



**System Performance Measurement Report 2007:**

**Final Report**

**January 30, 2009**

Prepared on behalf of the  
Performance Measurement and Information Management Committee of OHSCO

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**Acknowledgements:**

Key contacts within 17 OHSCO organizations supplied information used in generating the 2007 indicator data. Ric deMeulles and Alec Farquhar provided oversight for the report.

# Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>INTRODUCTION .....</b>	<b>5</b>
Background.....	5
Development of the performance measurement framework and performance indicators .....	6
Data collection in 2007 .....	8
Aims of the report.....	8
<b>RESULTS .....</b>	<b>9</b>
1. Monetary Resources (Input).....	9
2. Legislation & Regulations (Input).....	11
3. System Alignment (Activity).....	13
4. Enforcement (Activity).....	15
5. Knowledge/Skill Transfer (Activity) .....	18
6. Satisfaction (Reaction) .....	21
7. OHS Values, Beliefs and Attitudes (Reaction) .....	22
8. Knowledge/Skill (Reaction) .....	24
9. Hazardous Exposures (Reaction) <b>New Category!</b> .....	25
10. Occupational Injuries, Illnesses, Disabilities and Fatalities (Outcome).....	27
Injuries and illnesses.....	27
Musculoskeletal injuries .....	28
Fatalities .....	31
Motor vehicle fatalities.....	31
Younger and older workers.....	31
New workers.....	34
11. Cost (Outcome) .....	36
<b>Appendix A: Glossary .....</b>	<b>38</b>
<b>Appendix B: Technical notes on indicators.....</b>	<b>39</b>
Table B1: Data used in the calculation of indicators .....	39
Additional technical notes on indicators.....	39
Limitations of indicators.....	41
<b>Appendix C: Questionnaire for OHSCO Member Survey .....</b>	<b>44</b>

<b>Appendix D:</b>	<b>Determination of Data Quality in Survey Data.....</b>	<b>49</b>
<b>Appendix E:</b>	<b>Additional Knowledge/Skill Transfer Indicators .....</b>	<b>51</b>

## **Executive Summary**

This summary provides a highlight of trends in performance indicators in the Ontario Prevention System.

### **Monetary Resources**

Total resources allocated to the Ontario Prevention System were \$230 M in 2007. The majority of these resources were contributed by the Workplace Safety and Insurance Board, from insurance premium revenues paid by Ontario employers. These resources represent a public sector expenditure of approximately \$35 per worker to protect and improve the work-related health of the Ontario labour force. Over the eight year period 1999-2007, Prevention System expenditures per worker have increased by 2% per year when measured in 2007 dollars.

### **System Alignment**

In 2005, OHSCO members committed to a strengthened alignment of activities and priorities in five areas: 1) the High Risk Firm Initiative, 2) the development of an MSD prevention strategy, 3) the development of an Occupational Disease prevention strategy, 4) the measurement of the performance of the Prevention System and 5) emergency preparedness. In 2007, OHSCO members continued their focus on these strategic initiatives

Senior leaders of OHSCO member organizations continued to perceive improved alignment within the Prevention system in 2007.

### **Enforcement Activities**

In 2007, the MOL issued 3.0 orders per 100 workers covered by the Occupational Health and Safety Act, a 90% increase relative to the rate of 1.6 orders per 100 workers issued in 2004. Field visits increased from 53,000 in 2004 to 101,000 in 2007 and orders increased from 90,000 in 2004 to 177,000 in 2007. The frequency of convictions per 100,000 OHSA-covered workers increased from 6.1 in 2004 to 20.4 in 2007. This increase in inspection and enforcement activity reflects the outcome of additional resources allocated to the Ministry of Labour's Occupational Health and Safety Branch for the recruitment of 200 additional inspectors in 2005.

For a second year, the ratio of orders to field visits decreased, following a peak in 2005.

### **Knowledge and Skill Transfer Activities**

OHSCO member agencies provided training/education services to approximately 440,000 participants in 2007 through in-classroom and in-field training, confirmed self-directed training, and conferences. This represents 4.2 participant-days of training per 100 Ontario workers. In addition, 282,000 participant-units of training materials were distributed and 14.9 M website pages with prevention content were viewed.

There was further knowledge transfer through 42,000 hours of consulting and advising. This represents 2.5 hours per 100 Ontario workers. About one quarter of this activity was directed to firms targeted through the Last Chance initiative.

### **Hazardous Exposures**

Information on hazardous exposures in Ontario is very limited. The report on 2007 introduces for the first time an indicator in this category: exposure to travel in a motor vehicle for work-related purposes.

Over the period 2004-7, exposure to travel in a motor vehicle weighing  $< 4.5$  tonnes decreased annually by 3%, whereas exposure to travel in a motor vehicle  $\geq 4.5$  tonnes increased annually by 4%.

### **Occupational Injuries, Illnesses, Disabilities, Fatalities and Cost**

The frequency of lost time claims per 100 workers in Ontario has declined from 2.6 in 1999 to 1.8 in 2007, a reduction of approximately 4% per year over this period. Over the period 2000-2006, the frequency of absence from work for seven days or longer for work-related causes, based on workers' self-reported survey responses, declined by approximately 2.3% per year. The year-over-year reduction in lost time claims between 2006 (83,179) and 2007 (80,863) represents a 3% reduction.

Over 1999-2007, the rate of decline of lost time claims for musculoskeletal disorders has on average been less than for all injuries and illnesses (4.5% vs 3.6% per year). However, over 2006-7, the rate of decline of MSD claims was greater than that for all claims. Correspondingly, MSD claims as a percentage of all claims showed a slight decline from 44.1% to 43.7%.

Traumatic fatalities per 100,000 workers have declined by 2% per year over the period 1999-2007. A total of 100 traumatic fatalities occurred to workers insured by the WSIB in 2007. In contrast, there were 279 occupational disease fatality claims reference to 2007. Claim rates for fatalities arising from occupational diseases have increased by 7.5% per year since 1999.

There were 0.54 traumatic fatalities per 100,000 workers by means of motor vehicle accidents in 2007. When data for this indicator are fitted to a trendline, no change is seen over the period of observation, 1999-2007.

The report on 2007 examines for the first time the relationship between the claim rates and age. From 2003-7, the claim rate for 15-19 year olds declined to a *greater* extent than for 25-44 year olds (9.2% versus 6.3% per year). In 2007, the risk of a lost time injury for a 15-19 year old was 91% that for a 25-44 year old. In contrast, the rate of decline for older age groups was *less than* for 25-44 year olds and in 2007, the risk of a lost time injury for a 55-64 year old was 8% greater than for a 25-44 year old.

Claim rates were also examined in three groups of new workers (less than 1 month job tenure, 2-3 months, 4-12 months) and more experienced workers (13 months or more). Over the period 2003-2007, the claim rate for workers with one month or less experience has been about three times higher than for experienced workers. Although claim rates for all groups have declined over this period, they have been relatively greater for workers with two to twelve months experience. Of some potential importance, the rates of decline for all three new worker groups between 2006 and 2007 were greater than that seen for experienced workers and greater than the longer term trend for each of their respective groups.

Benefit costs for new compensation claims in Schedule 1 firms were \$0.98 per \$100 of insured payroll in 2007. This measure continues to show an increase over the 1999-2005 period (when it ranged from \$0.86 to \$0.91). Nevertheless, benefit costs for new compensation claims per \$100 of insured payroll in Ontario remain lower than all other Canadian provinces. Total expenses incurred by the WSIB were \$5.5 B in 2007, an increase of 13% from 2006 total expenses of \$4,8 B.

# Introduction

## ***Background***

The Occupational Health and Safety Council of Ontario (OHSCO) is comprised of senior decision-makers from the public and not-for-profit organizations in the Ontario Prevention System. The following organizations are represented in OHSCO:

- Ontario Ministry of Labour (MOL)
- Workplace Safety and Insurance Board (WSIB)
- Construction Safety Association of Ontario (CSAO)
- Education Safety Association of Ontario (ESAO)
- Electrical & Utilities Safety Association of Ontario (E&USA)
- Farm Safety Association Inc. (FSA)
- Industrial Accident Prevention Association (IAPA)
- Mines and Aggregates Safety and Health Association (MASHA)
- Municipal Health and Safety Association (MHSA)
- Ontario Forestry Safe Workplace Association (OFSWA)
- Ontario Safety Association for Community & Healthcare (OSACH)
- Ontario Service Safety Alliance (OSSA)
- Pulp and Paper Health and Safety Association (PPHSA)
- Transportation Health and Safety Association of Ontario (THSAO)
- Occupational Health Clinics for Ontario Workers Inc. (OHCOW)
- Workers Health & Safety Centre (WHSC)
- Institute for Work and Health (IWH)

OHSCO provides leadership and guidance within the Prevention System to achieve its strategic vision, mission and purpose. Its mission is as follows: “On behalf of Ontario workers and employers, OHSCO inspires, leads and enables the creation of the healthiest and safest workplaces in the world, continuously working towards the goal of eliminating work-related injuries, illness and death in the province.”<sup>1</sup>

OHSCO has overseen the production of annual performance reports on the Prevention System, since the report on 2003. This activity was first overseen by the System Measurement Subcommittee and is now overseen by the Performance Measurement and Information Management Committee.

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<sup>1</sup> OHSCO Annual Report of Activities 2004

## Development of the performance measurement framework and performance indicators

The measurement framework was first developed through the following steps:

- literature review
- program logic model development
- performance concept identification using multiple performance measurement approaches
- survey of OHSCO member preferences for performance concepts
- final selection of performance concepts

Details of these steps have been documented in a journal article.<sup>2</sup>

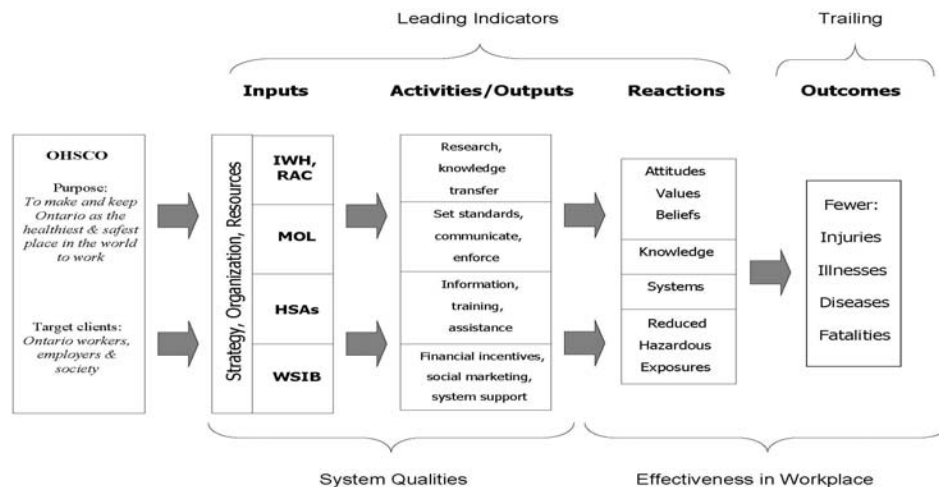
The framework has been developed further through:

- a workshop (March 6 2007), convened by the former System Measurement Subcommittee, with key contacts for performance measurement from OHSCO organizations<sup>3</sup> (Summary from OHSCO System Measurement Subcommittee Workshop)
- a session during a retreat for OHSCO members (March 8 2007). The Institute for Work & Health subsequently assessed the feasibility of indicators arising from the session on behalf of the System Measurement Subcommittee<sup>4</sup>

### Program logic model

A program logic model was developed (Figure 1) to guide performance measurement development. It depicts the main activities and associated outputs within the Prevention System. Inputs, reactions and outcomes are also included. (Abbreviations are defined in Appendix A.)

Figure 1: Program logic model for Prevention System



<sup>2</sup> Robson LS, Speers JC, Kusiak RA, Burns BB. Development of a performance report for the Ontario Prevention System. Policy and Practice in Health and Safety 2007;5(1):3-18.

<sup>3</sup> Details in "Summary from OHSCO System Measurement Subcommittee Workshop," distributed December 2007

<sup>4</sup> Mustard C, Smith P, Robson L, Breslin C, Bielecky A. Measures of success: A report from the IWH OHSCO Liaison Team to the OHSCO System Measurement Committee, May 2007.

### *Performance measurement framework and performance indicators*

Table 1 shows the eleven performance concepts in the current performance measurement framework. The table also includes the primary or *key indicators* of the measurement framework. There are also secondary indicators found in the Results section.

**Table 1: Performance measurement framework for 2007 update**

Logic model domain	Performance concept	Key System performance indicators <sup>5</sup>
<b>Inputs</b>	1. Monetary Resources	<ul style="list-style-type: none"> <li>Total System expenditures on prevention per Ontario worker (in 2007 dollars)</li> </ul>
	2. Legislation & Regulations	<ul style="list-style-type: none"> <li>Significant changes regarding legislation and regulations (qualitative)</li> </ul>
<b>Outputs/ Activities</b>	3. System Alignment	<ul style="list-style-type: none"> <li>Significant changes regarding System alignment (qualitative)</li> </ul>
		<ul style="list-style-type: none"> <li>OHSCO member rating of alignment within the Prevention system</li> </ul>
	4. Enforcement	<ul style="list-style-type: none"> <li>Orders per 100 OHSA-covered workers</li> <li>Orders per field visit</li> </ul>
	5. Knowledge/Skill Transfer	<ul style="list-style-type: none"> <li>Participant-days in certification training Pt 1 per 100 Ontario workers</li> <li>Participant-days in certification training Pt 2 per 100 Ontario workers</li> <li>Participant-units of training materials provided per 100 Ontario workers</li> </ul>
<b>Reactions</b>	6. Client Satisfaction	<ul style="list-style-type: none"> <li>No system-wide indicator available</li> </ul>
	7. OHS Values, Beliefs and Attitudes	No 2007 data available
	8. Knowledge/Skill	<ul style="list-style-type: none"> <li>Persons passing Part One certification test in last 3 years per 100 Ontario workers</li> </ul>
	9. Hazardous Exposures	<ul style="list-style-type: none"> <li>Vehicle-kilometres (thousands) per Ontario worker</li> </ul>
<b>Outcomes</b>	10. Occupational Injuries, Illnesses, Disabilities and Fatalities	<ul style="list-style-type: none"> <li>Lost time claims per 100 workers</li> </ul>
		<ul style="list-style-type: none"> <li>Traumatic fatalities per 100,000 workers</li> </ul>
		<ul style="list-style-type: none"> <li>MSDs as a % of lost time claims</li> </ul>
		<ul style="list-style-type: none"> <li>Relative risk of lost time claim: 15-29 yr olds vs 25-44 yr olds</li> </ul>
		<ul style="list-style-type: none"> <li>Relative risk of lost time claim: 55-64 yr olds vs 25-44 yr olds</li> </ul>
	<ul style="list-style-type: none"> <li>Relative risk of lost time claim: 1 month job tenure vs 13+ mos.</li> </ul>	
	11. Cost	<ul style="list-style-type: none"> <li>Schedule 1 current year benefit costs per \$100 of insured payroll</li> </ul>

<sup>5</sup> Indicators are quantitative unless indicated otherwise.

