

Health and Safety Index Development

Technical Paper

Version 3.0

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INTRODUCTION

The Index

The Health and Safety Index (HSI) measures the performance of Ontario's health and safety system as a whole in a single metric. Modeled on well-known indices such as the United Nations Human Development Index and the Organization for Economic Co-operation and Development's (OECD) Better Life Index, the HSI is calculated and released by the WSIB each year. The health and safety performance measures currently available in Ontario tend to show "after-the-fact" metrics such as the number of fatalities, the number of new claims, or the lost-time injury rate over a given time period. By combining multiple performance indicators into a single measure, the HSI is designed to offer a more complete and holistic picture of health and safety performance.

The HSI combines components and metrics collected by the Ministry of Labour, Immigration, Training and Skills Development, the Ministry of the Attorney General and, the Workplace Safety and Insurance Board (WSIB), as well as the results from a survey conducted by the WSIB that collects information directly from people working in Ontario. These components are weighted to reflect their contribution to the larger picture of workplace health and safety in Ontario.

Each year the WSIB releases this single, holistic measure of Ontario's health and safety system, which is intended to:

- Assess the health and safety system's success at improving outcomes for employees and employers;
- Act as a call to action for system partners to improve performance;
- Support critical discussions about health and safety among system partners;
- Help define and manage system priorities, and
- Allow for potential cross-jurisdictional comparisons.

Background

Global agencies, including the World Health Organization (WHO) and the International Labour Organization (ILO), agree that workplace health, safety, and well-being are essential to individuals and their families and also to the productivity, competitiveness, and sustainability of organizations, and consequently to the national and global economy (Burton, 2010; Ylikoski, 2006).

The WSIB actively supports Ontario's health and safety system by encouraging proactive efforts to reduce workplace injuries and improve return-to-work outcomes. Recognizing the WSIB's role in promoting workplace health and safety in Ontario, the first objective of the organization's 2019-2021 Strategic Plan states that the WSIB will

“make Ontario a safer place to work” (WSIB, 2019b). This objective aligns with the WSIB’s statutory mandate under the *Workplace Safety and Insurance Act* (WSIA) to promote workplace health and safety.

The rationale for HSI Development

Practical strategies for identifying and monitoring workplace health and safety are necessary for prevention efforts and improving the system's performance as a whole. Relevant, reliable, and valid workplace health and safety performance data is crucial to informing the strategic and operational decisions that will help promote advances in the province’s health and safety activities (O'Neill, 2013).

One of the critical factors hindering efforts to make advances in these areas is the lack of standardization of common measures and an absence of consistent, leading indicators of a jurisdiction’s workplace safety performance. Key measures combined into a clearly defined index can provide a valuable snapshot of a given jurisdiction’s health and safety performance, a way to track performance over time and can be a basis for comparison with the performance of other jurisdictions. Gathering this type of information is critical to better understanding the system's strengths and weaknesses and identifying areas for improvement. As emphasized by the adage “what gets measured gets done,” healthy workplace performance monitoring and quality management approaches begin with valid measures of key indicators (IWH, 2000).

The improved financial benefits that an organization may achieve through investing in a strong health and safety system are extensive. The Occupational Safety and Health Administration (OSHA) estimates that the implementation of injury and illness prevention programs in the United States will reduce injuries by 15 to 35 per cent for employers who do not currently have health and safety programs (OSHA, 2012). At the 15 per cent program effectiveness level, the estimated savings are \$9 billion per year in employee compensation costs; at the 35 per cent effectiveness level, the savings are estimated at \$23 billion per year (OSHA, 2012).

Many of the existing measures typically used to assess workplace health and safety performance focus on outcomes (e.g., lost-time injury rate). These indicators alone may not be representative of the performance of the system as a whole. The WSIB is examining more appropriate ways to assess the effectiveness of the prevention system. For example, having a low incidence of injury does not necessarily mean that adequate safety systems and controls are in place (O'Neill, 2013).

The general purpose of the HSI is to measure the safety of workplaces in Ontario. Specifically, the objectives are to:

- Promote awareness of workplace health and safety in Ontario
- Act as a call to action for system stakeholders to improve the system’s

- performance
- Facilitate a conversation of health and safety amongst system stakeholders.

This document addresses the need for a better understanding of workplace health and safety and describes the methodological approach for developing a new measurement tool for the health and safety of workplaces in Ontario. A framework for employers and other stakeholders is offered to align health and safety strategies and better integrate their health and safety functions.

Revisiting the Index

The first iteration of the WSIB's HSI was developed in 2016 based on best practices at that time. Since then, there have been significant changes in Ontario's workplace health and safety system. As a result, the previous Index may not fully reflect the efforts of critical stakeholders such as the Ministry of Labour, Immigration, Training and Skills Development (MLITSD), Occupational Health and Safety Associations, and the WSIB's Workplace Health and Safety Services. In addition, based on best practices for social science indexes of this type, we committed to reviewing the Index's methodology every three years to ensure validity. Our rationale for revisiting the Index methodology was as follows:

- ***The broadening definition of workplace health and safety.*** Since 2016 there has been growing global attention to the impact of mental health in the workplace and, more recently, to diversity and inclusion. Increasingly, these issues are being recognized as critical aspects of a healthy and safe workplace.
- ***Potential data quality and biases in metrics.*** It is important to reassess and address potential biases in the data that may have been identified since the creation of the Index. Moreover, the sweeping changes in Ontario in 2020 resulting from the global COVID-19 pandemic mean that recent HSI results could not be easily compared to prior years.
- ***Occupational Health and Safety Strategy 2021-2026.*** The MLITSD is preparing to launch a new Occupational Health and Safety strategy. The new strategy places greater emphasis on the importance of workplace mental health and workplace violence and harassment as critical aspects to address in building healthy, safe workplaces.
- ***Recognition and reward, safety programs.*** Programs, such as the Health and Safety Excellence Program (HSEp) Certificate of Recognition that is helping to make Ontario workplaces safer, could be used to assess levels of safety promotion and prevention. The WSIB launched the HSEP program in late 2019, and it provides a clear roadmap for organizations to improve safety in their workplace and lets businesses grow their health and safety systems at their own pace, earning rebates and recognition as they go.

LITERATURE REVIEW

Health and Safety Approaches in the Workplace

In recent years, the occupational health community has started to view the traditionally separated domains of health promotion and health protection— in a new light, recognizing that their positive impact in the workplace could be enhanced by effectively aligning their strategies (Loeppke, 2015). Two concepts are therefore crucial to the achievement of healthy workplaces: health protection and safety promotion. In the broadest sense, a healthy workplace is also a healthy organization in how it functions and achieves its goals (Burton, 2010).

Health can be considered freedom from the risk of illness, while safety is viewed as freedom from injury (Oxford Dictionary, 2004). Therefore, a healthy and safe workplace is one where hazards that pose a potential risk to employees (and others in the workplace) are controlled or eliminated (O'Neill, 2013). Fundamental to a healthy workplace is the need to protect people from harm in a potentially hazardous, stressful, or unsafe work environment. Safe work can be reinforced through health promotion and work practices conducive to good health (WHO, 1999).

Definitions of a healthy workplace have significantly evolved over the past several decades. From a narrow focus on the physical work environment, with traditional occupational health and safety (OHS) dealing with physical, chemical, and ergonomic hazards, the definition has broadened to include health and lifestyle factors, psychosocial factors (work organization and workplace culture), and a link to the community, all of which can profoundly affect employee health (Burton, 2010).

It has been known for some time that work affects mental health and wellbeing. As noted in “Changing Directions, Changing Lives” – a document outlining the Mental Health Strategy for Canada, in any given year, one in five people in Canada experiences a mental health problem or illness, with a cost to the economy of well above \$50-billion (MHCC, 2012). As mental illness is currently a leading cause of disability in Canada, with mental disorders contributing to more lost workdays than any other chronic condition, workplace mental health is a key issue today (CAMH, 2020).

The WHO has developed a Healthy Workplace Model out of the systematic review of literature by leading occupational health experts, peer-reviewed by WHO regions, the ILO, and other key agencies (Burton, 2010). The model covers four important components in a comprehensive approach: physical work environment, psychosocial work environment, personal health resources, and enterprise community involvement.

Based on this model, “a healthy workplace is one in which employees and managers

collaborate to use a continual improvement process that protects and promotes the health, safety, and wellbeing of everyone and the sustainability of the workplace by considering the following, based on identified needs:

- health and safety concerns in the physical work environment
- health, safety, and wellbeing concerns in the psychosocial work environment, including the organization of work and workplace culture
- personal health resources in the workplace (support and encouragement of healthy lifestyles by the employer)
- ways of participating in the community to improve the health of employees, their families, and members of the community.”
(*Five Keys to Healthy Workplaces*, WHO 2010)

All four components of the WHO’s Healthy Workplace Model should be considered when assessing the health of a workplace. Although these components are separated in theory, they overlap in practice. For example, stress can be caused by organizational issues in the working environment, but healthy lifestyle habits will increase an individual’s ability to cope with stressful situations.

