard.
- ▶ Identification of factors where HHS is not in compliance and the gap between current state and achievement of the standard, in consideration of HHS' trauma-informed environment.
 - ▶ Identification of any connections with existing work that will progress the factors and those that fall within scope of Wellness.
- ▶ Outline of short-term recommendations (12-18 months) to achieve greater compliance on the standard.
 - ▶ Identify new corporate or department projects, or amplification/re-organization of existing programs, policies, and practices.
 - ▶ Prioritization of recommendations for short- and long-term focus.



Information Gathering

Focus Groups

- Leverage MVM comments to validate input and themes already collected
- Separate sessions targeted at managers/leaders and frontline staff
- Utilize existing groups to engage frontline perspectives:
 - JHSC members
 - Wellness Champions
 - Professional Practice Council Members
 - HHS Affinity Groups
- EDI considerations incorporated into feedback collection approach

SME Interviews

Interviews with program leads to evaluate existing programs/policies:

Health, Safety & Wellness

- Program participation (Shine Wellness, lunch and learns)
- EFAP utilization
- Return-to-work data

Human Resources/Labour Relations

- Vacation and benefits utilization
- Complaints and grievances
- Performance evaluations
- Leader training completion
- SORs
- Compensation and collective agreements

Organization Development

- Course offerings and participation
- New Leader Orientation

Data Analysis

Review of relevant quantitative employee data, including:

- Staff on mental health LOAs
- Lost Time Injuries
- Absenteeism trends
- Overtime trends
- Sick time trends
- Turnover/exits

Review of relevant qualitative employee data, including:

- MVM comment themes
- Focus Groups

Protection of Physical Safety

Risk Level

67%

Definition

A work environment where management takes appropriate action to address physical hazards in order to protect the psychological health and safety of workers.

Potential Benefits

- Fewer job-related errors, incidents, accidents, and injuries
- Reduced costs from work absence
- Improved physical and psychological health and safety of employees
- Reduced legal and regulatory costs and violations
- Improved labour-management relations

Current State

- Annual safety risk assessments conducted at department level
- Critical incident management services (EAP provider)
- Staff Safety Occurrence Reporting (SOR) system
- Annual Workplace Violence Prevention/Harassment e-learning
- Mandatory training – H&S awareness training (all staff) and Mandatory Competent Supervisor H&S

Indicators

- Health and safety related documentation, including minutes from health and safety meetings
- Safety inspection reports
- Accident, workplace-related illness, and incident reports, including near misses
- Lost Time Injury IYO metrics

Opportunities

- My Voice Matters action plans
- *Scheduling* Corporate Project (review of scheduling practices)
- *In-year objective* – Lost Time Injury

Enablers

- Active health and safety committees
- Access to H&S representatives
- Documented workplace inspections
- Review of safety program and policies
- Incident investigation protocols
- Availability of support following critical incidents
- Employee training on physical hazards



MSD Prevention

- ▶ Strategic plan alignment in reduction of lost time injuries
- ▶ Historically, reactive
 - Workstation assessments
 - Incident investigation support / recommendations
 - RTW and accommodation consultation





HOW TO USE THE AED0 MANIPULATOR SHEET

BEFORE USING THE AED0 MANIPULATOR SHEET

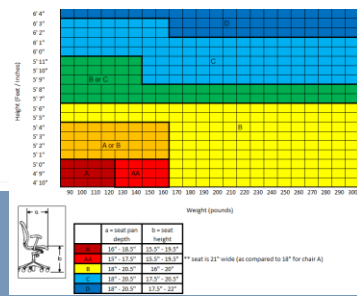
- 1. Make sure the patient is lying on their back and the AED0 Manipulator Sheet is positioned over the patient's feet.
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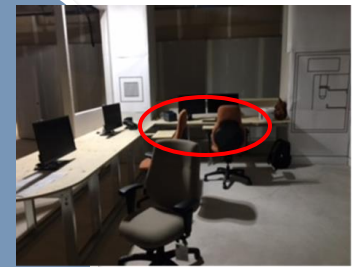


Equipment Type and Use	Description	Application/Indication	Advantages	Disadvantages	Use and Precautions	Capacity/Weight	Current Model	Model Number	Supplier	Key Information	Date
Stairlift	Provides mobility and safety for patients who are unable to use stairs.	Used for patients who are unable to use stairs.	Allows patients to move up and down stairs safely.	Requires a clear path and may be noisy.	Check for clear path and proper use.	450 lbs	1000000	1000000	ABC	1000000	10/1/20
Transfer and Moving Platform	Provides a safe and secure way to move patients between surfaces.	Used for patients who are unable to move on their own.	Allows patients to be moved safely between surfaces.	Requires a clear path and may be noisy.	Check for clear path and proper use.	450 lbs	1000000	1000000	ABC	1000000	10/1/20



Education

Design / Procurement



Prevention

Shine
 SHINE: STRETCHES TO IMPROVE YOUR HEALTH AND WELLNESS

Performing these simple stretches everyday will help keep you moving and stretch out your muscles to avoid aches and pains at work.