## ***Data collection in 2007***

The authors collected data used in the report through various means:

- extracting data from publicly available documents
- requesting administrative data from key informants in Prevention System organizations
- arranging custom tabulations of data by IWH and Statistics Canada

Public sources of information included WSIB annual reports, websites (WSIB, MOL, Association of Workers' Compensation Boards of Canada (AWCBC)), and Statistics Canada reports.

Some data were used in their original form. Other data was transformed. Typically this involved transforming count data to rate data through a denominator based on the number of Ontario workers.

More details about the data sources are included in footnotes and Appendix B.

## ***Aims of the report***

The report aims to:

- serve as a “high-level” performance monitoring tool
- synthesize data collected from various sources
- support the development of a common view of the system by OHSCO members
- assist with OHSCO strategy development and planning
- suggest gaps in current data collection
- suggest gaps in current knowledge about the Prevention System, by highlighting trends or indicating relationships for which there is not current understanding.

This report does not aim to:

- replace the data collection of individual OHSCO members
- substitute for more intensive program evaluation activities
- establish causal relationships between performance concepts

# Results

## 1. Monetary Resources (Input)

### Concept description and rationale

**Monetary Resources = the total monetary resources put into the System.**

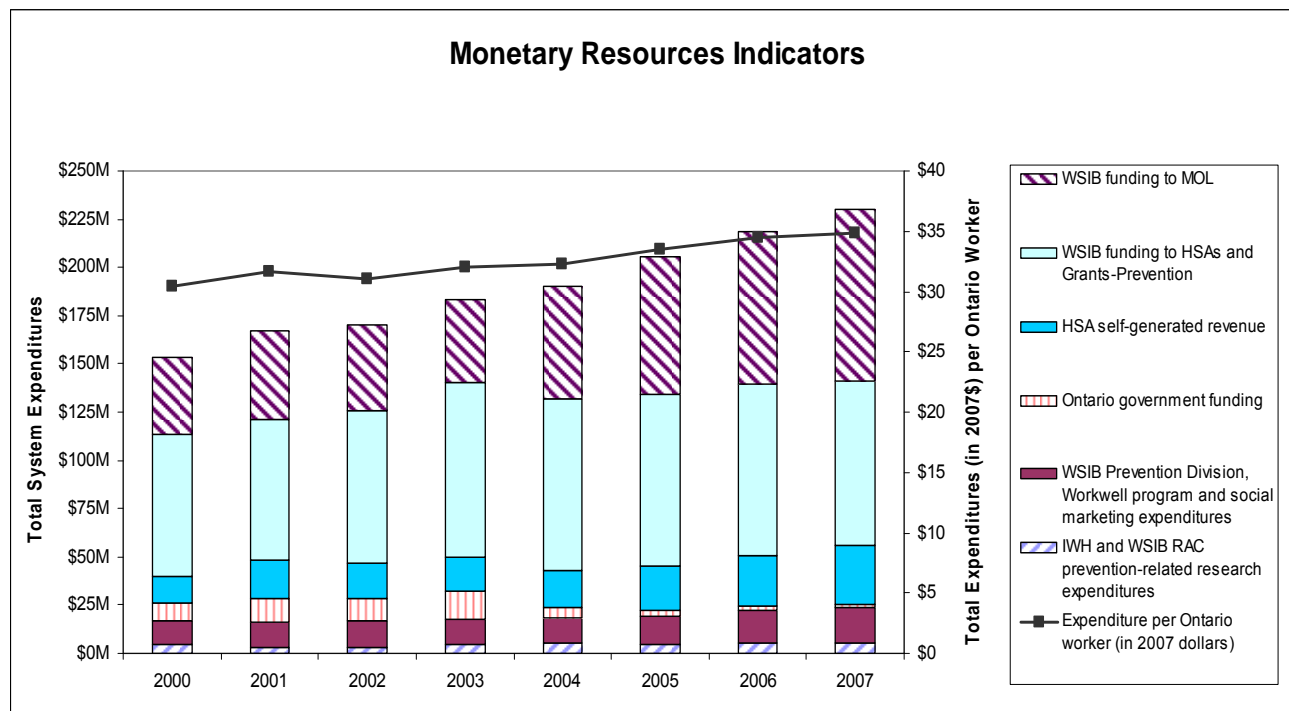
Monetary Resources indicators monitor the success of the system in securing monetary resources from the external environment (government, employers, etc.) for the purposes of prevention activities.

### Indicator results

The total resources allocated to the Ontario Prevention System were \$230 M in 2007. The total system expenditures on prevention per Ontario worker (in 2007 dollars) has gradually increased over 2000-2007 at a rate of 1.9% per year to the current \$35 per worker (see figure below and table on following page.)

The majority of the resources arose from insurance premium revenues paid by Ontario employers. These were directed toward prevention through the WSIB programs (e.g. Workwell, social marketing, Prevention Division) or through transfers to other organizations. Other sources of resources were paying clients of the Health and Safety Associations (\$31 M), the Ontario government (\$1 M) and research granting agencies other than WSIB Research Advisory Council.

Over 2000-7, the expenditure categories with the greatest growth (12%) have been the transfer from WSIB to the Ministry of Labour and the revenue generated by HSAs from clients. The only category in decline has been expenditures by the Ontario government.



Monetary Resources Indicators <sup>6</sup>	2000	2001	2002	2003	2004	2005	2006	2007	Change 2006-7 <sup>7</sup>	Average change 2000-7 <sup>8</sup>
WSIB Prevention Division, Workwell program and social marketing expenditures <sup>9</sup>	\$12.6M	\$13.0M	\$13.6M	\$12.9M	\$13.0M	\$15.0M	\$16.7M	\$18.5M	10.8%	5.6%
WSIB funding to MOL <sup>10</sup>	\$40.0M	\$46.0M	\$44.0M	\$43.0M	\$59.0M	\$71.0M	\$79.0M	\$89.0M	12.7%	12.1%
WSIB funding to HSAs and Grants-Prevention	\$73.6M	\$72.7M	\$79.2M	\$90.5M	\$88.9M	\$89.3M	\$89.0M	\$85.1M	-4.3%	2.1%
IWH and WSIB RAC prevention-related research expenditures <sup>11</sup>	\$4.4M	\$3.3M	\$3.1M	\$4.5M	\$5.1M	\$4.2M	\$5.2M	\$5.6M	8.4%	3.6%
Ontario government funding <sup>12</sup>	\$9.1M	\$12.0M	\$11.4M	\$14.6M	\$5.4M	\$3.1M	\$2.9M	\$1.0M	-66%	-27%
HSA self-generated revenue <sup>13</sup>	\$14.0M	\$19.9M	\$18.7M	\$17.8M	\$19.1M	\$22.9M	\$26.0M	\$30.6M	17.7%	11.8%
TOTAL System expenditures on prevention <sup>14</sup>	\$153.7M	\$166.9M	\$170.0M	\$183.3M	\$190.5M	\$205.5M	\$218.7M	\$229.8M	5.1%	5.9%
Total System expenditures on prevention per Ontario worker <sup>15</sup>	\$26	\$28	\$28	\$30	\$30	\$32	\$34	\$35	3.5%	4.2%
<b>Total System expenditures on prevention per Ontario worker (in 2007 dollars)<sup>16</sup></b>	<b>\$30</b>	<b>\$32</b>	<b>\$31</b>	<b>\$32</b>	<b>\$32</b>	<b>\$33</b>	<b>\$34</b>	<b>\$35</b>	<b>1.2%</b>	<b>1.9%</b>

<sup>6</sup> Additional details about sources of indicator data are in Appendix B.

<sup>7</sup> Change in the indicator from 2006 to 2007 is reported as a percentage of the value in 2006.

<sup>8</sup> Average year-to-year percentage change.

<sup>9</sup> Total WSIB expenditures on Prevention Division activities, Workwell program and social marketing activities.

<sup>10</sup> Reimbursement by WSIB to MOL for the costs associated with the Occupational Health and Safety Act.

<sup>11</sup> Custom tabulation by IWH.

<sup>12</sup> Ontario government expenditures on the Occupational Health and Safety Branch of the Ministry of Labour.

<sup>13</sup> Revenue generated by HSAs through conferences, purchases of educational materials, etc.

<sup>14</sup> Total of the preceding five expenditures.

<sup>15</sup> Total System expenditures targeting prevention divided by the number of all workers in Ontario.

<sup>16</sup> Total System expenditures targeting prevention per Ontario worker, expressed in 2007 dollars. The boldface indicates that it is a key performance indicator (see Introduction).

## 2. Legislation & Regulations (Input)

### *Concept description and rationale*

**Legislation & Regulations = the legislation and regulations with respect to the goals of no workplace injuries and illnesses.**

The activities of Prevention System members and workplace parties are dictated and constrained by various pieces of legislation (e.g., Workplace Safety Insurance Act, Occupational Health and Safety Act, etc.). For workplaces that aim only for compliance, it is the legislation that sets the minimum standard. The Prevention System has some influence over Legislation & Regulations.

### *Indicator results*

A qualitative summary of changes is provided. Several legislative and regulatory changes took place in 2007

No quantitative indicators are currently available.

Year	Significant changes regarding Legislation & Regulations <sup>17</sup>
2000	<ul style="list-style-type: none"> <li>Updated occupational exposure limits (OELs) for 202 substances</li> </ul>
2001	<ul style="list-style-type: none"> <li>Updated legal requirements for:               <ul style="list-style-type: none"> <li>firefighter protective equipment</li> <li>logging industry training</li> <li>surface mine worker training</li> <li>construction industry fall protection</li> </ul> </li> </ul>
2004	<ul style="list-style-type: none"> <li>New system introduced at MOL for annually reviewing the OELs; resulted in the introduction or revision of OELs for 79 substances</li> <li>OELs also revised for manganese, benzene, 1,3-butadiene and carbon monoxide</li> <li>Updated mining regulations, including provisions for blasting and for having engineering reviews of excavations without ground support, which address recommendations of two coroner's jury inquests</li> <li>Bill C-45, an Act to amend the federal Criminal Code, came into effect. It imposes criminal liability on corporations and organizations that fail to take reasonable measures to protect employee safety.</li> </ul>
2005	<ul style="list-style-type: none"> <li>New regulation Designated Substance — Asbestos on Construction Projects and in Buildings and Repair Operations (O. Reg. 278/05) under the Occupational Health and Safety Act (OHSA) updated safe work measures and procedures and enhanced respiratory protection.</li> <li>Regulations for Construction Projects (O. Reg. 213/91) under OHSA amended regarding electrical safety and hoisting of multi-tiered loads</li> <li>OELs introduced or revised for 23 substances</li> </ul>

<sup>17</sup> In 2004-7 OHSCO members were asked by survey to report on “notable changes in legislation or regulations in [the previous year] (i.e., changes likely to make a difference in terms of worker illnesses, injuries or fatalities in Ontario or your sector)”. Responses are compiled and presented here when the respondent information is sufficiently detailed to allow verification. Information on 1999-2003 was provided by a single MOL contact. Both changes favourable and unfavourable for OHS are tracked.

<b>2006</b>	<ul style="list-style-type: none"> <li>• New and revised confined space regulations under the Occupational Health and Safety Act (OHSA), affecting all sectors except farming, came into effect (O. Regs 628/05, 629/05, 630/05, 631/05, 632/05)</li> <li>• New regulation came into effect that extended OHSA coverage to the farming sector, with some limitations (O. Reg 414/05)</li> <li>• Smoke Free Ontario Act took effect, prohibiting smoking in all enclosed workplaces</li> <li>• Ontario Human Rights Code amendment came into effect, ending mandatory retirement</li> </ul>
<b>2007</b>	<ul style="list-style-type: none"> <li>• Asbestos regulation under the OHSA (O. Reg. 278/05) came into effect (see 2005 entry)</li> <li>• OHSA regulations concerned with lowering exposure to noise came into effect (O. Reg 565/06 and 566/06)</li> <li>• OELs introduced for coumaphos and monochloroacetic acid; OELs revised for several other substances (O.Reg. 83/07)</li> <li>• Highway Traffic Act regulation (O. Reg. 555/06) came into effect, helping to ensure that commercial vehicle operators have sufficient rest</li> <li>• Highway Traffic Act regulation (O. Reg. 199/07) came into effect, updating daily inspection requirements for commercial vehicles to a national standard</li> <li>• OHSA mining regulations modified (O.Reg. 84/07) to extend coverage training requirements for first line supervisors; changes also pertain to brakes, elevators and explosives</li> <li>• Private Security and Investigative Services Act, 2005 came into effect, which requires security guards to be licensed, thereby increasing professionalism of the field (improving safety for the guards and those in the workplaces they guard)</li> <li>• Needle Safety Regulation (O. Reg. 474/07) under OHSA filed Aug 2007, requiring the provision and use of safety-engineered needles in hospitals (to take effect Sep 2008)</li> </ul>

### 3. System Alignment (Activity)

#### *Concept description and rationale*

**System Alignment = the alignment of the goals, activities and metrics within and between OHSCO member organizations.**

System alignment was one of the three main themes of OHSCO's strategy for 2002-7. In addition, it is considered by some to be a basic dimension of a system's performance.

#### *Indicator results*

There are two approaches to monitoring System Alignment, one qualitative and the other quantitative.

#### **Qualitative indicator**

A list of notable changes within the System, indicative of its alignment, are summarized in the following table.