Potential Elements of the HSI

Research on various safe workplace frameworks assisted in identifying the key components of a robust health and safety system. These were classified into the following elements:

- existence of a legal framework
- prevention and avoiding undue risk
- enforcement
- following occupational health and safety rules
- fair treatment in employment
- leadership engagement
- employee involvement
- Supporting and taking responsibility for employees and their families.

Findings and discussion on each of the elements are provided in more detail below.

Existence of legal framework

Occupational health and safety legislation and regulation can be regarded as the backbone of managing health and safety risks in the workplace. Most jurisdictions have some legislation that requires employers to protect employees from risks in the workplace that could cause illness or injury (Burton, 2010). Of those, many have

sophisticated regulations. In Ontario, the *Occupational Health and Safety Act* (OHSA) provides the legal framework and the tools to achieve this goal (OHSA, 1990). It sets out the rights and duties of all parties in the workplace, establishes procedures for managing workplace hazards, and provides strategies for enforcement of the law where compliance has not been achieved (MOL, 2015).

One of the primary purposes of the OHSA is to facilitate an Internal Responsibility System (IRS) in the workplace. While the regulatory framework eliminates risks to health and safety as much as reasonably feasible by assigning general duties to those in a position to control the origin of risks, the IRS suggests that everyone in the workplace has a role to play in keeping it safe and healthy.

The IRS is the underlying philosophy of occupational health and safety legislation in all Canadian jurisdictions (CCOHS, 2016). Its foundation is that everyone in the workplace –employees and employers – is responsible for their safety and for the safety of coworkers. The Act specifies broad obligations to ensure the health and safety of workers but do not necessarily prescribe the specific steps to take for compliance. Instead, it holds employers responsible for determining such steps to ensure the health and safety of all employees (CCOHS, 2016).

Legislation of occupational health and safety (OHS) and regulatory enforcement to deter workplace injuries and illnesses depend on political, economic, and social processes (MacEachen, 2016). However, research has shown that workplace parties can be encouraged to create and maintain safe workplaces through general awareness of occupational health and safety laws and specific workplace sanctions (Robens, 1972; MacEachen, 2016).

The laws that govern health and safety in the workplace provide a legal framework and a minimum level of protection that must be maintained to ensure workplace health and safety. In Canada, each jurisdiction's OHS laws are supported by a framework of regulations that prescribe duties and provide guidance to employers and others on how to meet the requirements of the legislation. For the purposes of creating the HSI described in this paper, it is recognized that a legal framework is an important element of protecting workplace health and safety; however, there are no specific indicators that need to be explicitly measured. Rather, the legislation sets the context in which these measures operate.

Prevention and avoiding undue risk

Fundamental to a healthy workplace is the need to protect people from harm in a potentially hazardous, stressful, or unsafe work environment (WHO, 1999). In Ontario, the failure to control occupational risks and hazards contributes to almost a quarter of a

million registered claims per year (WSIB, 2019a). However, provincial investments in the prevention system have resulted in some improvement in a number of key performance metrics.

There is strong epidemiological evidence that higher injury frequencies are associated with exposure to physical, chemical, biological, and psychosocial risk factors or otherwise unsafe working conditions (Linton, 2000; NRC, 2001). There is also convincing evidence that workplace health and safety attitudes, behaviours, and management practices affect injury rates (Vredenburg, 2002; Zohar, 2010).

Work-related injury rate measures, such as the number of work-related injury claims or long-term injury rates (LTI). LTI are essential to understanding the burden of disease or harm to employees, organizations, and the economy that result from poor working conditions. For example, the WHO uses injury rates to examine the global burden of disease produced by select occupational risk factors, including occupational carcinogens, airborne particulates, noise, and ergonomic stressors (Concha-Barrientos, 2004). Conversely, reductions in injury frequency rates or severity are typically used to demonstrate the effectiveness of health and safety interventions and prevention efforts. Therefore, injury statistics provide an important measure of risk that results from work health and safety failures (O'Neill, 2013). Among the advantages of this measure is that rates are readily available. In addition, at least in principle, all incidents of a certain severity must be reported.

While LTI rates are often reported as “safety measures,” injuries do not measure safety per se. LTIs can confirm that risk was present at the time of an injury. These are not measures of the controls in the workplace but a measure of failure (O'Neill, 2013; Hughes, 2009). Therefore, a measure of injury frequency is an important indicator of risk that should be included in any workplace health and safety performance assessment.

Increasing the focus on preventing occupational injuries, diseases, traumatic fatalities, poor mental health, and violence and harassment is part of the Ministry's Occupational Health and Safety (OHS) strategy for 2021-2026 (MLTSD, 2020). Prevention includes a wide range of interventions aimed at reducing risks or threats to health. There are three different categories of prevention: primary prevention aims to prevent disease or injury before it ever occurs, for example, through legislation mandating safe and healthy practices. Secondary prevention aims to reduce the impact of an illness or injury that has already happened by providing treatment as soon as possible to stop or slow progression, develop strategies to prevent a recurrence or programs to help people return to pre-injury function. Lastly, tertiary prevention aims to help individuals manage long-term, often-complex health problems and injuries and improve their quality of life or life expectancy.

Businesses' participation in programs that proactively promote the prevention of

workplace injuries and diseases can potentially be used to track prevention efforts in the Index. For example, Excellence Canada's certification recognizes organizations that implement employee wellness strategies. Another such program is the WSIB's Health and Safety Excellence program, which provides organizations with a roadmap to improve safety in their workplace along with support, guidance, and recognition for commitment to health and safety (WSIB, 2019).

Enforcement

The *Occupational Health and Safety Act* provides a legal basis for enforcement and outlines consequences for not complying with workplace health and safety regulations. Despite improvements in regulation, the concept of enforcing occupational health and safety has remained generally unchanged (Mischke, 2013). Casey (2018) compares a responsive regulation model with a strategic enforcement model and both set deterrence as an essential element of an effective regulatory enforcement strategy.

Studies have considered the effectiveness of enforcement (e.g., inspections, penalties) (MacEachen, 2016). One systematic review found evidence that inspections, citations, and penalties actually improved occupational health and safety and reduced injuries (Tomba, 2007).

There is also evidence that inspections decrease injuries in the long term. Specific inspections result in higher compliance rates, while inspections with penalties could result in fewer injuries and more compliance in the short term in small firms (Mischke, 2013). Further evidence shows that enforcement is an effective means of promoting compliance because the fear of enforcement is an important motivator for some employers (Fooks, 2007).

Fair treatment in employment

The influence of organizational work factors on safety behaviors is an important consideration to workplaces' overall health and safety performance. The "organizational model," which describes occupational health and safety based on a group of factors, sometimes under the term "management systems," has been supported by the literature (Hale & Hovden, 1998). Building on the theory of work organization by Hale and Hovden (1998), safety culture or safety climate determines the role of multiple organizational-level factors in health and safety performance. It has been shown that organizational social and physical environments exert considerable influence over the resources available to make those choices, and the factors that influence health behaviours (Institute of Medicine, 2001; Schneider & Stokols, 2008).

Fair treatment of employees in their workplace (or organizational justice) describes a

key element that includes employees' perceptions of fair or unjust treatment received from their management and their behavioural responses to such perceptions (Gyekye, 2014). When employees' perceptions of fair treatment at work are positive, they are more inclined to work safely. Specifically, research demonstrates that people with positive organizational justice perceptions also have positive perspectives about workplace safety, are more compliant with safety policies, and have lower workplace incident rates (Gyekye, 2014). Reviews of the literature have confirmed that perceptions of organizational justice create a climate that can either promote or hinder positive organizational behaviours. These perceptions have been found to relate to health and safety attitudes and behaviours (Colquitt, 2001; Gyekye, 2007). Furthermore, fostering a people-oriented organizational culture through supportive management can help prevent and manage injuries, and improve outcomes of the return-to-work process following an occupational injury or illness (Pomaki, 2010). These findings can be explained by the social exchange theory, a key component in explaining the motivational basis for climate perceptions and organizational behaviours (Simons & Roberson, 2003).

The National Standard of Psychological Health and Safety in the Workplace identifies harassment and discrimination as one of the elements that must be considered in a psychologically safe workplace (under section 12 - psychological protection). Furthermore, in 2019, the International Labour Organization released the new Violence and Harassment Convention (No. 190). This endorses previous research on the importance of the workplace as providing a safe environment free of violence, harassment and discrimination – this includes all forms of gender, sexual, and racial discrimination (ILO, 2019). The convention affirms that all people, irrespective of race, creed or sex, have the right to pursue their material well-being in conditions of freedom and dignity, economic security and equal opportunity.