- Back Bend:** Stand with feet hip-width apart, hands on hips, and lean back slightly.
- The Olympic Diver:** Stand with feet hip-width apart, hands on hips, and lean forward slightly.
- Get Back!** Stand with feet hip-width apart, hands on hips, and lean back slightly.
- No Butts About It!** Stand with feet hip-width apart, hands on hips, and lean forward slightly.
- The Lunge:** Stand with feet hip-width apart, hands on hips, and lean forward slightly.
- Up and Over:** Stand with feet hip-width apart, hands on hips, and lean forward slightly.
- The Head Tilt:** Stand with feet hip-width apart, hands on hips, and lean forward slightly.
- Ballet Toes:** Stand with feet hip-width apart, hands on hips, and lean forward slightly.



Back Pain? We've Got Your Back

Did you know? Back pain is a common problem that can affect anyone at any time.

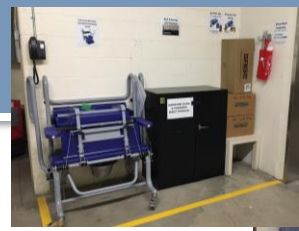
Build a Strong Core

Core strength is essential for good posture and preventing back pain.

Be a Posture Pro

Good posture is key to preventing back pain and staying healthy.

Continuous Improvement



IMPROVEMENT OPPORTUNITY

Name(s): _____ Date Submitted: _____

What is the problem? _____

Which WASTE exists in the current condition?
 Transportation Waiting
 Inventory Over Processing
 Motion Overproduction
 Unused Creativity Defects/Rework

WIS Strategic Goals: (Circle one or more)

Opportunity for patient/family to be involved?
 Yes No N/A

Date assigned from PICK chart: _____

Staff to work on opportunity: _____

Why is this happening? (Ask 5 Whys)

Improvement Opportunities - PICK

What is the Problem?	Responsibilities in each station will be being to patient/respirator
Attachments	
Site	JMCC
Unit	ICU/ICU
Market	U2/L2/022
Unit PDA	People
Opportunity for patient/family to be involved?	
Process Observation	Y
Standard Work	Y
Patients Engaged in Improvement	No



Monitoring for Success

- ▶ Intentional, consistent, timely communication
- ▶ Monthly updates of MSD Prevention Scorecard
 - Policy, education, equipment, injury trends
 - Drives activity
 - Supports escalating recommendations to senior leaders

Hamilton Health Sciences HEALTH, SAFETY AND WELLNESS				Strategy Pillar: People		Musculoskeletal Disorder (MSD) Prevention Scorecard																			
Metric	Definition	Data Source	Owner	Goal	Annual Target	Reporting Frequency	Reporting Period Target	Previous Fiscal Baseline	Baseline Data Source	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Calendar YTD	YTD % change vs. baseline		
Policy	MSD Prevention Protocols Updated	Policy Library	SJ/JJ	Posted on time	19-Jan-23	Annual	January	Overdue	Policy Library	Posted Jan 19, 22										Ergo Review	HC Review	JHSC Review	Complete	Compliant	
	Safe Material Handling: Annual review (1 year from Safe Patient Handling)	Policy Library	SJ/JJ	Posted on time	22-Apr-22	Annual	April	Compliant	Policy Library		Ergo Review	HC Review	Posted March 30										Complete	Compliant	
	Safe Patient Handling: Annual review (1 year from posted date)	Policy Library	SJ/JJ	Posted on time	2-Jun-22	Annual	June	Compliant	Policy Library				Ergo Review	JHSC Review	Posted June 17, 2022								Complete	Compliant	
Education	MSD Prevention eLearning Training Compliance	Number of staff completing eLearning annually	myLearning Activity Completion report	JJ	25% increase of baseline	574	Monthly	48	459	myLearning Activity Report - Quiz Results	41	29	50	48	40	52	48	69	92	89	84	69	711	55%	
	MSD Orientation Safe Patient Handling Training Compliance	Percentage of new hires completing hands-on training in relation the number of new hires requiring training based on role/dept. listing.	Comparison of data from myHR and myLearning reports	JJ	100% trained	100%	Monthly	100%	45%	Combined myHR and myLearning reports	74%	79%	69%	78%	72%	83%	76%	90%	84%	73%	66%	31%	73%	62%	



Take Home Message

- ▶ Understand your organizational mission, vision and values
- ▶ Use your organization's strategic plan and/or key priorities to guide your metrics development
- ▶ When quantitative metrics are challenging to collect, consider qualitative data to identify gaps or demonstrate impact
- ▶ Alignment to key deliverables fosters communication and collaboration which is integral to success





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