<b>Year</b>	<b>Significant changes regarding System Alignment<sup>18</sup></b>
<b>2000</b>	<ul style="list-style-type: none"><li>• Alignment issues identified</li></ul>
<b>2001</b>	<ul style="list-style-type: none"><li>• Working groups formed to address alignment issues</li></ul>
<b>2002</b>	<ul style="list-style-type: none"><li>• Drafted new Prevention System strategy for 2002-7</li></ul>
<b>2003</b>	<ul style="list-style-type: none"><li>• Published OHSCO's first Annual Report</li><li>• Undertook strategic review, planning for 2004-7</li></ul>
<b>2004</b>	None noted.
<b>2005</b>	<ul style="list-style-type: none"><li>• OHSCO committed to five joint strategic initiatives<ul style="list-style-type: none"><li>○ High Risk/Last Chance</li><li>○ Occupational Disease</li><li>○ Workplace Musculoskeletal Disorders/Ergonomics</li><li>○ Emergency Preparedness</li><li>○ System Evaluation and Planning, including Leading Indicators</li></ul></li></ul>
<b>2006</b>	None noted
<b>2007</b>	None noted

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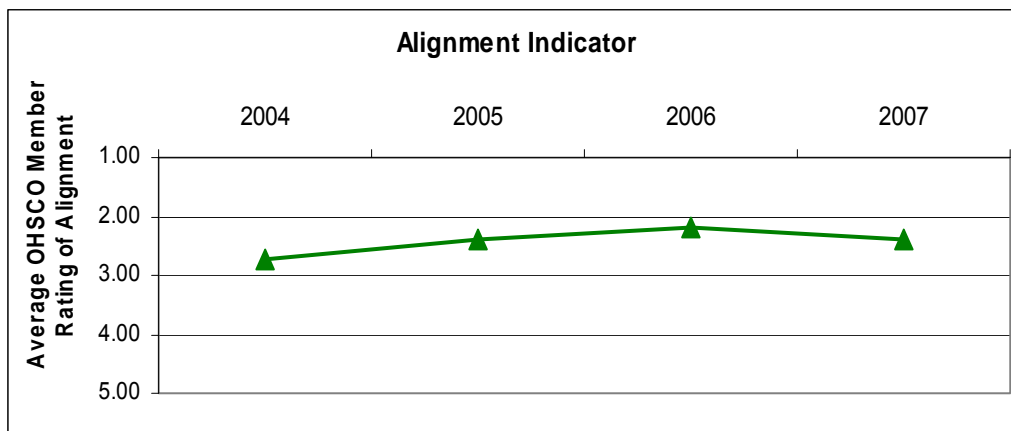
<sup>18</sup> Content for table has been generated each year by the authors of the report in communication with the OHSCO body that oversees the report.

## Quantitative indicators

There were two quantitative indicators of alignment, both based on the responses to questions in the annual survey of OHSCO member organizations. The first of these is based on the answers to the question “Which best describes your perception of alignment within the Prevention System in 2007?” Respondents on average perceive the OHSCO organizations to be somewhere between “quite strongly aligned” and “somewhat aligned.” However, the result for 2007 represents a slight reversal in the preceding trend over 2004-6 of greater perceived alignment. This is attributable to a drop in the percentage of respondents that considered the system to be “strongly aligned.”

Nevertheless, the second quantitative indicator showed that OHSCO members continued to perceive that OHSCO organizations continue to improve in their alignment each year.

Alignment Indicators	2004	2005	2006	2007	Interpretation
<b>Average OHSCO member rating of alignment within the Prevention System for reference year<sup>19</sup></b>	<b>2.7</b>	<b>2.4</b>	<b>2.2</b>	<b>2.4</b>	<b>Average rating continues to be between “quite strongly aligned” and “somewhat aligned.” A slight reversal in the 2004-6 trend toward greater alignment is seen.</b>
Average OHSCO member rating of alignment in reference year versus previous year <sup>20</sup>	2.0	1.7	1.8	1.9	Respondents continue to perceive OHSCO organizations to be more aligned in the most recent year than the one previous.



<sup>19</sup> After defining alignment in the Prevention System as “the alignment of the goals, activities and metrics within and between OHSCO member organizations,” the first question was, “Which best describes your perception of alignment within the Prevention System in 2006?” The respondent was asked to select one response on the following scale: 1=strongly aligned, 2=quite strongly aligned, 3=somewhat aligned, 4=slightly aligned, 5=not at all aligned.

The boldface indicates that it is a key performance indicator (see Introduction).

<sup>20</sup> The second question was, “How does the alignment of the System in 2007 compare with that in 2006?” The respondent was asked to select one response on the following scale: 1=much more aligned, 2=somewhat more aligned, 3=no change, 4=somewhat less aligned, 5=much less aligned.

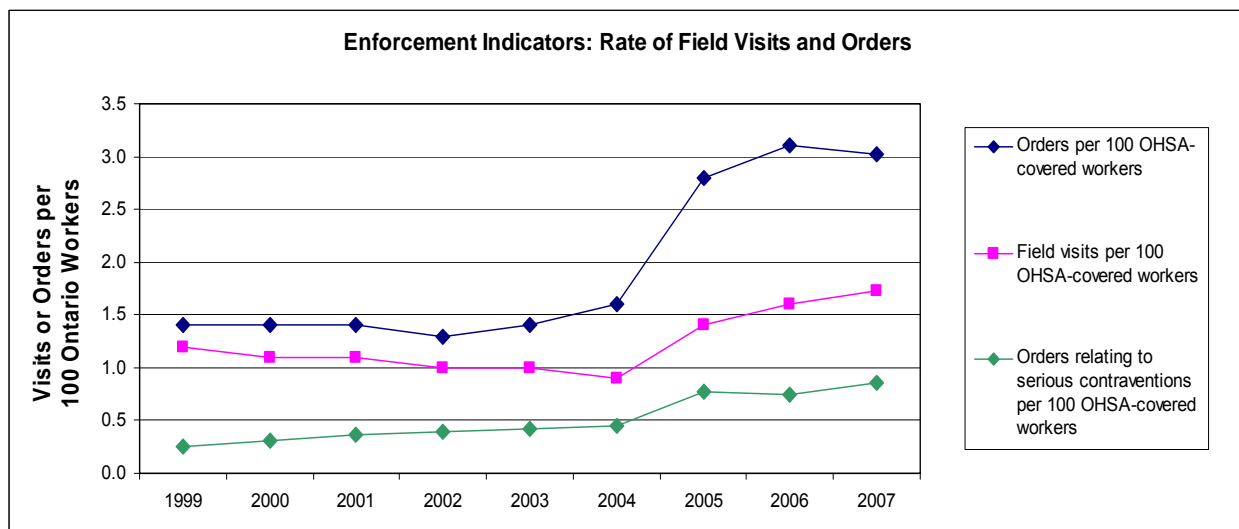
## 4. Enforcement (Activity)

### Concept description and rationale

**Enforcement = the degree and quality of enforcement of OHS legislation.** Enforcement is a major function of the MOL in the Prevention system. It is assumed that greater and better quality enforcement will improve outcomes. Further, research supports the effectiveness of inspections that result in orders.<sup>21</sup>

### Indicator results

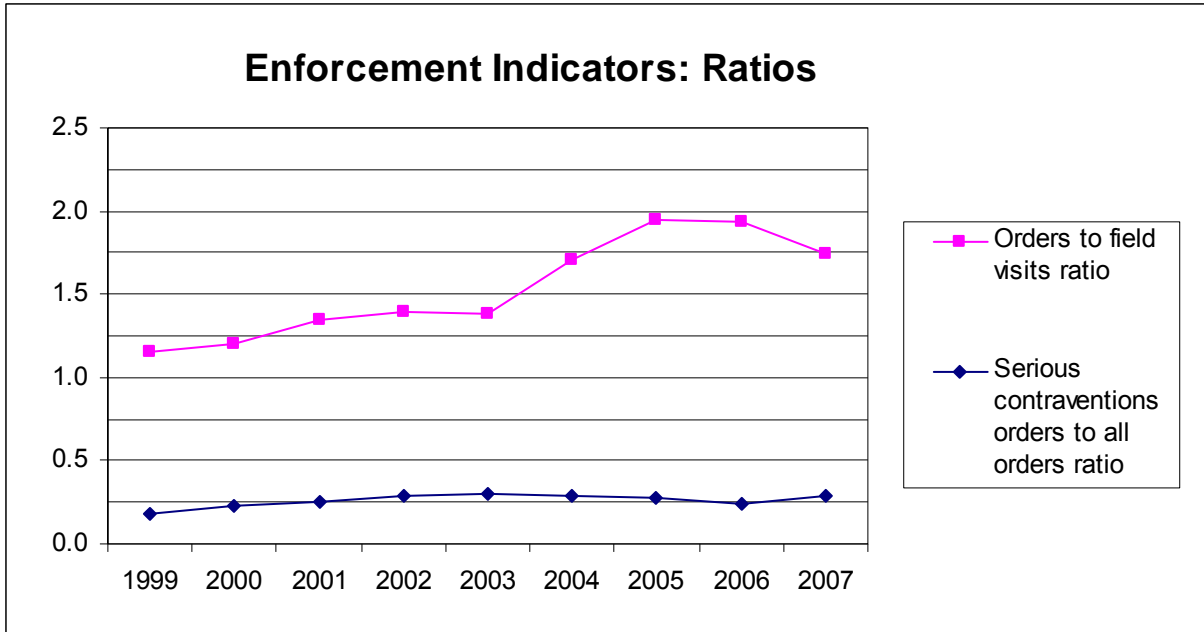
The rate of field visits in 2007 (3.0 per OHSA-covered worker) and the rate of orders (1.7 per OHSA-covered worker) continues the trend of elevation of these indicators that began in 2005. This is attributable to the allocation of additional resources to the MOL's Occupational Health and Safety Branch for the recruitment of 200 additional inspectors.



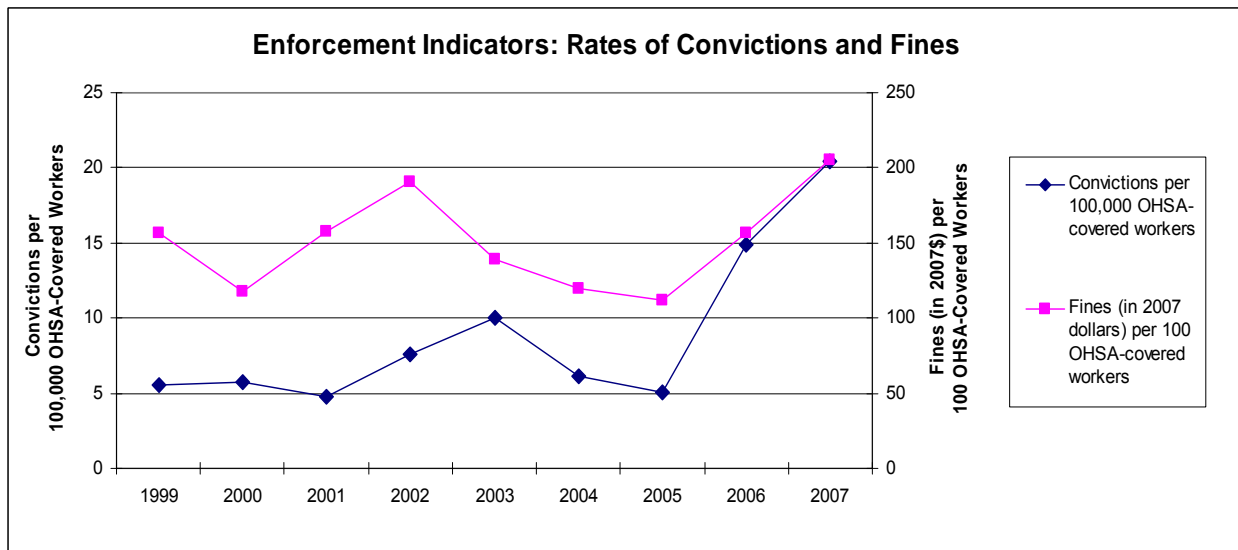
Two ratio indicators are presented. The order to field visit ratio has not been presented before. It is based on the notion that research indicates inspection with an order are more effective than inspections alone. The ratio increased from 1.2 in 1999, peaked at 2.0 in 2005 and decreased to 1.7 in 2007. This could represent either a decreasing inclination to issue an order or a decreasing cause to issue an order.

The second ratio indicator, serious contravention orders to all orders ratio was 0.28 in 2007, which is similar to that seen since 2002 (and greater than the 1999-2001 period)

<sup>21</sup> Tompa E, Trevithick S, McLeod C (2007) Systematic review of the prevention incentives of insurance and regulatory mechanisms for occupational health and safety. Scand J Work Environ Health 33(2):85-95.



The convictions and fines per OSHA-covered worker fluctuate substantially from year to year. Nevertheless, the number of convictions per 100,000 OSHA-covered workers seen in 2006 and 2007 is substantially higher than the earlier period of observation. A key informant from the MOL believes this is attributable to the increased enforcement activity in 2005-7.



Enforcement Indicators <sup>22</sup>	1999	2000	2001	2002	2003	2004	2005	2006	2007	Change 2006-7 <sup>23</sup>	Average change over time period <sup>24</sup>
Field visits <sup>25</sup>	60,784	58,656	55,728	52,093	56,102	52,673	81,411	90,729	101,275	12%	7%
Orders <sup>26</sup>	69,940	70,843	75,167	72,522	77,774	90,141	158,950	175,334	176,669	1%	12%
Orders relating to serious contraventions <sup>27</sup>	12,642	15,970	19,156	21,098	23,453	25,507	44,135	42,766	49,924	17%	19%
Convictions	309	333	287	459	618	386	326	856	1,191	39%	18%
Fines	\$6.5M	\$5.2M	\$7.3M	\$9.2M	\$7.1M	\$6.3M	\$6.1M	\$8.8M	\$12.0M	36%	8%
Field visits per 100 OHSA-covered workers <sup>28</sup>	1.2	1.1	1.1	1.0	1.0	0.9	1.4	1.6	1.7	8%	5%
<b>Orders per 100 OHSA-covered workers<sup>29</sup></b>	<b>1.4</b>	<b>1.4</b>	<b>1.4</b>	<b>1.3</b>	<b>1.4</b>	<b>1.6</b>	<b>2.8</b>	<b>3.1</b>	<b>3.0</b>	<b>-2%</b>	<b>10%</b>
Orders relating to serious contraventions per 100 OHSA-covered workers	0.25	0.31	0.36	0.39	0.42	0.45	0.78	0.75	0.86	14%	17%
Convictions per 100,000 OHSA-covered workers	5.5	5.7	4.8	7.6	10.0	6.1	5.1	14.9	20.4	37%	18%
Fines (in 2006 dollars) per 100 OHSA-covered workers <sup>30</sup>	\$157	\$118	\$158	\$191	\$139	\$120	\$112	\$157	\$206	31%	3%
<b>Orders/field visit ratio</b>	<b>1.2</b>	<b>1.2</b>	<b>1.3</b>	<b>1.4</b>	<b>1.4</b>	<b>1.7</b>	<b>2.0</b>	<b>1.9</b>	<b>1.7</b>	<b>-10%</b>	<b>5%</b>
Serious contravention orders to all orders ratio	0.18	0.23	0.25	0.29	0.30	0.28	0.28	0.24	0.28	16%	6%

<sup>22</sup> Additional details about sources of indicator data are in Appendix B.

<sup>23</sup> Change in the indicator from 2006 to 2007 is reported as a percentage of the value in 2006.

<sup>24</sup> Average year-to-year percentage decrease over the time period where data available. For “orders relating to serious contraventions as % of all orders,” it is the average absolute change in percentage.