Workplace Culture and Leadership engagement

Evaluating workplace occupational health and safety performance involves an understanding of organizational safety culture. Over the past few decades, research has demonstrated safety culture to be a robust leading indicator or predictor of safety outcomes across industries and jurisdictions (Denison, 1996; Sorensen, 2018; Zohar, 2010). Zohar (1980) defined organizational climate, or culture, as the sum of employees' perceptions about their work environment. A common way to assess safety culture is through surveys. Researchers have found that the survey questions or items cluster into five core constructs of safety climate: management commitment to safety, supervisory safety support, coworker (safety) support, employee (safety) participation, and competence level (Zohar, 1980; Seo, 2004).

Unlike injury rates, which are lagging indicators, safety climate falls under the category of leading indicators, as it provides a sense of a company's safety performance and potential for injuries before they occur. A key element of a safe workplace culture is effective leadership. Effective workplace leadership can improve safety behaviours and safety climate. Leaders' concern for the health of their workers, their relationships with workers, and the value they place on safety are all aspects that contribute to effective workplace leadership (Zohar, 1980).

Leadership strongly influences safety motivation and safe work practices. Managers must express support for safety and follow with real engagement in workplace safety activities (Dunlap, 2011). Senior managers greatly influence behavior simply by demonstrating support for various initiatives. Employees are likely to value what their leaders see as important. For example, when organizational leaders demonstrate a belief that workplace injuries are unacceptable, this mentality is likely to be adapted by employees throughout the rest of the organization (Dunlap, 2011; Krause & Weekley, 2005; Sorensen, 2018).

Employee involvement

A key component of a safe workplace is involving employees in workplace safety efforts. Employees are engaged in the daily work, and therefore have the most invested in their personal safety (Dunlap, 2011). Wilson and Haines (1997) defined this participatory approach as "the involvement of people in planning and controlling a significant amount of their own work activities, with sufficient knowledge and power to influence both processes and outcomes in order to achieve desirable goals." Giving employees a role in identifying and finding ways to eliminate workplace safety hazards can improve work safety practices and reduce injury rates (Dunlap, 2011; Rivilis, 2008).

A closely related key element of employee involvement is empowerment, which encompasses equipping employees with skills, resources, and a certain amount of autonomy for decision-making in their work tasks. It allows decisions to be made by the group who has a close and unique view of the health and safety issues facing an organization. Empowerment has been viewed as a means of increasing employees' awareness of hazards, and as a way of promoting their roles as actors in improving their own working conditions (McQuiston, 2000).

In a review of 10 studies examining the relationship between workplace and organizational factors and injury rates, Shannon (1997), found that empowering workers and delegating safety activities were consistently related to lower injury rates. Empowered workers have a greater capacity to report unsafe work conditions or ineffective practices, and Parker (2001) found in a prospective study that empowerment and job autonomy were positively related to safety behavior.

Following occupational health and safety rules

A basic concept in the healthy workplace framework is ensuring that OHS rules are followed and proactive steps are taken to respond to safety system failures.

This principle corresponds to elements of prevention, workplace culture, and enforcement, as safety rules operate by designing incentives, shaping the organizational culture, and overseeing problems with safety performance (Boardman, 2006). The HSI may measure indicators such as the frequency of internal safety reviews and the workings of the health and safety committee as a way to capture these elements.

Many drivers encourage organizations to take responsibility for the control of health and safety in the workplace. These range from the direct impact on the bottom line from good performance and the avoidance of penalties following safety failures, to moral obligations to care for their workers' well-being (Boardman, 2006).

In Ontario, occupational health and safety legislation imposes a wide range of duties on both employees and employers. For example, the new *Occupational Health and Safety Awareness and Training Regulation* (O. Reg. 297/13) requires employers to make sure staff complete a basic occupational health and safety awareness training program (MOL, 2015). Besides this new requirement, employers continue to have ongoing duties under the Act to inform workers about workplace-specific hazards. This includes the general duty to inform, instruct, and supervise workers in order to protect their health and safety [clause 25(2)(a)].

Supporting and taking responsibility for employees and their families

Workplace injuries and diseases can cause a significant burden to an individual and their family. Effective organizational leaders focus on the result of not only saving money through loss prevention but also on a greater quality of life for the employee and their family by promoting a culture aimed at safety (Dunlap, 2011). In particular, after a work-related injury or illness, providing employees with effective return-to-work (RTW) strategies ensures job security and financial support. Research has also shown that the number of lost work days after a disabling injury was significantly reduced when companies implemented modified work programs (Franché, 2005). Understanding the RTW process is necessary to better appreciate the extent to which workplaces will try to accommodate their injured workers.

METHODS

Steps to Designing the Index

In developing the HSI, we followed the Network on Development Evaluation framework for designing a composite index (OECD, 2007), as follows:

➤ *Theoretical framework*

The first step in developing the HSI was defining the concept to be measured and ensuring that different contributing components are independent of each other. We considered the WHO model for a healthy workplace and the Institute for Work & Health's (IWH) Ontario Leading Indicators Project (OLIP) survey tool for organizational leading indicators for the prevention and management of injuries and illnesses (Severin, 2014), and conducted intensive research into other possible sources of key components of a safe workplace, as described in the literature review section above.

➤ *Item Selection*

The next step in designing the Index was selecting indicators and unique metrics that correspond to the identified elements to be included. An indicator can be defined as “a quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect changes connected to an intervention, or to help assess the performance of a development actor” (OECD, 2004). Our aim was for the selected metrics to provide a range of values and accurately measure the desired concepts. The measures identified are based on the theoretical framework of the elements that constitute a healthy and safe workplace as reflected in the research literature. The calculated outputs of each of the items were reviewed to confirm statistical independence from each other.

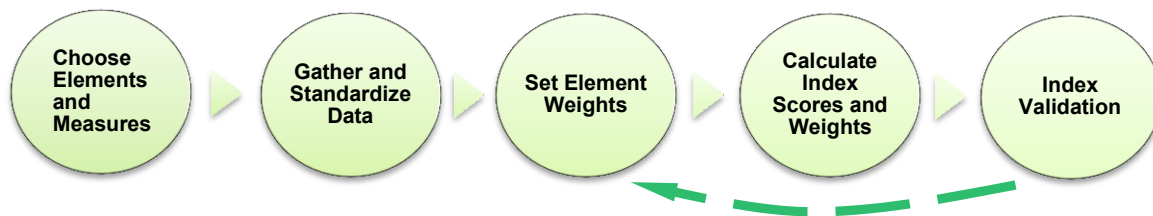
➤ *Scoring and Weighting*

We considered several factors when deciding on a total score and how selected items contribute to it. These included applying appropriate weights to the various components of the Index, and normalizing the data so that the metrics could be combined. We used an equal weighting approach to assign weights to items and groupings.

➤ *Validation*

The final step in developing the Index was to back-cast it and review for alignment with past health and safety system performance.

Figure 1. Steps to Designing the HSI



Proposed HSI Measures

A working group was put together to investigate options for creation of the Index. In order to measure health and safety comprehensively, it was best to examine all relevant dimensions simultaneously, since no single indicator can provide a complete view of trends in health and safety performance (Hughes, 2009; UNECE, 2015).

The working group reconvened in 2021 to review the existing measures and methodology to ensure the most appropriate data collection and analysis methods were applied in the Index. The updates to the measures are reflected in this paper in the sections below.

Indicator development started with consultation of the available literature and development of a theoretical framework. Seven components were identified that aligned to the researched frameworks on health and safety performance reviewed in the section above (see Table 1). The main elements that the HSI focuses on are indicators such as prevention activities, compliance, and empowerment and workplace culture, and others such as injury frequency and severity. These particular metrics were intentionally selected because they were found to be statistically unique and allowed measurement of the elements laid out in the safe-workplace framework.

Table 1. HSI component alignment to health and safety frameworks

Elements of a healthy workplace	HSI Indicators	Prevention	Compliance	Worker Empowerment and Workplace Culture	Injuries
Leadership engagement				✓	
Worker involvement				✓	
Avoiding undue risk	✓	✓			✓
Fair treatment in employment				✓	
Supporting and taking responsibility for employees and their families	✓				✓
Following occupational health and safety rules	✓	✓		✓	
Enforcement			✓		
Existence of legal frame work					

■ Not measured, but exists in Ontario

Much of this requirement is taken on by Ontario's legal framework

The HSI aims to capture metrics that are concrete, that can be effectively measured across different jurisdictions, and that emphasize quality improvement. The indicators that were included have been found in previous research to impact workplace health and safety performance and best practices. Certain indicators were not of direct interest because they are beyond the scope of our influence, such as the OHS legal framework. Other metrics were rejected because they were deemed either lagging, or significantly complex to the point where their real contribution to the Index could not be identified (e.g., industry mix, claim management practices), or because they were found to be highly correlated with other measures that were included. When grouping these metrics into the main elements, much consideration was taken to limit mixing quantitative and qualitative metrics within the same element.

