

BACKGROUND

Approximately \$2.5B is spent annually on occupational injuries in healthcare. Key to changing this trend is the effective utilization of leading indicators within an Occupational Health and Safety Management System (OHSMS). The purpose of this study was to evaluate the feasibility of implementing interventions guided by six leading indicators¹ and the effectiveness of these interventions on improving the health and safety climate.

A quasi-experimental longitudinal design was used within two acute care hospitals. Phase I identified facilitators and barriers to the changing current OHSMS, assessed the OHSMS in participating sites using 6 leading indicators, and identified possible leading indicators to be added or changed. This phase concluded with the development of tailored interventions based on the gaps identified in the assessment. Phase II pilot tested and evaluated the feasibility and effectiveness of the interventions.

This is the first in a series of summaries highlighting findings from a research study funded by the Ontario Ministry of Labour Research Opportunity Program. Additional information and subsequent summaries are available on our website at <https://www.queensu.ca/leadingindicatorsforohsms/>.

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEMS

An **Occupational Health and Safety Management System (OHSMS)** combines elements that work together in an integrated way to improve employees' health and safety. Organizations adopting an OHSMS, rather than a traditional occupational health and safety (OHS) program, have a clearer vision of safety goals, communicate these goals to employees, assess risk, implement corrective measures more often, and exhibit improved attitudes towards employee training.

Indicators are used to assess the safety performance of organizations and identify how to improve employees' safety. A number of indicators are selected to track the safety performance of the organization. These indicators can be categorized as lagging (trailing) or leading indicators.

LAGGING VS LEADING INDICATORS

Lagging indicators focus on OHS outcomes retrospectively and are collected after incidents happen. Examples include turnover, incident rates and severity, and absenteeism. Lagging indicators provide concrete numbers to monitor the overall effectiveness of an organization's safety program over time, without capturing risks or potential for prevention.

Leading indicators focus on workplace characteristics that precede OHS outcomes and, if proactively changed, are expected to change the outcomes. Examples include employee involvement in OHS, senior management commitment, and communication. Leading indicators help organizations understand the strengths and weaknesses of their safety efforts and can help predict future safety performance and success.

LEADING INDICATORS

This study builds upon the six leading indicators identified by Bennett and Foster¹ and were selected because they are easy to understand, measurable, actionable and cost efficient. The indicators are illustrated in the diagram to the right and described on the next page.



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Leading Indicator	Description
Senior Management Commitment	Includes OHS objectives alongside other board level objectives, Chief Executive Officer as OHS champion providing messages of support for OHS
Occupational Health Management	Includes comprehensive programs in place related to the risk assessment, such as prevention of workplace violence and client aggression
Employee Involvement in OHS	Includes employees taking part in OHS activities, such as incident investigations, to stimulate everyone to take responsibility and understand various aspects of OHS
Communication	Includes OHS information, training and interactive discussions with senior management
Continuous Improvement	Includes implementing audits, managing non-conformities quickly, completing risk assessments and thorough investigations of incidents to understand how to improve the system
Competence	Includes a job analysis for competence requirements including OHS understanding, employees receiving safety inductions, and annual competence reviews

HOW THE SIX LEADING INDICATORS ALIGN WITH OTHER SYSTEMS

CSA-Z1000-14 and Internal Responsibility System (IRS) are examples of Occupational Health and Safety Management Systems used by Canadian organizations. The table below illustrates how the leading indicators used in this study are included in these other commonly used management systems.

Leading Indicators	CSA-Z1000-14	IRS
Senior management commitment	Responsibility, accountability, and authority	Direct responsibility
	OHS objectives and targets	
Communication	Communication and awareness	Direct responsibility
	Contracting	
Competence	Competence and training	Direct responsibility
	Performance measuring and monitoring	

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