<sup>25</sup> Field visits refer to visits by an MOL inspector for the purpose of enforcing the OHSA and the Trades Qualification and Apprenticeship Act; visits may be for the purpose of inspection, investigation or consultation.

<sup>26</sup> Orders, issued by MOL inspectors, document contraventions of legislation or regulations by workplaces and demand remediation.

<sup>27</sup> Serious contraventions are contraventions that often lead to deaths and severe injuries. Classification of contraventions is carried out by MOL staff.

<sup>28</sup> Number of OHSA-covered workers based on Statistics Canada Labour Force Survey.

<sup>29</sup> The boldface indicates that it is a key performance indicator (see Introduction).

<sup>30</sup> Adjusted to 2007 dollars using the Consumer Price Index.

## 5. Knowledge/Skill Transfer (Activity)

### *Concept description and rationale*

**Knowledge/Skill Transfer = the quantity and quality of knowledge and skills transfer to workplace parties.**

Knowledge/Skills Transfer can take place through training/education, consulting, or website visitation. It is conducted to some extent by all Prevention System organizations and is a major function of the fourteen health and safety associations. It is assumed that greater and better quality knowledge/skills transfer will improve system outcomes. Further, some research shows that worker training is associated with lower injury rates.

### *Indicator results*

Knowledge/Skill transfer indicator data were collected by surveying OHSCO members. “Participant-days” is the main metric used for reporting training.<sup>31</sup>

The key performance indicators of knowledge/skill transfer are based on joint health and safety committee certification training, because of the role certification plays in the System and because of the relatively high quality of the data. **Certification training** was provided in 2007 at rates per 100 workers of:

- 0.74 participant-days (Part One)
- 0.40 participant-days (Part Two)

The apparent increase in the rate of Part One certification from 2006 to 2007 is an artifact.<sup>32</sup>

The transfer of knowledge/skill through **all types of training and conferences** is estimated to be 4.2 participant-days per 100 Ontario workers.

Additional knowledge/skill transfer activity included (per 100 Ontario workers):

- 2.5 OHS **consulting & advisory hours**<sup>33</sup>
- 4.3 participant units of **training materials**
- 200 **Web page views**

For training materials, this represented an increase of 31% over the previous year, continuing a trend since 2003 of increasing an average of 25% per year.

About one quarter of the consulting and advising hours in 2007 was part of the Last Chance initiative targeting low performing organizations.

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<sup>31</sup> The participant-day metric was decided upon in the Mar 2007 workshop among Prevention System data providers. Alternative metrics based on the number of participants are shown in Appendix E.

<sup>32</sup> There appears to have been a 20% increase in the Part One certification training per 100 Ontario workers between 2006 and 2007. This results from a change in the way one organization has classified its self-directed training materials. In the past they would have all been reported as “training materials”. Now they are reported as “training materials” in only those cases where there was no confirmation of the use of the materials; but as “Certification Training Part One” in those cases where a completed certification test form has been submitted subsequently.

<sup>33</sup> Since the data quality of the consulting and advisory hours is low, we do not report on the trends over time. However, a 20% increase in this indicator is seen between 2006 and 2007. This change arises mainly from the addition of two organizations now reporting these data, whereas in the past they were not able.

Knowledge/Skill Transfer Indicators (Counts)	2003	2004	2005	2006	2007	Change 2006-7 <sup>34</sup>	Avg change over time period <sup>35</sup>	Data quality 2007 <sup>36</sup>
<b>Training and Conferences</b>								
Certification training - Pt 1 - ppt-days <sup>37</sup>	34,349	37,017	40,213	40,223	48,889	22%	9%	Med
Certification training - Pt 2 - ppt-days	18,111	21,489	22,491	25,575	26,198	2%	10%	High
Train-the-trainer sessions - ppt-days	* <sup>38</sup>	*	*	4,458	4,322	-2%		High
All other training <sup>39</sup> - ppt-days	*	*	*	121,216	121,217	0%		Med
Awareness sessions <sup>40</sup> - ppt-days	*	*	*	38,970	49,365	27%		Med
Other training/awareness sessions - ppt-days	*	*	*	6,008	7,362			Low
Conferences as primary sponsor - ppt-days	*	*	*	17,569	21,644	23%		High
Sessions in non-OHSCO conferences - ppt-days	*	*	*	13,278	7,680			Low
Total participant-days System training and conferences	219,718	222,798	247,815	267,296	286,675			Low
<b>Training materials</b>								
Participant-units of training materials provided <sup>41</sup>	107,925	89,873	171,413	212,926	282,380	33%	27%	Med
<b>Consulting</b>								
OHS consulting & advisory contacts	186,876	72,884	127,620	*	*			
OHS consulting & advisory hours <sup>42</sup> – total	*	*	119,212	128,455	163,057			Low
OHS consulting & advisory hours -- Last Chance firms only <sup>43</sup>	*	*	9,143	17,554	41,526			Low
<b>Website</b>								
Page views <sup>44</sup> from System OHS websites	12.4M	17.5M	16.1M	23.9M	14.9M			Low
Downloads from System OHS websites	*	*	*	10.8M	6.3M			Low
Visits <sup>45</sup> to System OHS websites	1.5M	6.2M	4.3M	5.0M	3.4M			Low

<sup>34</sup> Change in the indicator from 2006 to 2007 is reported as a percentage of the value in 2006. It was calculated where data were of at least Medium quality in 2006 and 2007.

<sup>35</sup> Average year-to-year percentage decrease; calculated when the data involved were of at least Medium quality over the entire time period.

<sup>36</sup> See Appendix E for explanation of data quality. High means that no more than one organization was unable to provide data and that 90% of the organizations submitting data rated its precision as +/- 5%.

<sup>37</sup> Participant-day is the equivalent of one day of training for one participant; e.g., a half day course with 20 participants = 10 participant-days.

<sup>38</sup> \* means data not collected at all or they were collected using a different method than that used in 2006.

<sup>39</sup> Refers to all other training where there is an evaluation component, either formal (i.e. testing) or informal (i.e. observation and feedback).

<sup>40</sup> Educational sessions with no evaluation component.

<sup>41</sup> Training materials distributed to workplace parties but no confirmation that training delivery or achievement took place. A training package with 10 participant guides would count as 10 participant-units.

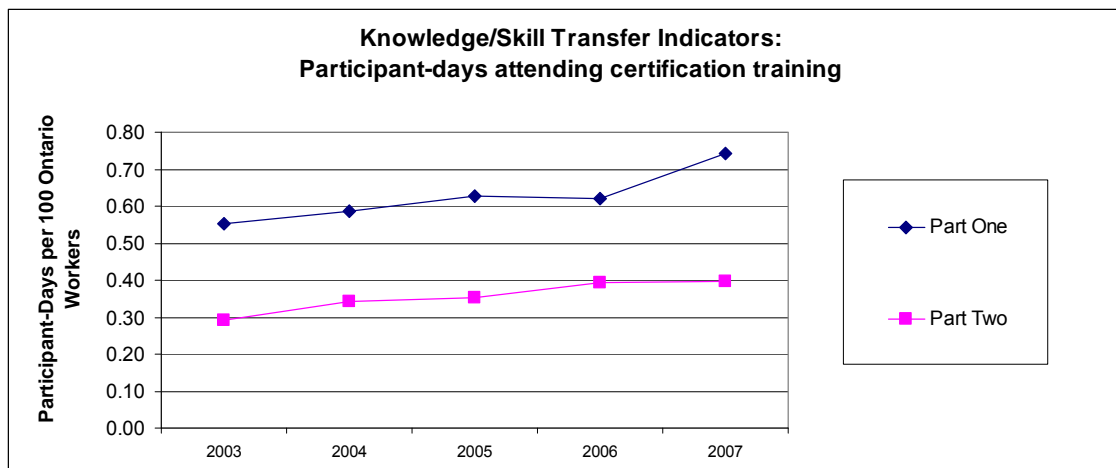
<sup>42</sup> Includes direct and associated indirect time (e.g., meetings, report writing) spent by consulting staff.

<sup>43</sup> Last Chance initiative, implemented 2005-8, was directed at low performing organizations.

<sup>44</sup> Page view is a hit to any file classified as a page

<sup>45</sup> Visit is a series of actions that begins when a visitor views their first page from the server, and ends when the visitor leaves the site or the idle-time limit is reached.

Knowledge/Skills Transfer Indicators (Rates)	2003	2004	2005	2006	2007	Change 2006-7 <sup>46</sup>	Avg Change 2003-7 <sup>47</sup>	Data quality numerator 2007 <sup>48</sup>
<b>Training</b>								
Participant-days <sup>49</sup> in certification training Pt 1 per 100 Ontario workers	0.55	0.59	0.63	0.62	0.74	20%	8%	Med
Participant-days in certification training Pt 2 per 100 Ontario workers	0.29	0.34	0.35	0.39	0.40	1%	8%	Med
Participant-days System training and conferences per 100 Ontario workers	3.5	3.5	3.9	4.1	4.2			Low
<b>Training materials</b>								
Participant units of training materials <sup>50</sup> provided per 100 Ontario workers	1.7	1.4	2.7	3.3	4.3	31%	25%	Med
<b>Consulting</b>								
OHS consulting & advisory hours per 100 Ontario workers <sup>51</sup>	* <sup>52</sup>	*	1.9	2.0	2.5			Low
OHS consulting & advisory hours, Last Chance firms, per 100 Ontario workers <sup>53</sup>	*	*	0.1	0.3	0.6			Low
<b>Website</b>								
Page views <sup>54</sup> from System OHS websites per 100 Ontario workers	199	277	252	368	226			Low



<sup>46</sup> Change in the indicator from 2006 to 2007 is reported as a percentage of the value in 2006. It was calculated where numerator data were of at least Medium quality in 2006 and 2007.

<sup>47</sup> Average year-to-year percentage decrease. It was calculated when the numerator data involved were of at least Medium quality over the entire time period.

<sup>48</sup> See Appendix D for explanation of data quality.

<sup>49</sup> Participant-day is the equivalent of one day of training for one participant; e.g., a half day course with 20 participants = 10 participant-days.

<sup>50</sup> Training materials distributed to workplace parties but no confirmation that training delivery or achievement took place. A training package with 10 participant guides would count as 10 participant-units.

<sup>51</sup> Includes direct and associated indirect time (e.g., meetings, report writing) spent by consulting staff.

<sup>52</sup> \* means data not collected at all or they were collected using a different method than that used in 2006.

<sup>53</sup> Last Chance initiative, implemented 2005-8, was directed at low performing organizations.

<sup>54</sup> Page view is a hit to any file classified as a page

## **6. Satisfaction (Reaction)**

### *Concept description and rationale*

**Satisfaction = the opinion of workers and management (and their representatives) regarding their satisfaction with the Prevention System.**

Managers and workers are key stakeholder groups of the Prevention System. Their satisfaction indicates how well their interests are being served by OHSCO partners (and relevant legislation). It is assumed that workplaces parties' level of satisfaction will predict the likelihood of them seeking assistance from System partners again.

### *Indicator results*

There is no measure of Satisfaction available for the System as a whole. One can refer to individual OHSCO members for their organization-specific satisfaction indicators.

## **7. OHS Values, Beliefs and Attitudes (Reaction)**

### *Concept description and rationale*

#### **OHS Values, Beliefs and Attitudes = management and workers' OHS values, beliefs and attitudes.**

Values, beliefs and attitudes of managers and workers influence their OHS-related behaviours. This group of concepts is intended to encompass organizational culture and in part management commitment. The importance of these concepts is supported by research. Further, management commitment was also identified as the most important leading indicator in the Occupational Health and Safety Performance Measures Workshop, held in 2003 and sponsored by the MOL, BCOHS, IAPA and WSIB. Commitment was one of the Prevention System's strategic themes for 2002-7.

### *Indicator results*

No measure based on all Ontario managers or workers is available. Annual WSIB Customer Satisfaction Survey results have been used instead. The employer sample is limited to employers that are registered with the WSIB. The worker sample is limited to workers with an allowed lost-time claim. There was no survey conducted in 2007, so the data series ends in 2006.

For employers, the previously tracked indicator of "I am not convinced that workplace health and safety programs actually reduce accidents" is still shown. However, the required questionnaire item was not included in the annual survey past 2004. We have for the first time added a second indicator from the same survey, which shows the percentage of employers believing "workplace injuries and illnesses are unacceptable and preventable."<sup>55</sup> Both employer indicators show a favourable trend.

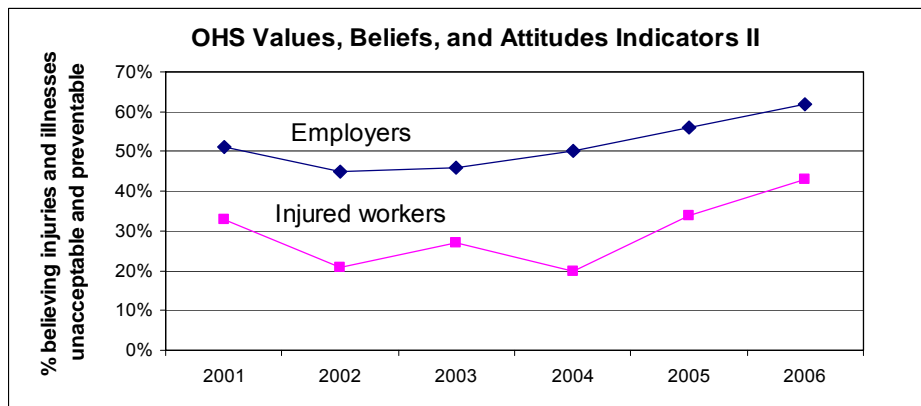
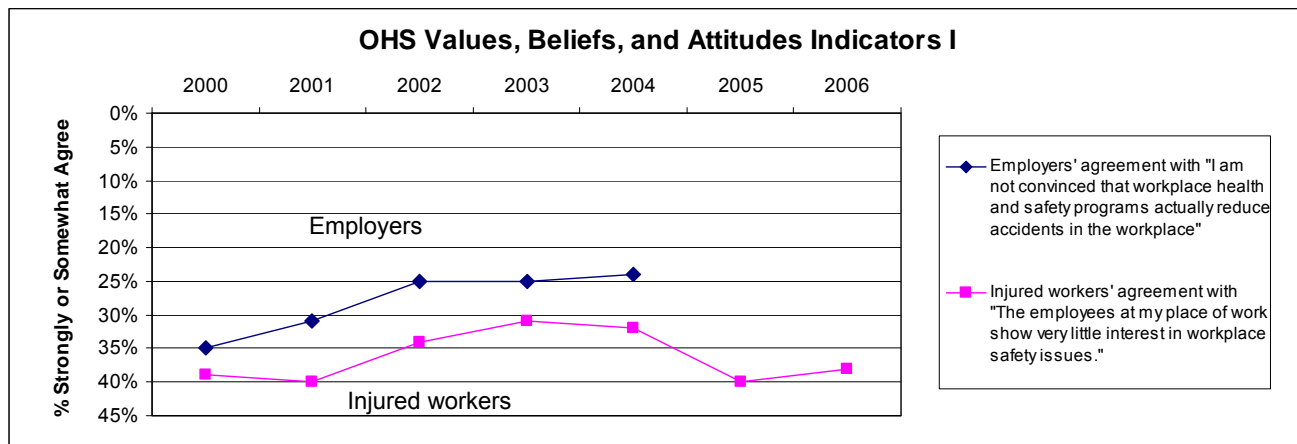
For workers, we have been following the indicator "The employees at my place of work show very little interest in workplace safety issues." There was an unfavourable change from 2005-6 relative to the preceding period; i.e. there was an increase in the proportion of injured workers reporting that the employees at their place of work have very little interest in workplace safety issues.<sup>56</sup> However, such a change was not mirrored by the second employee indicator, the percentage of injured workers believing "workplace injuries and illnesses are unacceptable and preventable", which continued to show a favourable trend.