Prevention

The prevention indicator of the HSI is captured through qualitative measures that align with the elements of supporting and taking responsibility for employees and their families, following occupational health and safety rules, and avoiding undue risk as reviewed in the framework above. Specifically, we identified the following unique measures: workplace prevention activities, workplace safety support and workplace mental health support. These are all statistically independent measures that capture

various activities undertaken to prevent workplace accidents, illnesses or fatalities and promote workplace health.

Workplace prevention activities are an important element within the HSI. While other organizations, such as the Institute for Work & Health (IWH), have completed their own measurements of prevention activities in the past, the WSIB has determined that it is necessary to create and run a survey that will support the Index's need for consistent measurement (see Data Sources, 23-30, for discussion of survey methods). These activities are assessed qualitatively through a set of validated questions based on the IWH's survey of leading indicators, the Organizational Performance Metric (OPM) (Severin, 2014) and some of the newer questions from the OHS Vulnerability Survey (IWH, 2016). The OPM questionnaire is based on more than 800 workplaces representative of different industry sectors in Ontario, where respondents in each workplace assessed the degree to which their organization adhered to optimal occupational health and safety policies and practices (IWH, 2014). The eight question survey provides a measure of workplace health and safety performance. An example of workplace prevention activity includes the number of safety audits done within a company. The OHS Vulnerability Measure, measures the extent to which employees may be vulnerable to occupational health and safety risks at work. IWH research has shown that vulnerability, as measured by this tool, is associated with elevated rates of self-reported work injury and illness (IWH, 2016).

Workplace safety support is another measure that falls under prevention within the HSI. It captures the size and quality of the health and safety support in the organization, such as the number of health and safety representatives, the presence of an organization-wide mental health strategy, and the degree to which the organization values safety and quality in the way the work is completed. This measure will be assessed through the newly piloted WSIB survey, which also incorporates the OPM (IWH, 2014) and newer measures from the IWH vulnerability survey (IWH, 2016). In contrast to the OPM methodology, the HSI surveys not only members in the health and safety team of an organization, but any participant in Ontario's workforce contacted through our sampling process (described in Data Sources). As a result, the different questions will not result in a quantifiable number, but in people's perceptions of how strong or weak prevention efforts are in their workplace. This section should not be confused with management or employee interaction in the system or the existence of a workplace culture, both of which are being assessed elsewhere in the Index.

Workplace mental health support was a recent addition to the HSI survey in 2018 and is a vital element within the HSI, as there has been increasing attention on how work impacts mental health. It measures employees' assessment of their organizations'

ability to offer resources to support employees' mental well-being.

Worker Empowerment and Workplace Culture

Indicators of workplace culture are captured in the HSI through qualitative survey measures that align with the health and safety framework elements of leadership engagement, employee involvement, and employee awareness and adherence to occupational health and safety rules. The general objective of this measure is to capture people's overall impressions of a culture of safety that exists in the workplace. This measure, is identified in the literature as an important element of a healthy workplace (Vredenburg, 2002; Zohar, 2010). Since there is currently an absence of consistent measures in place to collect this data, the survey captures these key elements.

Involvement in the health and safety of the workplace is an additional key indicator in the HSI based on the extensive literature that demonstrates the positive impact of employee involvement on safety outcomes. However, many of the necessary measurements needed to assess the scope of employee involvement are not consistently collected or readily available; the creation of the survey tool allows us to capture this element qualitatively. It is understood that empowered people have a greater capacity to speak up and report unsafe work conditions or practices. As discussed in the review of literature above, empowerment is positively related to safety behavior (Parker, 2001). When the Index was first developed in 2016, empowerment was singled out as a key indicator, but the concept of employee empowerment is closely related the workplace's culture and thus grouped under culture.

Compliance

Enforcement is a known deterrent to poor health and safety practices and, as discussed previously, research has shown that a strong enforcement program (including inspections, citations, and penalties) improves health and safety outcomes (Tompkins, 2007; Mischke, 2013). Inspections are the main formal means of promoting compliance with workplace safety legislation and regulations. According to an inter-jurisdictional review by the Health and Safety Executive in the UK (Fooks, 2007), the basic aims of the inspection process were shared across different jurisdictions, and include the following elements: determining underlying factors of occupational incidents, identifying associated compliance issues, helping to ensure compliance with the law, providing recommendations to prevent future injury and illness, and, finally, referring cases for prosecution or administrative penalties, when necessary. Proactive inspections, the main type of inspection that occur in Ontario and are often aligned to larger initiatives at the MLITSD, are carried out to manage risk management and

promote occupational health and safety in specific, high-risk, areas. For example, to raise awareness and educate about safe practices if falls are targeted for preventative action, MLITSD will proactively visit more job sites where they suspect an increased risk of falls exists.

In the HSI, compliance is captured through statistically unique, quantitative measures, including the proportion of proactive inspections where no orders were issued, and the risk-based categorization of orders issued during reactive and proactive inspections. A metric collected as part of the compliance element is “no orders per proactive inspection”, which indicates how often a proactive inspection results in no order being created and demonstrates workplace compliance. The third identified measure of compliance classifies orders issued during an inspection into five categories: administrative, generic, personal protective equipment, hazard and stop work. The methodology for these categories is provided by IWH and the annual result is combined into a score that takes into consideration both the number of orders and the severity.

Injuries

Injury frequency, severity, and duration aim to measure how well the health and safety system has avoided risks. This is the one area of the HSI that uses WSIB data. However, a focus on information captured at the time of injury registration or shortly afterwards avoids the potential for the WSIB to heavily affect the outcomes of these measures through its internal policies and practices. Four metrics are used: physical event frequency, mental stress event frequency, event severity, and short-term return-to-work rates.

Event frequency captures all allowed claims received by the WSIB for employees in the province of Ontario. The advantage of the injury frequency metric is that it provides an easily interpretable, quantitative measure that is consistently captured across the various jurisdictions by the Association of Workers' Compensation Boards of Canada (AWCBC). For the Index, this event frequency is further broken down to physical event and mental stress event frequencies. This is desirable because mental health awareness has become more prevalent and mental health is a vital component to workplace health and safety so it was appropriate to track it separately. Event severity is the count of physical injuries classified as “severe” when the injury possesses specific attributes. Classifying injuries according to their attributes (e.g., body part, nature of injury) can provide valuable insight into the causes and contributing factors for work health and safety failure (O'Neill, 2013). This measure of risk in the Index is assessed by the frequency of severe injuries and fatalities, which are combined into one measure using the WSIB's new severe injury and fatality rate.

To develop a serious injury rate measure that could be incorporated in the HSI, an analysis was conducted to determine methodologies used by other jurisdictions. Various models were used to determine characteristics that identify a claim as having a high probability of being a “serious injury”¹. Canadian Standards Association (CSA) codes that successfully predicted severe claims, with a low chance of mislabeling, were then selected to determine the serious injury rate. This rate includes all traumatic fatalities, but excludes disease claims. To produce an easy-to-apply method of identifying serious injuries at the time of claim allowance, we used the properties of the injury or accident to set indicators of a serious claim and label historic claims as “severe” or “not severe.” Claims were labeled severe based on the following criteria: high number of days lost, high health and drug costs during first year of a claim, a permanent impairment allowance, and/or the presence of hospital stays in the first week. For the purpose of generating a predictive model of labeled “severe” claims, a list of properties of an injury or accident was composed, which can be used to identify future severe claims.

Return to Work (RTW)

The inclusion of a Return to Work (RTW) metric is necessary to understand the extent to which workplaces will try to accommodate their injured employees. This measure aligns with the elements of fair treatment in Employment and supporting and taking responsibility for employees and their families. A quicker return to work will benefit the person in the long run, as understood through the WSIB’s “better at work” philosophy. As stated by the American College of Occupational and Environmental Medicine (ACOEM, 2006), “strong evidence suggests that activity hastens optimal recovery while inactivity delays it... Other evidence indicates that remaining at or promptly returning to some form of productive work improves clinical outcomes as compared to passive medical rehabilitation programs.”

¹ A Naïve Bayes modeling approach was used to attach probabilities of severe claims to various claim CSA coding combinations to identify codes with high predictive value. The CSA code’s standalone propensity to falsely label severe claims was calculated and incorporated into the model.

The measure of RTW included in the HSI is the percentage of injured employees off compensation at 90 days. A number of similar measures use other durations; however, 90 days was chosen because it represents Ontario’s system’s ability to help injured employees recover and return to work, and requires both the employer and WSIB support to ensure successful outcomes. Shorter durations were considered but

it was determined that they would include less severe injuries that can recover with little to no support from others. Also, this measure is consistently captured across Canadian jurisdictions by the AWCBC.