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<sup>55</sup> The question was "Which of the following two statements is closest to your point of view?" The possible responses were "workplace injuries and illnesses are, unfortunately, an inevitable outcome of certain types of jobs" and "workplace injuries and illnesses are unacceptable and preventable."

<sup>56</sup> A change in sampling methods was not the cause and the change is larger than the margin of error, which is about 3 percentage points 19 times out of 20.

OHS Values, Beliefs, and Attitudes Indicators <sup>57</sup>	2000	2001	2002	2003	2004	2005	2006	2007	Average change over time period <sup>58</sup>
% of <u>employers</u> answering "strongly/ somewhat agree" to: "I am not convinced that workplace health and safety programs actually reduce accidents in the workplace"	35%	31%	25%	25%	24%	Not avail <sup>59</sup>	Not avail	Not avail	-2.8% (favourable)
% of <u>employers</u> believing "injuries and illnesses are unacceptable and preventable"	Not avail	45%	46%	50%	56%	62%	51%	Not avail	2.2% (favourable)
% of <u>injured workers</u> answering "strongly/ somewhat agree" to: "The employees at my place of work show very little interest in workplace safety issues"	39%	40%	34%	31%	32%	40%	38%	Not avail	-0.2% (favourable but small)
% of <u>injured workers</u> believing "injuries and illnesses are unacceptable and preventable"	Not avail	33%	21%	27%	20%	34%	43%	Not avail	2.0% (favourable)



**Note:** Data in both figures are plotted so that more favourable results for OHS are physically higher the respective graphs.

<sup>57</sup> Additional details about sources of indicator data are in Appendix B.

<sup>58</sup> Average of all year-to-year absolute changes in percentage points for the time period where data are available.

<sup>59</sup> Survey item discontinued in 2005.

## 8. Knowledge/Skill (Reaction)

### Concept description and rationale

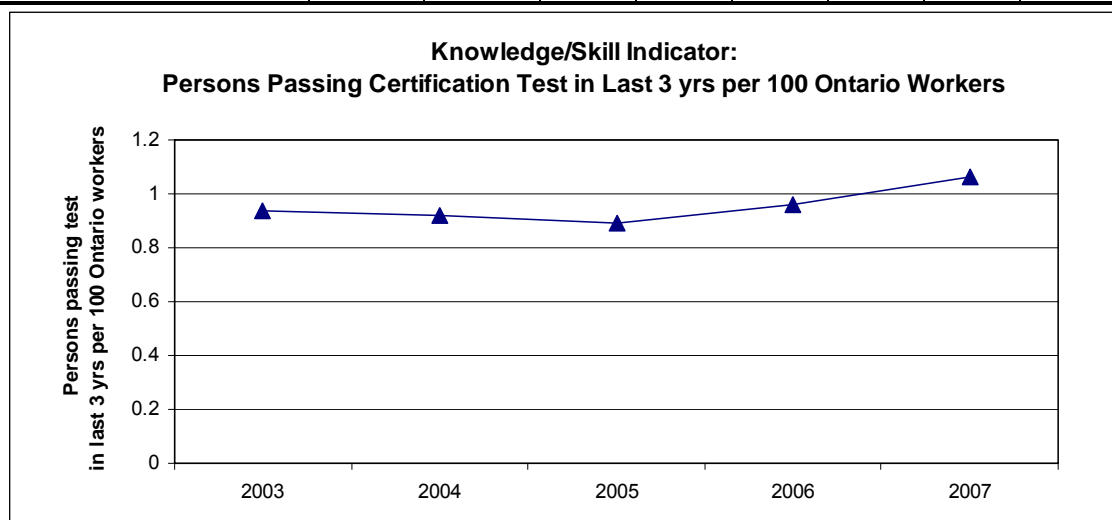
**Knowledge/Skill = the knowledge and skills workers and managers possess for maintaining (and improving) health and safety in the workplace.**

Increasing knowledge in the workplace was one of OHSCO's strategic objectives in the 2002-7 plan. Managers and workers need the knowledge/skills necessary to maintain or improve health and safety in the workplace.

### Indicator results

The report tracks indicators based on the number of people successfully completing Part One Certification testing. The key performance indicator, "persons passing Part One Certification test in last three years per 100 Ontario workers" was higher in 2007 than in all preceding years.

Knowledge/Skill Indicators <sup>60</sup>	2001	2002	2003	2004	2005	2006	2007	Change 2006-7 <sup>61</sup>	Average change over time period <sup>62</sup>
Persons passing Part One certification test	18,600	21,990	17,532	18,735	20,948	22,706	26,335	16%	6%
Persons passing Part One certification test in last three years	Not computed <sup>63</sup>	Not computed	58,122	58,257	57,215	62,389	69,989	12%	5%
Persons passing Part One certification test in last three years per 100 Ontario workers <sup>64</sup>	Not computed	Not computed	0.94	0.92	0.89	0.96	1.06	11%	3%



<sup>60</sup> Additional details about sources of indicator data are in Appendix B.

<sup>61</sup> Change in the indicator from 2006 to 2007 is reported as a percentage of the value in 2006.

<sup>62</sup> Average year-to-year percentage decrease over time period when data available.

<sup>63</sup> Indicators were not computed for 2001 and 2002, since they incorporated data from 1999 and 2000, when the administrative function for collecting these data was still being put in place.

<sup>64</sup> Number of workers is based on Statistics Canada Labour Force Survey.

## 9. Hazardous Exposures (Reaction) **New Category!**

### *Concept description and rationale*

**Hazardous exposures = physical and psychosocial exposures of workers to workplace hazards, especially those that influence the occurrence of workplace injuries, illnesses and fatalities.**

Exposure measures are the leading indicators most proximal to measures of final outcomes (illnesses, injuries, fatalities, disabilities, costs). Exposures leading to occupational disease are especially important because of the sometimes large lag time between exposure and disease.

Information on hazardous exposures in Ontario is very limited. However, the report on 2007 introduces for the first time an indicator in this category: exposure to travel in a motor vehicle for work-related purposes. Two categories of vehicles are distinguished: < 4.5 tonnes and ≥ 4.5 tonnes. Those in the first category are comprised mainly of cars, sports utility vehicles and pickup trucks.; and those in the second category are mostly straight trucks and tractor trailers.<sup>65</sup>

Over the period 2004-7, exposure to travel in a motor vehicle < 4.5 tonnes for purposes of work decreased annually by 3%, whereas exposure to travel in a motor vehicle ≥ 4.5 tonnes increased annually by 4%. Exposure in all sizes of vehicles remained constant.

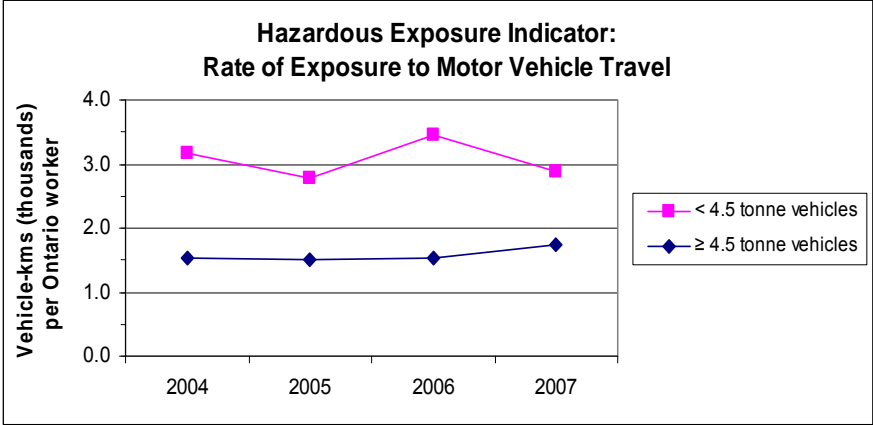
Hazardous Exposure Indicators <sup>66</sup>	2004	2005	2006	2007	Change 2006-7 <sup>67</sup>	Average change 2004-7 <sup>68</sup>
Vehicle-kms (billions) in < 4.5 tonne vehicles	19.9	17.8	22.5	19.1	-15%	-1%
Vehicle-kms (billions) in ≥ 4.5 tonne vehicles	9.7	9.7	9.9	11.5	16%	6%
Vehicle-kms (billions) total	29.5	27.5	32.4	30.5	-6%	1%
Vehicle-kms (thousands) in < 4.5 tonne vehicles per Ontario worker	3.2	2.8	3.5	2.9	-16%	-3%
Vehicle-kms (thousands) in ≥ 4.5 tonne vehicles per Ontario worker	1.5	1.5	1.5	1.7	14%	4%
<b>Vehicle-kms (thousands) per Ontario worker</b>	<b>4.7</b>	<b>4.3</b>	<b>5.0</b>	<b>4.6</b>	<b>-7%</b>	<b>0%</b>

<sup>65</sup> See Canadian Vehicle Survey Annual Report, Table 3-3. Available from: <http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=53-223-X&CHROPG=1&lang=eng>.

<sup>66</sup> Data provided by IWH. They are based on two Statistics Canada surveys: numerator data from the Canadian Vehicle Survey and denominator data from Labour Force Survey. The values given for travel in vehicles ≥ 4.5 tonnes include some travel for non-work purposes, which results in an overestimation of 5-8% for travel in vehicles ≥ 4.5 tonnes; and of 2-3% for vehicles of all sizes. Additional details about sources of data are in Appendix B.

<sup>67</sup> Change in the indicator from 2006 to 2007 is reported as a percentage of the value in 2006.

<sup>68</sup> Average year-to-year percentage decrease over time period when data available.



## 10. Occupational Injuries, Illnesses, Disabilities and Fatalities (Outcome)

### Concept description and rationale

**Occupational Injuries, Illnesses, Disabilities and Fatalities = the injuries, illnesses, disabilities and fatalities, at least partly attributed to the workplace.**

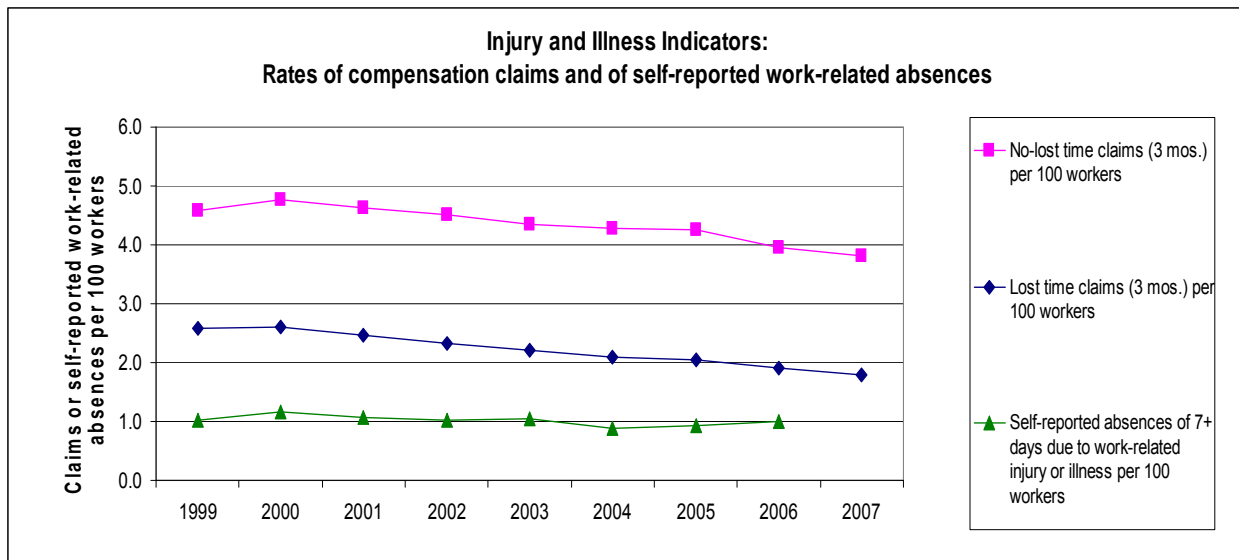
The ultimate goal of the prevention system is to prevent injuries, illnesses, disabilities and fatalities.

### Indicator results

#### Injuries and illnesses

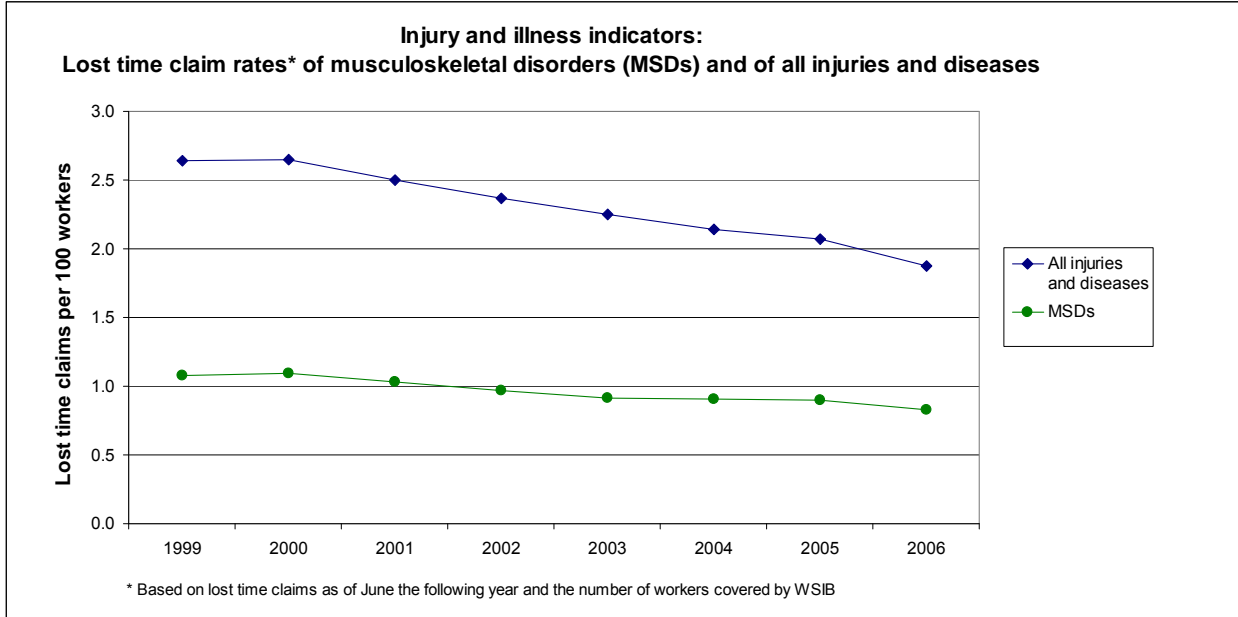
The frequency rate of lost time claims declined from 1.9 per 100 workers in 2006 to 1.8 per 100 workers in 2007. The corresponding decrease in no lost time claims was from 3.9 to 3.8 per 100 workers. Both reductions in claim rates were slightly in excess of their respective 1999-2007 trends of 4.4% and 2.2% annual percentage decreases.

In contrast, rates of self-reported work absences due to work-related injury or illness decreased annually over a similar period by only 0.4%.



*Musculoskeletal injuries*

Over 1999-2007, the rate of decline of lost time claims for musculoskeletal disorders has on average been less than for all injuries and illnesses (4.5% vs 3.6% per year). However, over 2006-7, the rate of decline of MSD claims was greater than that for all claims. Correspondingly, MSD claims as a percentage of all claims showed a slight decline from 44.1% to 43.7%.



<b>Injuries and Illnesses<sup>69</sup></b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>Change 2006-7<sup>70</sup></b>	<b>Average change over time period<sup>71</sup></b>
No lost time claims (at 3 mos)	178,786	190,549	184,999	185,161	182,780	184,437	187,670	177,581	172,122	-3.1%	-0.5%
Lost time claims (at 3 mos)	100,726	104,154	98,359	95,568	93,234	90,397	89,734	83,179	80,863	-2.8%	-2.7%
Self-reported absences of 7+ days due to work-related injury or illness	51,646	60,134	57,532	53,977	55,669	47,669	55,010	62,140	not avail	not avail	2.7%
MSD lost time claims at 6 mos	41,900	43,672	41,142	39,582	38,364	39,061	39,386	37,260	35,965	-3.5%	-1.9%
Lost time claims at 6 mos	102,968	105,821	99,914	97,034	94,548	91,887	91,127	84,522	82,306	-2.6%	-2.8%
No lost time claims (at 3 mos) per 100 workers	4.6	4.8	4.6	4.5	4.4	4.3	4.3	3.9	3.8	-3.1%	-2.2%
<b>Lost time claims (at 3 mos) per 100 workers</b>	<b>2.6</b>	<b>2.6</b>	<b>2.5</b>	<b>2.3</b>	<b>2.2</b>	<b>2.1</b>	<b>2.0</b>	<b>1.9</b>	<b>1.8</b>	<b>-5.4%</b>	<b>-4.4%</b>
Self-reported absences of 7+ days due to work-related causes per 100 workers <sup>72</sup>	-	1.2	1.1	1.0	1.1	0.9	0.9	1.0	not avail	not avail	-2.3%
MSD lost time claims (at 6 mos) per 100 workers	1.07	1.09	1.03	0.97	0.91	0.91	0.90	0.83	0.80	-3.5%	-3.6%
Lost time claims (at 6 mos) per 100 workers	2.6	2.6	2.5	2.4	2.3	2.1	2.1	1.9	1.8	-2.6%	-4.5%
<b>MSD claims as % of all lost time claims</b>	<b>40.7</b>	<b>41.3</b>	<b>41.2</b>	<b>40.8</b>	<b>40.6</b>	<b>42.5</b>	<b>43.2</b>	<b>44.1</b>	<b>43.7</b>	<b>-0.4%</b>	<b>0.4%</b>

<sup>69</sup> **Claims (at 3 mos.)** are allowed WSIB claims as of Mar 31 the following year. Available from: <http://www.wsib.on.ca/wsib/wsibsite.nsf/public/CurrentStatistics>. **Claims (at 6 mos.)** are from WSIB Enterprise Warehouse, as of June the following year (except for 1999, which is as of Oct 2000, the first available snapshot date for the Warehouse). Provided by the Intelligence & Innovation Branch, Prevention, WSIB. Coding for MSDs is not available for claims at 3 months. (Note that the 2006 report presented claims data at 15 mos.) **Numbers of workers used to calculate claim rates** is based on the number of workers covered by WSIA. Available from: <http://www.wsib.on.ca/wsib/wsibsite.nsf/public/CurrentStatistics>. Additional details about all indicators are in Appendix B.

<sup>70</sup> Change in the indicator from 2006 to 2007 is reported as a percentage of the value in 2006.

<sup>71</sup> Average year-to-year percentage decrease over time period where data are available.

<sup>72</sup> Data tabulated at IWH. Numerator based on Statistics Canada Survey of Labour and Income Dynamics. Denominator includes all workers except self-employed and is based on the Statistics Canada Labour Force Survey.

Fatalities <sup>73</sup>	1999	2000	2001	2002	2003	2004	2005	2006	2007	Change 2006-7 <sup>74</sup>	Average change over time period <sup>75</sup>
Fatalities, occupational disease	134	143	166	205	202	196	259	230	279	21%	9.6%
Fatalities, traumatic injuries and other immediate causes	100	111	108	114	122	100	84	101	100	-1%	0.0%
Fatalities, traumatic injuries and other immediate causes, motor vehicle incidents	20	30	27	40	36	43	23	24	34	42%	6.9%
Occupational disease fatalities per 100,000 workers	2.5	2.6	2.9	3.6	3.4	3.3	4.3	3.7	4.5	19%	7.5%
<b>Traumatic fatalities per 100,000 workers</b>	<b>1.9</b>	<b>2.0</b>	<b>1.9</b>	<b>2.0</b>	<b>2.1</b>	<b>1.7</b>	<b>1.4</b>	<b>1.6</b>	<b>1.6</b>	<b>-3%</b>	<b>-1.9%</b>
Traumatic fatalities, motor vehicles per 100,000 workers	0.37	0.54	0.48	0.70	0.61	0.72	0.38	0.39	0.54	39%	4.8% <sup>76</sup>
Traumatic fatalities, motor vehicle incidents per billion vehicle-kms <sup>77</sup>	not avail	not avail	not avail	not avail	not avail	1.5	0.8	0.7	1.1	50%	-8.5%
Motor vehicle incidents as % of all traumatic fatalities	20	27	25	35	30	43	27	24	34	43%	6.9%

<sup>73</sup> Unless indicated otherwise: **fatalities, occupational disease** are occupational fatality claims allowed by WSIB in the reference year; **fatalities, traumatic injuries and other immediate causes** are those reported by either WSIB and the MOL in the reference year. Available from:

<http://www.wsib.on.ca/wsib/wsibsite.nsf/public/CurrentStatistics>. **Numbers of workers used to calculate fatality rates** are the number of workers covered by the WSIA or OHS (provided by Program Analysis & Evaluation Strategy Unit, OHS Branch, MOL)

Additional details about sources of data for all indicators are in Appendix B.

<sup>74</sup> Change in the indicator from 2006 to 2007 is reported as a percentage of the value in 2006.

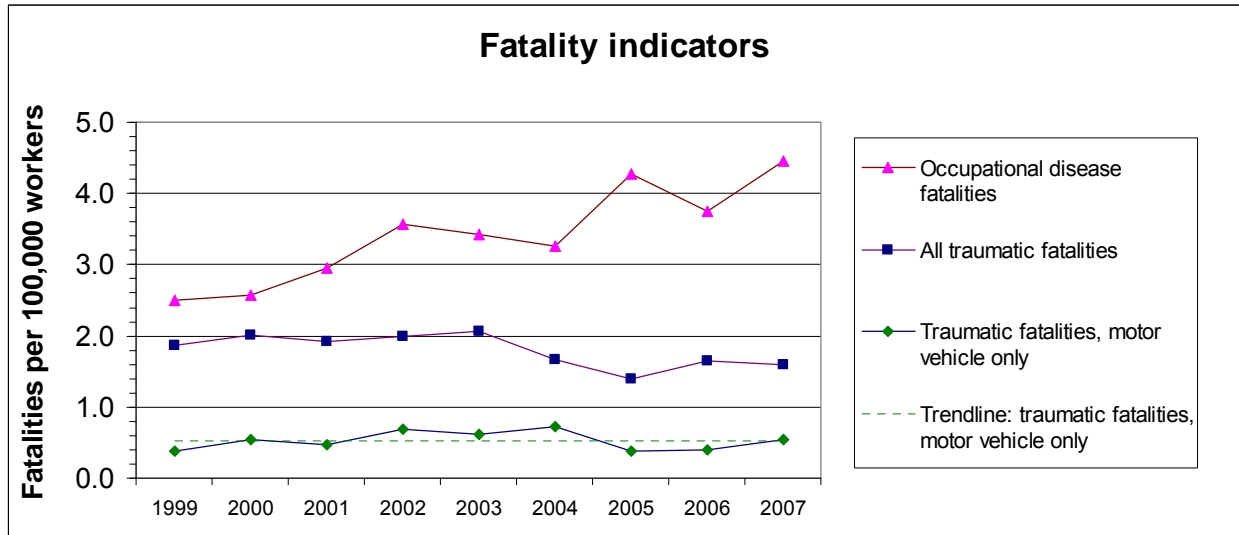
<sup>75</sup> Average year-to-year percentage decrease over time period where data are available.

<sup>76</sup> The 4.8% annual change is based on the change between the 1999 value and the 2007 value. If instead a line is fitted to the data (through the linear regression function in Microsoft Excel software), no change is seen over the period of observation (see Figure for display of fitted line).

<sup>77</sup> Denominator is based on Canadian Vehicle Survey by Statistics Canada (see section 9. Hazardous Exposures)

### Fatalities

Over the period of 2004-7, the rate of fatalities due to traumatic causes has been lower than the preceding period from 1999-2003, and a 2% annual decrease over the entire period is seen. In contrast, the rate of fatalities due to occupational disease has increased annually by 7.5%.



### Motor vehicle fatalities

Fatalities due to motor vehicle incidents show much year-to-year variability, due to the low frequency of such events. Although a 39% increase in the rate of fatalities over 2006-7 was seen (from 0.39 to 0.54 fatalities per 100,000 workers), it is similar in size to other year-to-year changes. The trend over 1999-2007 shows an annual increase in the rate of motor vehicle fatalities per 100,000 workers of 4.8%, when the calculation is based on the change between 1999 and 2007. However, if instead a line is fitted to the data,<sup>78</sup> **no change is seen** over the period of observation (see Figure for display of fitted line).

### Younger and older workers

The following two pages examine the claim rates of younger and older workers relative to a reference group of 25-44 year olds. The table and first figure show the lost time claim rates were quite similar for the period of observation and there was a decline in rates for all groups over 2003-7. However, the rate of decline for 15-19 year olds (9.2% per year) was *greater than* that for 25-44 year olds (6.3% per year). Further, in 2007, the risk of a lost time injury for a 15-19 year old was 91% that for a 25-44 year old.

In contrast, the rate of decline for older age groups was *less than* that for 25-44 year olds. In 2007, the risk of a lost time injury for a 55-64 year old was 8% greater than for a 25-44 year old.

Quite a different pattern is seen for no lost time injuries. Younger workers were consistently more likely to have a no lost time injury than a 25-44 year old. Older workers were consistently less likely. The rates for all age groups declined over 2003-7, but to a slightly smaller extent for younger and older workers than for 25-44 year olds.

<sup>78</sup> Line fitted using the linear regression function in Microsoft Excel software.

Illness and injury indicators: claim rates by age group <sup>79</sup>	2003	2004	2005	2006	2007	Change 2006-7 <sup>80</sup>	Average change over time period <sup>81</sup>
<b>Lost-time claims per 1000 FTEs by age group</b>							
15 - 19 yrs	23.8	21.0	20.1	19.0	16.1	-15.1%	-9.2%
20 - 24 yrs	22.5	22.2	21.8	18.1	17.6	-3.0%	-6.0%
25 - 44 yrs (reference)	22.9	21.4	20.5	18.8	17.6	-6.0%	-6.3%
45 - 54 yrs	22.5	21.9	21.3	19.8	20.3	2.6%	-2.6%
55 - 64 yrs	22.9	21.6	20.3	19.0	19.1	0.5%	-4.4%
<b>Relative risk of lost-time claim by age group*</b>							
<b>15 - 19 yrs<sup>#</sup></b>	<b>1.04</b>	<b>0.98</b>	<b>0.98</b>	<b>1.01</b>	<b>0.91</b>	<b>-9.7%</b>	<b>-3.1%</b>
20 - 24 yrs	0.98	1.04	1.06	0.96	1.00	3.2%	0.4%
25 - 44 yrs (reference)	1.00	1.00	1.00	1.00	1.00		
45 - 54 yrs	0.98	1.02	1.04	1.05	1.15	9.2%	4.0%
<b>55 - 64 yrs<sup>#</sup></b>	<b>1.00</b>	<b>1.01</b>	<b>0.99</b>	<b>1.01</b>	<b>1.08</b>	<b>6.9%</b>	<b>2.0%</b>
<b>No lost-time claims per 1000 FTEs by age group</b>							
15 - 19 yrs	65.3	64.8	64.1	61.4	53.9	-12.3%	-4.7%
20 - 24 yrs	61.2	63.7	65.7	58.4	54.2	-7.2%	-3.0%
25 - 44 yrs (reference)	51.0	49.7	48.8	46.1	41.2	-10.6%	-5.2%
45 - 54 yrs	45.2	44.4	45.7	43.1	40.2	-6.8%	-2.9%
55 - 64 yrs	43.1	41.9	42.0	39.5	35.4	-10.4%	-4.9%
<b>Relative risk of no lost-time claim by age group*</b>							
15 - 19 yrs	1.28	1.30	1.31	1.33	1.31	-2.0%	0.5%
20 - 24 yrs	1.20	1.28	1.35	1.27	1.31	3.8%	2.3%
25 - 44 yrs (reference)	1.00	1.00	1.00	1.00	1.00		
45 - 54 yrs	0.89	0.89	0.94	0.93	0.97	4.3%	2.4%
55 - 64 yrs	0.85	0.84	0.86	0.86	0.86	0.2%	0.4%

\* Relative risk of a claim is calculated by dividing the claim rate of the age group of interest by the claim rate of the 25-34 yrs reference group. To illustrate how to interpret a relative risk: a relative risk of 1.15 means that the group of interest is 15% more likely to have a claim than the reference group.