Table 2. HSI metric's desired change over time. Change in that direction increases the HSI score.

Indicator	Metric	Desired Change Direction
Prevention	Workplace prevention activities	increase
	Workplace safety support	increase
	Workplace mental health support	increase
Compliance	The proportion of 'no order' proactive inspections	increase
	Risk-based categorization of orders issued during reactive and proactive inspections	decrease
Worker Empowerment and Workplace Safety Awareness and Culture	Involvement in the health and safety of the workplace	increase
	Employee awareness of OHSA and WSIB legislation	increase
	Leadership involvement in the organization's health and safety	increase
	Employee's experience of a workplace culture aimed at safety	increase
Injuries	Physical injuries/illnesses rate	decrease
	Mental stress injuries/illnesses rate	decrease
	Severe injuries and fatalities rate	decrease
	% of injured workers off compensation at 90 days	increase

Health and Safety Index Measures Considered

Diversity and Inclusion

As part of our effort to promote anti-racism, diversity and inclusion, two new questions designed to collect diversity data were added to the HSI survey in 2021. The questions were based on consultations with researchers and other boards (IWH and AWCBC) to identify best practices for collecting race based data. At this time the data will not be included in the Index since the survey questions were recently added and the data is not matured enough to be statistically representative of Ontario.

Harassment, Violence, and Discrimination in the Workplace

As discussed above, a psychologically safe workplace that is free of violence, harassment and discrimination is a right for all employees in Ontario. The Ontario Human Rights Commission and the Employment and Social Development Government of Canada both list workplace discrimination and harassment as risk factors for poor mental health and suggest these issues could lead to serious health problems. These measures were not included individually in the Index as mental and physical injuries are already captured within the Index as well as indicators for workplace culture.

Recognition and Reward, Safety Programs

In Ontario, employers can enroll in several programs to improve workplace safety, receive support and guidance, and recognition for their continual quality improvements and commitment to health and safety. Participation in these programs, such as the Excellence Canada certification or the WSIB's Health and Safety Excellence program (HSEp), could be used to assess safety promotion and prevention levels. However, participation in these programs is voluntary and since not enough businesses relative to Ontario's workforce are involved, biases could be introduced. Additionally the success criteria and benefits realization for these programs are still being fine-tuned, as such this measure is not included in the Index at this time.

During the Index review and redesign process, three measures were excluded to better align with recent research and reduce biases. These include the average value of fines per order, number of complaints and number of work refusals. While there is general agreement amongst research that fines and penalties play an important role in deterring violations against occupational health and safety policies, there are inconsistent findings on how fines or incentives effect behaviour in the health and safety field, and whether higher fines reduce workplace injuries. Ahmed and Faheem (2020) found that safety incentives only have a short-term influence on safety outcomes.

Complaints and work refusals were included in the previous Index to indicate empowered employees' capacity to report unsafe work conditions and practices. However when reviewing more recent literature, there was considerable research on the positive association between perception of fairness and safety behaviour (Gyekye, 2014; Haas, 2018; Kim, 2018), but inconclusive research to suggest complaints as an empowering act where more complaints would indicate a higher safety performance. Research around refusing unsafe work identified factors like fear of reprisals impact an employee's decision to refuse unsafe work and may be underreported (Clarkson, 2018; Tucker, 2013). Additionally, MacEachen (2016) suggested further research is needed to investigate how employee's OHS needs are represented in unionized and non-unionized workplaces.

Some measures were revised to better capture what is intended or to better track components vital to the workplace health and safety system. For example, the per cent off compensation at 30 days was changed to 90 days because the 30 day metric represents a majority of employees whose injuries would heal with little to no intervention from their employer or WSIB, but the 90 day metric signifies those with more challenging recovery and is a better assessment of the support provided by the system.

Data Sources

Data for the HSI is collected primarily from five sources: MLITSD, existing WSIB metrics, AWCBC, Statistics Canada, and a survey conducted by the WSIB. Each of these data sources is limited by its organization's mandate, which states what portions of the Ontario workplace it is responsible for. For example, the WSIB covers about 76 per cent of Ontario workplaces because the *Workplace Safety and Insurance Act* does not include workplaces in some industries, such as finance, or those that are under federal jurisdiction. We continue to use these data sources as approximations of the performance of the entire province's health and safety system.

Table 3. Metric descriptions and summary of data sources

Indicator	Description	Metric	Data Source
Prevention	Activities undertaken to prevent workplace accidents/illnesses or fatalities	Workplace prevention activities	Survey
		Workplace safety support	Survey
		Workplace mental health support	Survey
Compliance	Ensuring compliance to health and safety regulations	Proportion of 'no order' proactive inspections	MLITSD
		Risk-based categorization of orders issued during reactive and proactive inspections	MLITSD
Worker Empowerment and Workplace Safety Awareness and Culture	Overall impression by an employee of a culture of safety in the workplace	Involvement in the health and safety of the workplace	Survey
		Employee awareness of OHSA and WSIB legislation	Survey
		Leadership involvement in the organization's health and safety	Survey
		Employee's experience of a workplace culture aimed at safety	Survey
Injuries	The frequency and severity of accidents occurring in workplaces	Physical injuries/illnesses rate	WSIB
		Mental stress injuries/illnesses rate	WSIB
		Severe injuries and fatalities rate	WSIB
		% of injured workers off compensation at 90 days	WSIB

Survey

Some indicators in the Health & Safety Index were found not to have satisfactory data available, such as empowerment, workplace safety awareness and culture, and certain elements of prevention (workplace safety support, workplace prevention activities). Since surveys of the workforce may expose important indicators about attitudes about health and safety, a survey was created to capture qualitative and quantitative indicators of workplace safety as well as new metrics that were not previously captured elsewhere. The quantitative measures are similar to those originally included in the IWH's OPM survey and the OHS Vulnerability survey (IWH, 2014; IWH 2016), the survey is the only source for this qualitative input in the Index.

The survey is conducted by trained interviewers on the WSIB's survey research team. Landline and cell phone samples were generated using random digit dialing procedures, provided by Dynata (formerly Survey Sampling International, LLC). To ensure that the overall demographic composition of the sample is representative of Ontario's workforce (in terms of age, geography, race/ethnicity, and education), a minimum number of cell phone-only respondents in the survey is maintained.

In order to obtain respondents representative of the working population in the province,

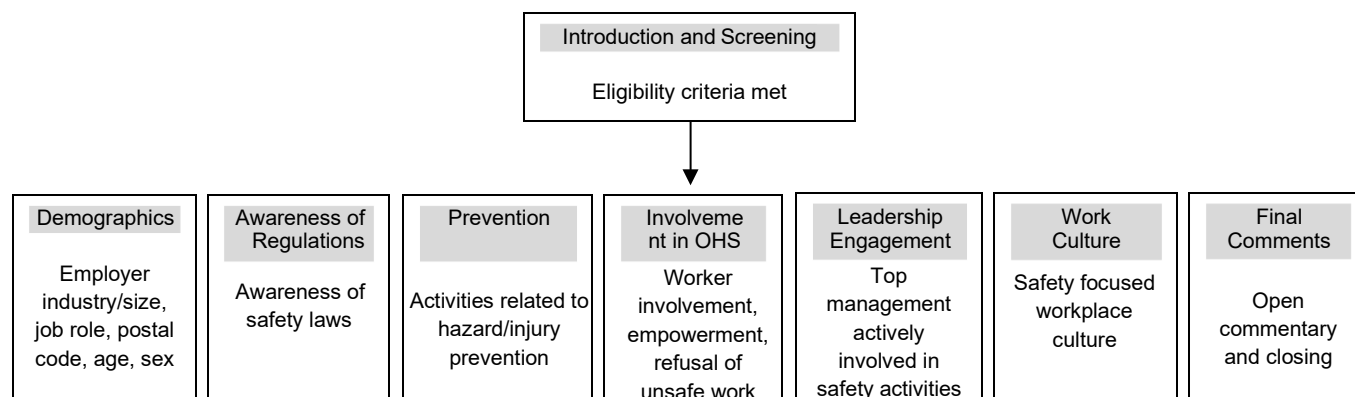
the following eligibility criteria were applied for inclusion in the survey: individuals who are currently working in the province of Ontario (excluding retirees), are paid workers (not volunteers), and are of working age (at least 16 years old). As many as seven attempts were made to contact every sampled telephone number. Approximately 400 surveys are to be completed each quarter for a total of 1,600 completed surveys each year. This completion quota allows for sufficient power in data analysis, assuming a 95% level of confidence. Sample demographics (e.g. age, sector) will be assessed against population proportions and weighting will be used to ensure the sample reflects the Ontario population of working adults.