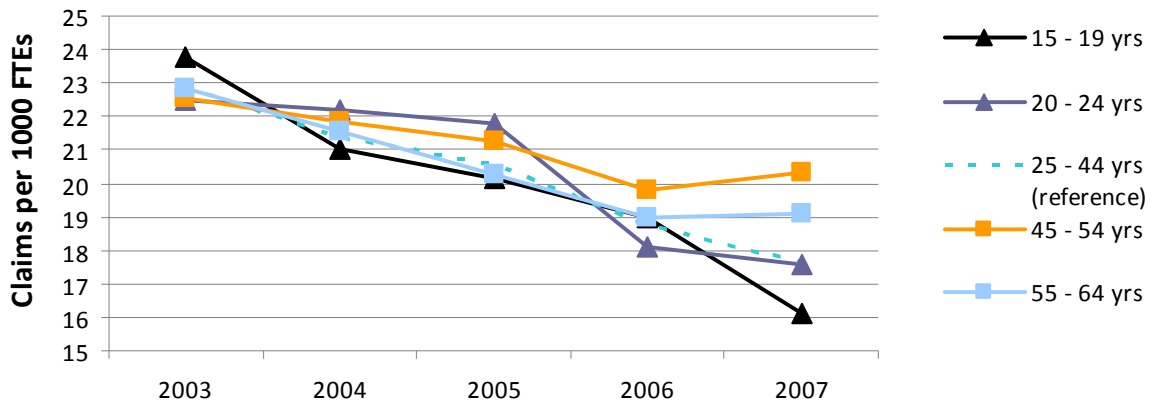
<sup>#</sup> Bolding indicates that it is a key performance indicator (see Introduction)

<sup>79</sup> Data provided by IWH. Claims are based on WSIB claims data matured to spring 2008. FTEs are based on the Statistics Canada Labour Force Survey. There were exclusions from both sets of data: self-employed and workers in industrial sub-sectors that are either voluntarily or partially covered by WSIB. Additional details about sources of indicator data are in Appendix B.

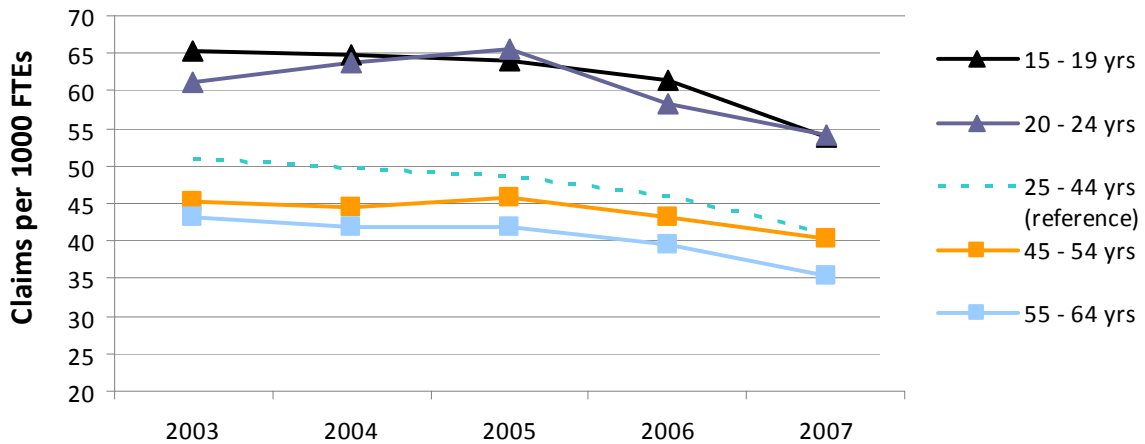
<sup>80</sup> Change in the indicator from 2006 to 2007 is reported as a percentage of the value in 2006.

<sup>81</sup> Average year-to-year percentage decrease.

### Lost time claim rates for younger and older age groups



### No lost time claim rates for younger and older age groups



### New workers

The next table and figure examine claim rates over 2003-7 by the length of job tenure. Over the period of observation, the claim rate for workers with job tenure of 1 month or less has been **three times higher** that of the reference group of experienced workers (i.e. job tenure of 13 months or more). This is shown in the table by the relative risk values. The rates for workers with 2 to 3 months and for 4 to 12 months tenure, has been about 50% and 30% higher than the reference group, respectively.

Claim rates for all job tenure groups declined over 2003-7. The rates of decline have been relatively greater for workers with 2 to 3 months or 4 to 12 months job experience.

However, in 2006-7 the rates of decline seen for all three groups of new workers (range from 8.1% to 10.9%) was greater than that seen for the reference group (1.1%) and greater than the longer term trend for each of their respective groups (range from 4.3% to 7.6% per year).

Illness and injury indicators: claim rates by job tenure group <sup>82</sup>	2003	2004	2005	2006	2007	Change 2006-7 <sup>83</sup>	Average change over time period <sup>84</sup>
<b>Lost time claims per 1000 FTEs by length of job tenure</b>							
1 mo. or less	60.3	64.0	57.4	55.5	50.6	-8.8%	-4.3%
2 to 3 mos.	29.2	27.9	26.3	24.7	22.0	-10.9%	-6.8%
4 to 12 mos.	26.7	24.5	23.9	21.2	19.5	-8.1%	-7.6%
13+ mos. (reference group)	19.5	18.5	17.9	16.3	16.1	-1.1%	-4.6%
<b>Relative risk of lost-time claims by length of job tenure*</b>							
<b>1 mo. or less<sup>85</sup></b>	<b>3.1</b>	<b>3.5</b>	<b>3.2</b>	<b>3.4</b>	<b>3.1</b>	<b>-7.8%</b>	<b>0.4%</b>
2 to 3 mos.	1.5	1.5	1.5	1.5	1.4	-9.9%	-2.3%
4 to 12 mos.	1.4	1.3	1.3	1.3	1.2	-7.1%	-3.1%
13+ mos. (reference group)	1.0	1.0	1.0	1.0	1.0		

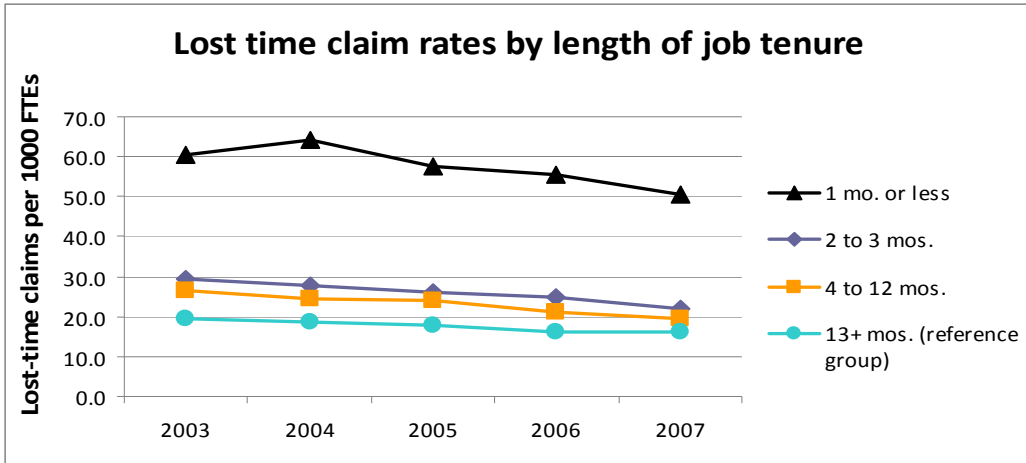
\* Relative risk of a claim is calculated by dividing the claim rate of the group of interest by the claim rate of the 13+ mos. reference group. To illustrate how to interpret a relative risk: a relative risk of 1.15 means that the group of interest is 15% more likely to have a claim than the reference group.

<sup>82</sup> Data provided by IWH. Claims are based on WSIB claims data matured to spring 2008. FTEs are based on the Statistics Canada Labour Force Survey. There were exclusions from both sets of data: self-employed and workers in industrial sub-sectors that are either voluntarily or partially covered by WSIB. Additional details about sources of indicator data are in Appendix B.

<sup>83</sup> Change in the indicator from 2006 to 2007 is reported as a percentage of the value in 2006.

<sup>84</sup> Average year-to-year percentage decrease.

<sup>85</sup> Bolding indicates that it is a key performance indicator (see Introduction)



## 11. Cost (Outcome)

### Concept description and rationale

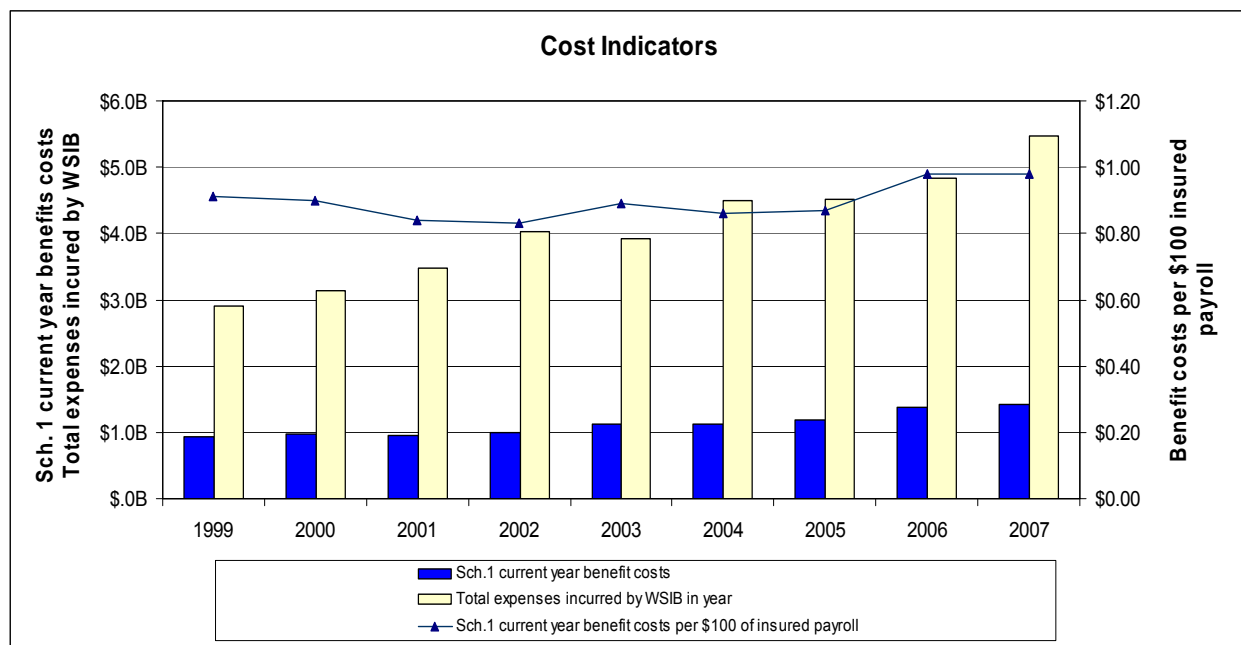
**Cost = the cost of illnesses, injuries, disabilities and fatalities.**

### Indicator results

The total expenses incurred by WSIB increased over 1999-2007 by an average of 8.2% per year. These reflect the ongoing costs of injuries, illnesses and fatalities from previous years.

Current year benefit costs is more of a leading indicator, since it is based on costs arising from injuries and diseases referenced to the current year. The indicator “Schedule 1 current year benefit costs per \$100 insured payroll” facilitates year-to-year comparisons because it adjusts for inflation and changes in the size of the workforce.<sup>86</sup> This indicator was \$0.98 in 2006 and 2007, which is an increase over its value during 1999-2005, when it ranged from \$0.86 to \$0.91.

Schedule 1 current year benefit costs per \$100 insured payroll continues to be lower than all other Canadian provinces, whose corresponding values ranged from \$1.02 to \$1.76 in 2007.<sup>87</sup>



<sup>86</sup> An indicator based on Schedule 2 employers is not available.

<sup>87</sup> From Association of Workers' compensation Boards of Canada. Indicator ratios for 2007. December 2008. Available from <http://www.awcbc.org/common/assets/ksms/2007indicatorratios.pdf>.

Cost Indicators <sup>88</sup>	1999	2000	2001	2002	2003	2004	2005	2006	2007	Change over 2006-7 <sup>89</sup>	Average. change 1999-2007 <sup>90</sup>
Total expenses incurred by WSIB in year <sup>91</sup>	\$2.91B	\$3.13B	\$3.47B	\$4.03B	\$3.93B	\$4.50B	\$4.51B	\$4.83B	\$5.47B	13.2%	8.2%
Sch.1 current year benefit costs <sup>92</sup>	\$.93B	\$.98B	\$.96B	\$.99B	\$1.12B	\$1.12B	\$1.19B	\$1.38B	\$1.43B	3.7%	5.5%
<b>Sch.1 current year benefit costs per \$100 insured payroll<sup>93</sup></b>	<b>\$0.91</b>	<b>\$0.90</b>	<b>\$0.84</b>	<b>\$0.83</b>	<b>\$0.89</b>	<b>\$0.86</b>	<b>\$0.87</b>	<b>\$0.98</b>	<b>\$0.98</b>	<b>0.0%</b>	<b>0.9%</b>

<sup>88</sup> Additional details about sources of indicator data are in Appendix B.

<sup>89</sup> Change in the indicator from 2006 to 2007 is reported as a percentage of the value in 2006.

<sup>90</sup> Average year-to-year percentage decrease.

<sup>91</sup> Includes benefit costs, net increase/decrease in benefit liabilities, loss of retirement income fund, administrative and other expenses, and legislated obligations and commitments.

<sup>92</sup> Current year benefit costs consists of: 1) payments made during the reference year for new lost-time injuries (including accidents and diseases), and 2) the benefits liabilities related to those accidents and diseases. Includes all benefits (i.e., short-term disability, long-term disability, survivors' benefits, healthcare and rehabilitation services). Excludes any administration expense.

<sup>93</sup> The boldface indicates that it is a key performance indicator (see Introduction).

## ***Appendix A: Glossary***

The following definitions and abbreviations were used in this report.

**HSA:** Health and Safety Association

**Indicator:** qualitative or quantitative variable which provides information on a concept of interest

**IWH:** Institute for Work & Health

**MOL:** Ministry of Labour

**OHSA:** Occupational Health and Safety Act

**Performance:** achievement, relative to pertinent criteria, which are dependent on the interests and perspectives of stakeholders.