The elements making up the survey in the pilot phase are illustrated in Figure 2 (the full survey is included in Appendix 1). Once inclusion criteria are confirmed and those who are ineligible for the survey are screened out, the interviewers collect demographic information including industry sector, employer size, job role (owner/supervisor/employee), region, age, sex, and race category. Subsequent sections of the survey focus on:

- Awareness of the province's workplace health and safety laws
- Safety activities in the workplace, such as prevention and safety support, mirrored in the OPM and the IWH OHS vulnerability survey, including several additional questions on safety behaviours
- Feelings of workplace empowerment, such as how likely employees are to refuse unsafe work
- Leadership involvement in workplace safety, such as regular communication between employees and management about safety issues
- Safety-focused workplace culture, including recognizing employees who act safely and placing value on ongoing organizational safety improvements
- Open-ended comments about workplace safety.

A recent review and update of the survey has taken place to ensure survey questions capture the most relevant information. This included consultations with the IWH, including a review of their newer OHS Vulnerability Measure (IWH, 2016) to adapt some questions to the HSI survey. Several other sections of the survey have since been updated, including the addition of diversity questions (race and indigenous identity) to ensure a lens of inclusivity is incorporated when providing research findings and recommendations from the HSI survey. A question on workplace mental health support was added in 2018, and questions on workplace safety during COVID-19 pandemic have also been added to the survey.

Figure 2. Survey elements



We recognize a number of potential biases introduced by using a telephone survey methodology. As with any telephone survey, the main issue encountered is low response rates. Generally, response rates tend to be lower when respondents have no prior knowledge that they will be contacted for a study (“cold contact” surveys) (Aday, 2006). The timing of data collection is another important consideration for this survey. Since the target population of this survey is individuals who participate in the Ontario workforce, calls were scheduled during day and evening hours to ensure that those who are employed during the day have a chance to respond to the survey. Since the survey is conducted in English only, a potential bias may be introduced by excluding people who cannot speak English. Another potential limitation is the inability to survey unreachable people by phone (e.g., migrant workers).

Grouping Survey Questions

The survey is composed of a variety of questions that support different metrics within the Index. A factor analysis was used to check for construct validity and to understand how the different questions grouped together. Each of the factors identified aligned to the survey metrics they supported. There was evidence that work culture and workplace safety activities could be combined, but as they supported different elements of the Index, one being prevention and the other being culture, they are being kept separate.

Normalizing and Scoring Data

As stated at the outset, the goal of the Health and Safety Index is to measure any change in the health and safety system over time. To compare the Index between

years and jurisdictions, many measures are normalized by dividing their volume by an appropriate denominator (e.g., showing the rate of an activity per worker). This normalization is only performed on metrics that are not already captured as rates or survey data. Not all denominators are the same, as this would encourage normalized metrics to be correlated to each other. To ensure that this assumption was correct, the Index was attempted with a uniform denominator of total employees in Ontario; however, as suggested above, collinearity was a major problem.

Table 4. Normalization of metrics summary

Indicator	Metric	Numerator	Denominator
Injuries	# of physical injuries/illnesses	Total Registered Physical Claims	Ontario Workers
	# of mental stress injuries/illnesses	Total Registered Mental Stress Claims	Ontario Workers
	Severe injuries and fatalities	Severe Claims	Ontario Workers

This transformation enhances the Index's ability to measure the health and safety system rather than the growth of Ontario's economy, which may show volumes of claims increasing while claims per employee decrease. This transformation will also allow a better scoring of the various metrics. By normalizing them, the comparison of the metrics values between periods will show change in the system.

The score for each metric is the measure of these normalized values over time. With the exception of the mental health support survey data which is measured as the change from the previous year's value, each measure is scored as the current year's percentage change from the weighted average of the four previous years' normalized values. This method of scoring is used because it aligns with the goal of the Index, which is to measure change in the system. This method also gives a common unit of measurement for all metrics, change over time, which allows comparison and aggregation of very different measures into a composite Index.

Change was calculated against the weighted average of the previous four years' normalized values. This duration was decided upon because it addresses a number of potential problems. Two other options were considered and ultimately rejected: scoring all metrics as year-over-year change and scoring all metrics as a change from a common baseline year. The problem with scoring year over year is that some metrics are more volatile than others and so would cause a great deal of variability in the Index, despite the possibility that the result may just be oscillating around an average value. The other option, scoring from a baseline year, had two limitations. First, all data had to be available and accurate to whatever the baseline year was. This would make future inter-jurisdictional comparison nearly impossible. And second, some metrics, such as

the number of injuries, have been increasing steadily over time. The use of a baseline year would cause the score to decrease each year and continue to compound on past success to the point that it would have too large an influence on the total Index score after a number of years.

A four-year weighted average was chosen because it provides the best compromise between the two options and would place emphasis on more recent changes in the metrics. The measure is stable in that it avoids rapid shifts due to natural oscillation in some metrics while also preventing those measures that may have a steady change every year from compounding on past successes. The use of four years was chosen because it was found to be the shortest period that resisted the effect of some of the more variable metrics. The mental health support survey data is the exception and is calculated year over year. This is done due to the practical constraint that historical data does not exist since the question was added to the survey in 2018.

The last concern for scoring the metrics was determining the desired direction for each change. An increase in the amount of prevention is desirable but would be a problem if injuries were observed to increase. To account for this, some scores are multiplied by negative ones to cause all metrics' scores to change in a common direction and allow better comparison between measures and the aggregation of the Index as a whole. The only data for which this additional transformation was performed is the injury section, with the number of physical and mental stress injuries, severe injuries and the compliance section, with the risk-based categorization of orders all being metrics that we would like to see decrease over time.

Weighting

Research on frameworks for composite index development states “the relative importance of the indicators is a source of contention” (OECD, 2008), and this statement remains consistent with recent literature reviews on this topic (Greco, 2019; Asadzadeh, 2017; OECD, 2008). Several weighting methods were reviewed, each had its benefits and drawbacks, which were discussed in length with the working group, but the equal weights approach was chosen as it was easier to understand for the general public and the 2020 data was too anomalous to use in a statistical data-driven approach given the significant impact of the COVID-19 pandemic on Ontario's workforce. This method also ensures the Index is balanced as 50% of the Index is sourced from quantitative data and the remaining 50% is from qualitative survey data.

Additionally, there was insufficient evidence in the literature regarding the relative importance of each element's contribution to workplace health and safety, as a result there was no statistical or empirical basis to weight specific indicators more than others. This does not mean no weights but simply implies the weights are equal.

To remain consistent with the methodology prescribed by the OECD Handbook on Constructing Composite Indicators: Methodology and User Guide, a statistical correlation analysis was performed to identify elements that are collinear and mitigate introducing double counting in the Index (OECD, 2008). Some metrics such as the rate of physical injuries and the workplace safety support had a Pearson correlation coefficient of 0.93, but since these metrics measure different aspects of workplace health and safety – the former represents how well the system has avoided risk while the latter is a leading indicator of quality of the health and safety support in organizations – and the rate of physical injuries is weighted less than the workplace safety support, both metrics were acceptable to remain in the Index.

HSI Element Weights

An integrated weight can be calculated by multiplying the metric's weight within a group by the group's overall weight to understand how individual metrics contribute to the Index. In the equal weighting approach, individual elements will have a lower weight if the number of elements that make up that indicator is higher. For example, in worker empowerment and work culture, the four elements that comprise that indicator are weighted 6.3%, while the three elements that constitute prevention are weighted 8.3%. Due to data availability and accessibility, more highly weighted items have a greater contribution and merely ensures equal representation of the indicators within the Index; the weight does not indicate any applied level of importance of one element over another. This methodology helps create a well-rounded assessment of the health and safety system as a whole.

Figure 4. HSI Weights

Metric	Indicator Group	Metric's Contribution to Group Weight	Group Weight	Integrated Weight
Workplace prevention activities	Prevention	33%	25%	8.3%
Workplace safety support		33%		8.3%
Workplace mental health support		33%		8.3%
The proportion of 'no order' proactive inspections	Compliance	50%	25%	12.5%
Risk-based categorization of orders issued during reactive and proactive inspections		50%		12.5%
Involvement in the health and safety of the workplace	Worker Empowerment and Work Culture	25%	25%	6.3%
Awareness of OHSA and WSIB legislation		25%		6.3%
Leadership involvement in the organization's health and safety		25%		6.3%
Employee's experience of a workplace culture aimed at safety		25%		6.3%
Physical injuries/illnesses rate	Injury	25%	25%	6.3%
Mental stress injuries/illnesses rate		25%		6.3%
Severe injuries and fatalities rate		25%		6.3%
% of injured workers off compensation at 90 days		25%		6.3%

SUMMARY

In this paper, the concepts of health and safety are approached as multidimensional, and characterized by a number of different elements. As a result, the Index includes four health and safety indicators that align with a healthy workplace framework. By incorporating extensive research, metrics have been aligned to the indicators that will best shed light on the changes in Ontario's health and safety system. All efforts have been made to ensure a fair and unbiased assessment is created with information gathered from all participants in the system, the ministries and agencies that enforce and support the system, and the employees and employers present in the workplace, where health and safety begins. The result is a robust measure of health and safety that can be used by all of Ontario for insight into how to make workplaces safer.

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Appendix

Health and Safety Index – Survey Instrument (updated Oct 2021)

Theme	Question Number	Question Content	Notes
Survey Intro		Good morning/afternoon/evening, my name is _____. I am calling from the Survey Research team at the Workplace Safety & Insurance Board. We're calling to conduct a quick survey on perceptions and opinions about safety in the workplace. Interviewer Note: If asked what is the WSIB say "The WSIB administers compensation for injured workers and insurance for employers in Ontario workplaces"	
Inquiries About Call List		Interviewer Note: If respondents ask how we got their phone number, interviewers can say "From a call list" If they want to be taken off the call list, let the respondent know that we will take them off the list and that we will not be calling them in the future. Provide the Team Lead with the Respondent ID via email so the phone number can be added to the Do Not Call (DNC) List.	
		I'm looking to speak with someone who is currently part of Ontario's Workforce, would that be you? ☐ 1 Yes, speaking ☐ 2 Yes, but not now/another time. ☐ 3 No ☐ 4 Not Part of Ontario's Workforce ☐ 5 Retired Note: If 'Retired' is selected the record will be screened-out and coded as 'RT' (change made September 25th 2019)	2- schedule call back 3- Thank you 1 (Clarify if needed: by Ontario's Workforce I mean anyone who is currently working in the province.)
		The Workplace Safety & Insurance Board is interested in learning about how people feel about safety in the work place. We are talking to workers across the province to get their feedback on this important issue facing Ontario's workforce.	
		Would you be willing to complete a quick 5-minute survey to share your experiences and opinions about safety at work? ☐ 1 Yes ☐ 2 No Interviewer Note: For Cellphone numbers if 'Yes', ask: "Are you in a place where you can safely talk on the phone and answer my questions?" If respondent says 'No' or indicates it's not safe please attempt to set a Callback, if unable to code as No Response. (Added October 28, 2019)	
Call Back		Would there be another time that would be more convenient for you to complete the survey?	

Theme	Question Number	Question Content	Notes
		☐ ₁ Yes ☐ ₂ No	
Eligibility Criteria Screening	S1	Before we move onto the survey, I'd like to confirm a couple of points with you: First of all, are you currently working in the province of Ontario? ☐ ₁ Yes ☐ ₂ No	If No Go To Thank you 2
	S2	Are you paid for your work or are you a volunteer? ☐ ₁ Paid ☐ ₂ Volunteer	If answer No Go To Thank you 3
	S3	Are you 16 years of age or older? ☐ ₁ Yes ☐ ₂ No	If answer No Go To Thank you 4
Confidentiality		Great. First, I'd like to assure you that all of your answers to the survey will be confidential. Your responses will be used for research purposes only and all of the survey results will be reported at a summary level.	
Survey Verification		If respondents ask to verify the survey they can contact Regina Mendiola (Team Lead, Survey Administration in Corporate Business Information & Analytics Division of WSIB). They must dial the WSIB General Inquiry Line: 416-344-1000 (Local calls) OR 1-800-387-0750 (Toll Free for Long Distance calls) then provide Regina's WSIB cell number: 647-824-8417	
Thank you 1		For research purposes we record reasons why individuals choose not to complete surveys. May I ask why you are not interested in this survey?	
		Okay, thank you very much for your time	
Thank you 2		Thank you for your time, but only those currently working in the province of Ontario are eligible to complete this survey	
Thank you 3		Thank you. Although your contributions are very important, this survey is focused on paid workers in Ontario. Thank you for your time.	
Thank you 4		Thank you for your time, but only those 16 years or older are eligible to complete this survey.	
Interviewer direction for use when worker has multiple jobs: • Please think about the job you work most hours doing on a weekly basis • Where equal hours, please think about the job where you had your most recent shift			
Demographics	Intro	To start with, I'd like to ask a few questions to help categorize your responses, this will help us understand how different people feel about safety in their workplace. All answers to these questions are voluntary and confidential. Just let me know if you prefer not to respond.	
Industry	Q1	In what industry sector do you work? (Probe: What does your company do? What are some of your job duties? What is your current role?)	Do not read categories

Theme	Question Number	Question Content	Notes
		☐ ₁ Agriculture, Forestry, Fishing and Hunting (NAICS 11) ☐ ₂ Mining and Oil and Gas Extraction (NAICS 21) ☐ ₃ Utilities (NAICS 22) ☐ ₄ Construction (NAICS 23) ☐ ₅ Manufacturing (NAICS 31-33) ☐ ₆ Wholesale Trade (NAICS 41) ☐ ₇ Retail Trade (NAICS 44-45) ☐ ₈ Transportation and Warehousing (NAICS 48-49) ☐ ₉ Information and Cultural Industries (NAICS 51) ☐ ₁₀ Finance and Insurance (NAICS 52) ☐ ₁₁ Real Estate and Rental and Leasing (NAICS 53) ☐ ₁₂ Professional, Scientific and Technical Services (NAICS 54) ☐ ₁₃ Management of Companies and Enterprises (NAICS 55) ☐ ₁₄ Administrative and Support, Waste Management and Remediation Services (NAICS 56) ☐ ₁₅ Educational Services (NAICS 61) ☐ ₁₆ Health Care and Social Assistance (NAICS 62) ☐ ₁₇ Arts, Entertainment and Recreation (NAICS 71) ☐ ₁₈ Accommodation and Food Services (NAICS 72) ☐ ₁₉ Other Services - except Public Administration (NAICS 81) ☐ ₂₀ Public Administration (NAICS 91) ☐ ₉₇ Other (specify _____) ☐ ₉₈ Don't know ☐ ₉₉ Refused	
Employer Size	Q2	And how many people work in your company? If your company has more than one location, we are interested in the total number of people who work for the company. ☐ ₁ Less than 5 employees ☐ ₂ 5 to 19 employees ☐ ₃ 20 to 99 employees ☐ ₄ 100 to 299 employees ☐ ₅ 300 to 499 employees ☐ ₆ 500 to 999 ☐ ₇ More than 1000 ☐ ₉₇ Other (specify _____) ☐ ₉₈ Don't know ☐ ₉₉ Refused/Don't know	Do not read categories Record all responses in 'other category' Interviewer- if respondent does not know ask for an estimate to be able to categorize
Worker role	Q3	At your current workplace, are you a: ☐ ₁ Worker ☐ ₂ Supervisor/manager ☐ ₃ Owner ☐ ₉₇ Other _____ ☐ ₉₈ Don't know ☐ ₉₉ Refused	Read list down to owner Pilot to determine other categories needed If answer "Owner" skip Q11C and Q11D
Geographic location	Q4	Please provide us with the first letter of your postal code? Record letter _____	Interviewer Note: If respondent asks why we need this

Theme	Question Number	Question Content	Notes
		☐ ₉₈ Don't know ☐ ₉₉ Refused	info, say: "we are interested in assessing regional differences in survey responses"
Age	Q5	And, can you share your year of birth with me? (preferred) OR Record year of birth_____ Can you tell me your age? I'll read some age ranges and you can stop me when I get to yours: ☐ ₁ 16 to 19 ☐ ₂ 20 to 24 ☐ ₃ 25 to 29 ☐ ₄ 30 to 34 ☐ ₅ 35 to 39 ☐ ₆ 40 to 44 ☐ ₇ 45 to 49 ☐ ₈ 50 to 54 ☐ ₉ 55 to 59 ☐ ₁₀ 60 to 64 ☐ ₁₁ More than 65 ☐ ₉₉ Refused	
Gender	Q6	What is your gender? ☐ ₁ Male ☐ ₂ Female ☐ ₉₇ Other (Please specify :) _____ ☐ ₉₈ Don't know	*Read this question as worded
Diversity	Q6a	Do you identify as First Nations, Métis, and/or Inuit? ☐ No ☐ Yes, First Nations ☐ Yes, Metis ☐ Yes, Inuit ☐ Prefer not to answer	added April 2021
	Q6b	In our society, people are often described by their race or racial background. For example, some people are considered "White" or "Black" or "East/Southeast Asian," etc. Which race category best describes you? ☐ Black ☐ East/Southeast Asian (For example, Chinese, Korean, Japanese) ☐ Indigenous (First Nations, Métis, Inuk/Inuit) ☐ Latino ☐ Middle Eastern (For example, Persian, Egyptian, Lebanese) ☐ South Asian (For example, East Indian, Pakistani, Indo-Caribbean) ☐ White ☐ Another race category ☐ Prefer not to answer <i>(As written in the Standards document: Wherever feasible, online surveys, forms, and interviews must include the examples or descriptions provided</i>	added April 2021

Theme	Question Number	Question Content	Notes																								
		to help individuals select the appropriate responses. Organizations must not introduce subcategories under the required race categories, except where noted in Table 1.) Table 1. Valid Values for Race Categories <table><tr><th>Race categories*</th><th>Description/examples</th></tr><tr><td>1. Black</td><td>African, Afro-Caribbean, African-Canadian descent</td></tr><tr><td>2. East/Southeast Asian (Optional**: May collect as two separate categories – East Asian and Southeast Asian)</td><td>Chinese, Korean, Japanese, Taiwanese descent Filipino, Vietnamese, Cambodian, Thai, Indonesian, other Southeast Asian descent</td></tr><tr><td>3. Indigenous (First Nations, Métis, Inuk/Inuit) ***</td><td>First Nations, Métis, Inuit descent</td></tr><tr><td>4. Latino</td><td>Latin American, Hispanic descent</td></tr><tr><td>5. Middle Eastern</td><td>Arab, Persian, West Asian descent, e.g. Afghan, Egyptian, Iranian, Lebanese, Turkish, Kurdish, etc.</td></tr><tr><td>6. South Asian</td><td>South Asian descent, e.g. East Indian, Pakistani, Bangladeshi, Sri Lankan, Indo-Caribbean, etc.</td></tr><tr><td>7. White</td><td>European descent</td></tr><tr><td>8. Another race category</td><td>Another race category not described above [optional to allow write-in response]</td></tr><tr><td>Prefer not to answer (Optional value)</td><td>Permitted only in oral interview processes to record that the question was asked and the respondent chose not to answer.</td></tr></table> Response rule: Respondents may select all that apply.	Race categories*	Description/examples	1. Black	African, Afro-Caribbean, African-Canadian descent	2. East/Southeast Asian (Optional**: May collect as two separate categories – East Asian and Southeast Asian)	Chinese, Korean, Japanese, Taiwanese descent Filipino, Vietnamese, Cambodian, Thai, Indonesian, other Southeast Asian descent	3. Indigenous (First Nations, Métis, Inuk/Inuit) ***	First Nations, Métis, Inuit descent	4. Latino	Latin American, Hispanic descent	5. Middle Eastern	Arab, Persian, West Asian descent, e.g. Afghan, Egyptian, Iranian, Lebanese, Turkish, Kurdish, etc.	6. South Asian	South Asian descent, e.g. East Indian, Pakistani, Bangladeshi, Sri Lankan, Indo-Caribbean, etc.	7. White	European descent	8. Another race category	Another race category not described above [optional to allow write-in response]	Prefer not to answer (Optional value)	Permitted only in oral interview processes to record that the question was asked and the respondent chose not to answer.					
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Prefer not to answer (Optional value)	Permitted only in oral interview processes to record that the question was asked and the respondent chose not to answer.																										
Section C	Intro	Thank you, these next set of questions are about your awareness on workplace safety laws.																									
Awareness of OHSA Reg.	Q9	I'm going to read you a number of statements. For each one, please tell me if you think the statement is true or false. <table><tr><td></td><td>T</td><td>F</td><td>DK/Ref</td></tr><tr><td>a) Ontario employers are required by law to make employees aware of hazards they may encounter on the job or in the workplace</td><td>☐_1</td><td>☐_2</td><td>☐_9</td></tr><tr><td>b) Employees in all Ontario workplaces have the right to refuse work that they believe is dangerous to themselves or other workers</td><td>☐_1</td><td>☐_2</td><td>☐_9</td></tr><tr><td>c) Only workplaces with over 100 employees must have a Joint Health & Safety Committee</td><td>☐_1</td><td>☐_2</td><td>☐_9</td></tr><tr><td>d) According to Ontario law, health & safety reps must inspect the physical condition of the workplace on a daily basis</td><td>☐_1</td><td>☐_2</td><td>☐_9</td></tr><tr><td>e) It is a worker's legal responsibility to report workplace hazards to their supervisor</td><td>☐_1</td><td>☐_2</td><td>☐_9</td></tr></table>		T	F	DK/Ref	a) Ontario employers are required by law to make employees aware of hazards they may encounter on the job or in the workplace	☐ _1	☐ _2	☐ _9	b) Employees in all Ontario workplaces have the right to refuse work that they believe is dangerous to themselves or other workers	☐ _1	☐ _2	☐ _9	c) Only workplaces with over 100 employees must have a Joint Health & Safety Committee	☐ _1	☐ _2	☐ _9	d) According to Ontario law, health & safety reps must inspect the physical condition of the workplace on a daily basis	☐ _1	☐ _2	☐ _9	e) It is a worker's legal responsibility to report workplace hazards to their supervisor	☐ _1	☐ _2	☐ _9	Interviewer Note: Correct answer can be given if respondent asks. Answers: (a) T (b) T (c) F (d) F (e) T
	T	F	DK/Ref																								
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Theme	Question Number	Question Content	Notes
Section D	Intro	This next section is about your opinion and activities around safety in your workplace.	
H&S Climate	Q10	I'm going to read you a list of statements about safety, and for each one, please answer with, 'Never, Rarely, Sometimes, Often, or Always' based on your workplace's Health & Safety practices. ☐₁ ☐₂ ☐₃ ☐₄ ☐₅ ☐₉₈ ☐₉₉ Never Rarely Sometimes Often Always DK NA/Ref	Repeat as required: 'In your opinion, does this happen ' Never, Rarely, Sometimes, Often, or Always '
	A	Formal safety audits are a normal part of your business.	Ontario Organizational Performance Metric (OPM)
	B	Everyone in your organization values ongoing safety improvements within your company.	OPM
	C	Your organization considers safety at least as important as production and quality in the way the work is done.	OPM
	D	Workers and supervisors have the information they need to work safely.	OPM
	E	Employees are involved in decisions affecting their health and safety.	OPM
	F	Those in charge of safety have the authority to make the changes they have identified as necessary.	OPM
	G	Those who act safely receive positive recognition.	OPM
	H	Everyone has the tools and/or the equipment they need to complete their work safely.	OPM
	I	Everyone receives the necessary workplace health and safety training when starting a job, changing jobs or using new techniques	added Oct 2021
	J	Systems are in place to identify, prevent and deal with hazards at work	added Oct 2021
	K	Communication about workplace health and safety procedures is done in a way that I can understand	added Oct 2021
	L	I have enough time to complete my work tasks safely	added Oct 2021
	M	There is regular communication between employees and management about safety issues	added Oct 2021
Mental health	N	Your organization offers resources and other supports for employee mental well-being.	
Section E	Intro	In this last set of questions, I would like to get your opinion of your personal safety in your workplace.	

Theme	Question Number	Question Content	Notes
H&S Empowerment	Q11	For each statement that I read, please tell me the extent to which you agree on a scale of 1 to 5 where 1 means you strongly disagree and 5 means that you strongly agree. ☐1 ☐2 ☐3 ☐4 ☐5 ☐ Strongly Disagree Strongly Agree NA/Ref	Randomize questions
	A	I worry that I will end up getting injured or ill doing my job	added Oct 2021
	B	Given the risks in your workplace, you feel it is as safe as it CAN be	REVISED wording Oct 2021
	C	You feel comfortable enough in your workplace to bring safety issues up to the supervisor, manager or owner.	Skip if owner
	D	If you were asked by your supervisor to do a task that you felt was not safe, you would refuse to do it.	Skip if owner Ask if supervisor or manager
	E	You make it a point to find out about potential dangers in your workplace.	
	G	The amount of focus a workplace puts on health and safety impacts your decision to work there.	Added July 29 th 2020
H&S COVID-19	Q15 NEW	Did your workplace adequately address your health and safety concerns due to COVID 19? ☐ 1 Yes ☐ 2 No ☐ 3 Partially ☐ 4 No changes were made ☐ Don't Know/Remember ☐ NA/Refused	REVISED wording Oct 2021 If 'Yes' go to Q15a If 'No' go to Q15b If DK/NA go to Q12a Added July 29 th 2020
	Q15a	What changes were made? _____	Skip to Q15c Added July 29 th 2020
	Q15b	Why not? _____	Skip to Q12a Added July 29 th 2020
Section F Final Comments	Q14	And do you have any other comments you would like to share about workplace safety? _____ ☐ 96 No further comments ☐ 98 Don't Know ☐ 99 NA/Refused	
Exit		Thank you for your time! Your feedback is appreciated.	