**Performance indicator (or performance measure):** variable that provides information on performance.

**Performance measurement:** the act of measuring performance using indicators.

**Performance concept or performance measurement concept:** something which could be measured to assess the performance of an organization

**Performance measurement framework:** a group of performance indicators that together measure performance

**RAC:** Workplace Safety & Insurance Board Research Advisory Council

**WSIB:** Workplace Safety & Insurance Board

## Appendix B: Technical notes on indicators

*Table B1: Data used in the calculation of indicators*

	1999	2000	2001	2002	2003	2004	2005	2006	2007
# of Ontario Workers (millions) <sup>94</sup>	5.70	5.90	6.00	6.10	6.20	6.30	6.40	6.49	6.59
# workers covered by WSIB (estimated) <sup>95</sup>	3.9	4.0	4.0	4.1	4.2	4.3	4.4	4.5	4.5
# workers covered by OHSa (estimated) <sup>96</sup>	4.97	5.16	5.27	5.38	5.53	5.61	5.66	5.74	5.84
# workers covered by WSIB or OHSa (estimated) <sup>97</sup>	5.35	5.54	5.64	5.74	5.91	6.00	6.06	6.14	6.25
Consumer Price Index for year (average) <sup>98</sup>	92.9	95.4	97.8	100.0	102.8	104.7	107.0	109.1	111.5

### *Additional technical notes on indicators*

**Monetary resources.** “WSIB Prevention Division, Workwell and social marketing expenditures” and “WSIB funding to HSAs, MOL, Grants-Prevention,” “HSA self-generated revenue,” and “Ontario government funding” provided by Peter Diawatan in 2004-7. The last of these was obtained by him from Mila Ong, MOL in 2006-7. “IWH and WSIB RAC prevention-related research expenditures provided by IWH. Based on a review of RAC and IWH documents. Rates were calculated using all Ontario workers in the denominator (see Table B1). Adjustment to 2007 dollars used the annual consumer price index (see Table B1).

**Alignment.** The key informant who provides data in each organization is asked to solicit a response of their most senior decision-maker to the question: “Which best describes your perception of alignment within the Prevention System in [year].” Response options are: strongly aligned, quite strongly aligned, somewhat aligned, slightly aligned and not at all aligned.

Response rates over 2004-7 have been high, with 15 or 16 out of a possible 17 responses received.

**Enforcement.** Source of count-based data for 1999-2007 on field visits, orders (except serious contravention orders), convictions and fines: MOL website, <http://www.labour.gov.on.ca/english/hs/stats/index.html>. Data on field visits and orders is for fiscal year (April to March). Data on convictions and fines are for calendar year up to 2004 and for fiscal year thereafter. The classification of contraventions into serious and non-serious is

<sup>94</sup> From Statistics Canada Labour Force Survey. Data in 2007 available from: <http://www40.statcan.ca/101/cst01/labor07b.htm>, Oct. 31, 2008.

<sup>95</sup> Available from WSIB at <http://www.wsib.on.ca/wsib/wsibsite.nsf/public/CurrentStatistics>; based on Survey of Employment, Payrolls and Hours (SEPH), Statistics Canada.

<sup>96</sup> Estimate provided by Ministry of Labour (Sandra Bozzo for 2007). Based on Statistics Canada Labour Force Survey and assumptions about coverage by OHSa in particular sectors. Includes self-employed.

<sup>97</sup> Estimate provided by Ministry of Labour (Sandra Bozzo for 2007). Based on Statistics Canada Labour Force Survey and assumptions about coverage by OHSa in particular sectors. Includes self-employed.

<sup>98</sup> Source: Statistics Canada. Available from: [www40.statcan.ca/101/cst01/econ46a.htm](http://www40.statcan.ca/101/cst01/econ46a.htm) Oct. 31, 2008

conducted by MOL staff. These data were provided in 2007 through a request to Program Analysis & Evaluation, Strategy Unit, Occupational Health & Safety Branch, MOL. Rate calculations used the number of workers covered by the OHS Act (see Table B1).

**Knowledge/Skill Transfer.** See Appendix C for questionnaire used to collect information on knowledge/skill transfer from OHSCO organizations. It was provided as an Excel spreadsheet. To enhance data quality, the spreadsheet used the validation criteria option to prevent invalid or incomplete responses. In addition, each questionnaire was compared with the responses from the same organization the previous year and any large changes were confirmed by further communication. In 2007, all 17 organizations provided information. Rate calculations used the number of Ontario workers (see Table B1).

**OHS Values, Beliefs, and Attitudes.** These measures are based on WSIB Customer Satisfaction Surveys conducted by Ipsos Reid. One surveys injured workers and the other employers registered with WSIB. For the survey of injured workers in 2000, the criterion for selecting workers was filing a Form 6 in the previous twelve months that resulted in an allowed LT claim. From 2001-4, this criterion was the same except that the period for filing was the previous six months. In 2004, there was an additional criterion of having consented on the Form 6 to research.

**Knowledge/Skill.** Source of certification data is Prevention Education, WSIB. Rate calculations used the number of Ontario workers (see Table B1).

**Hazardous Exposures.** Vehicle kilometer data on vehicles < 4.5 tonnes was obtained in a custom tabulation by Statistics Canada of the Canadian Vehicle Survey. Data on vehicles  $\geq$  4.5 tonnes was taken from published annual reports on the Canadian Vehicle Survey (Table 4.1); available from: <http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=53-223-X&CHROPG=1&lang=eng>. Data for  $\geq$  4.5 tonnes, includes not only people driving for work, but also those driving for non-work purposes. Based on data for Canada 2005-8 from the same published reports (Table 6.11), we know that the non-work component results in an overestimation of 5-8% in the vehicle-kms in vehicles  $\geq$  4.5 tonnes; and of 2-3% of total vehicle-kms in vehicles of all sizes. Rate calculations used the number of Ontario workers (see Table B1).

**Occupational Injuries, Illnesses, Disabilities and Fatalities.** Data on the numbers of lost-time and no-lost-time claims are from the 2007 WSIB Statistical Supplement to the Annual Report (Table 3). They are tabulated according to the year of injury or illness. Claim status is as at March 31 of the reference year. Rates were calculated using the number of workers covered by WSIB (see Table B1).

Data on self-reported work absences of 7+ days and rates of absences were tabulated at IWH using the Survey of Labour and Income Dynamics by Statistics Canada. Self-employed workers were excluded from the calculation. The following survey items and responses were used (abbreviated version): Were you absent from this job for a period of one week or longer, not counting fully paid vacations? What was the main reason for this absence? Own illness or disability. Was this due to a work related illness or injury?

Lost time claims data at 6 months was provided by the Intelligence & Innovation Branch, Prevention, Prevention, WSIB. Source is Enterprise Information Warehouse, as of June the following year (except 1999, which is as of Oct 2000, the first available snapshot date for the Warehouse). Coding for MSDs is not available for claims at 3 months. Rates were calculated using the number of workers covered by WSIB (see Table B1).

Data on fatalities due to occupational diseases are from the 2007 WSIB Statistical Supplement to the Annual Report, Table 15, “Occupational fatality claims by year allowed.” Data on fatalities due to traumatic injuries and other immediate causes and on such fatalities due to motor vehicle incidents are found at:

<http://www.wsib.on.ca/wsib/wsibsite.nsf/public/CurrentStatistics>. They are based on an integration of MOL and WSIB data sources. Fatality rates were calculated using the number of workers covered by both WSIB and the OHS Act (see Table B1).

Claim rates by age group and length of job tenure were tabulated at IWH. Numerator data were allowed claims in the WSIB claims database. Denominator data were estimated using Statistics Canada’s Labour Force Survey. Two types of workers were excluded from claim rate computations: self-employed workers; and workers in industrial sub-sectors (at the 3-digit Standard Industrial Classification group level) that are either only voluntarily or partially covered by WSIB. For more information see Smith PM, Mustard CA, Payne JI. (2004) A methodology for estimating the labour force insured by the Ontario Workplace Safety & Insurance Board: 1990 - 2000. *Chronic Diseases in Canada*, 25(3/4): 127-137.

**Cost.** Source of “Schedule 1 current year benefit cost” and “Schedule 1 current year benefit costs per \$100 Sch. 1 insured payroll” information is Financial Reporting, WSIB; provided by P Diawatan for 2007. Data can also found at Association of Workers’ Compensation Boards of Canada (AWCBC) website, in the Key Statistic Measures and Indicator Ratios tables. Source of total expenses incurred by WSIB are the WSIB Annual Reports.

**Average change over a time period.** The average change over a time period was calculated as the average year-to-year percentage decrease, based on the geometric mean of the year-to-year ratios of values (see <http://www.math.toronto.edu/mathnet/questionCorner/geomean.html>).

### ***Limitations of indicators***

**Monetary resources.** Transfers to HSAs include overhead costs; WSIB Prevention Division, Workwell and social marketing expenditures do not. Some minor components of the “WSIB transfers to HSAs...” may not prevention-related. Transfers to the Centres of Research Expertise have not been included.

**Legislation & Regulations.** The Legislation & Regulations indicator has two weaknesses. One is that it is a qualitative indicator. Second, the data concerning 2000-2003 was collected from a single MOL respondent (in 2004), whereas for the years 2004-6, the data were collected from all OHSCO organizations in the year following the report.

**Alignment.** The qualitative summary is based on the collective perceptions of the Sub-committee. The quantitative indicators are based on subjective evaluations. It is unknown the extent to which perceptions might vary over time in response to the most recent OHSCO events, as opposed to the entire year being assessed.

There had been consistency between the two indicators up until 2007. They were inconsistent for that year because: one indicator showed that the average rating of alignment was less favourable for 2007 than for 2006; yet the other indicator showed that people thought the System was more aligned in 2007 versus 2006.

**Enforcement.** The count-based indicators of field visits and orders are thought to accurately reflect the actual enforcement activity. The classification of some orders as serious contraventions relies on the judgment of MOL staff and could have involved some change as staff changed. The rate-based indicators rely on estimates of the number of workers covered by OHSA. While this number is based on Statistics Canada Labour Force Survey reports, it also relies in part on estimates in sectors where there is partial coverage of some industrial sectors by OHSA (see above section “Data used in the calculation of indicators”).

**Knowledge/Skill Transfer.** Knowledge/skill transfer data are collected through a survey of OHSCO members. There are many opportunities for random and systematic errors because of: unavailability of data in some OHSCO organizations; different understanding of terminology; and the completeness of data capture at source. Effort has been made to address these through the creation of an Excel template with validation criteria for data collection; holding a workshop with data providers in March 2007; asking respondents to rate the precision of the data provided (see Appendix D); and following up with respondents on data values that are unexpected.

**OHS Beliefs, Values and Attitudes.** The single-item indicators do not fully capture the Values, Beliefs, and Attitudes of interest. Furthermore, they have not been validated as being predictive of outcomes.

The value of these indicators is also limited by the nature of the populations being sampled for the survey. Instead of being representative of all Ontario employers and all employees, they are based on only the employers registered with the WSIB (which in turn cover approximately two-thirds of employees) and only employees that have had a lost-time claim.

The item on the employer survey used as an indicator was discontinued after 2004.

**Knowledge/Skill.** Persons passing the certification test captures only one small aspect of Knowledge/Skill in the population.

**Occupational Injuries, Illnesses, Disabilities and Fatalities.** Not all work-related injuries are captured by claim statistics. Approximately thirty per cent of the workforce is not covered by WSIB and there is a substantial amount of underreporting to the WSIB.<sup>99</sup>

Some of the claim rate calculations use the number of workers covered by WSIB (Table B1). This is imputed from the size of the payroll reported by workplaces to WSIB and sector-based results of the Statistics Canada Survey of Employment, Payrolls and Hours. The fatality rate calculations use the number of workers covered by either WSIB or the Occupational Health and Safety Act. It is based on Statistics Canada Labour Force Survey reports, but involves some estimation because of the different coverage of sectors by the OHS Act and WSIB.

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<sup>99</sup> Shannon HS, Lowe GS. How many injured workers do not file claims for workers' compensation benefits? American Journal of Industrial Medicine 2002; 42(6):467-473.

**Cost.** The current year benefit costs involve actuarial assumptions regarding the benefits liabilities. Some variation in this indicator over time can occur because of changes in these assumptions.

The indicators of Cost are limited to WSIB-related costs. Only two-thirds of Ontario workers have WSIB coverage. Furthermore, a full accounting of costs from a societal perspective would include costs to employers besides WSIB premiums, costs to workers and their families, and other costs to society.

## Appendix C: Questionnaire for OHSCO Member Survey

### Occupational Health and Safety Council of Ontario Data Collection for 2007 OHSCO Performance Report

April 30, 2008 Final

#### I Preamble

The information collected in this questionnaire will be used to compile the 2007 version of the annual OHSCO Performance Report. It is concerned with the activities of the calendar year 2007.

#### II Instructions

1. If you are the contact who will be completing this questionnaire for your organization, please acknowledge that you have received this package by e-mailing [jspeers@iapa.ca](mailto:jspeers@iapa.ca).
2. When completing the questionnaire:
  - Please review the information at the start of each section explaining the scope of information sought, including what to include, what to exclude and terminology.
  - To move within this worksheet use the arrows or tab buttons. You may also reposition the sheet using the scroll bar.
  - Enter the information requested in the appropriate fields, either directly or by selecting options from a drop down list. Pop-up-help boxes explain further information as to the information requested. If these boxes are in the way you can click and drag them to a more appropriate spot on your display.
  - Please note that we have also added a "precision rating" field to the right of each numeric value. Use this to let us know how accurate you feel your numeric responses are.
  - If you find you cannot select from the drop down list, hit the escape button and then try again.
3. Ensure you save the completed worksheet in your computer.
4. Please answer **every** question (unless instructed to skip) in the questionnaire.
5. If you have any questions or uncertainty about how to fill any part of the questionnaire, please contact John Speers at 1-800-406-4272 ext. 2457 or [jspeers@iapa.ca](mailto:jspeers@iapa.ca) Discussing uncertainties will help ensure the data collected are reliable and valid.

We appreciate your time in completing this form.

**Please e-mail your completed questionnaires to [jspeers@iapa.ca](mailto:jspeers@iapa.ca) by May 31, 2008**

#### III Confidentiality of Data

Upon receipt of your questionnaires, data will be entered into a master Excel workbook. The original questionnaires and related Excel files will be seen only by members of the System Measurement Subcommittee that prepare the survey data for the report, and any staff assisting them in their organizations. The Excel files may be viewed in future years by select Subcommittee members when conducting year-to-year comparisons of the data. The final report on 2007 will not include data from individual organizations. Rather, the data from all organizations will be aggregated before being reported.

#### 1. Identifying Information

a) Name of Organization:	
b) Name of person completing this report:	
c) Telephone number and extension (if applicable)	
d) e-mail address:	
e) Date report completed	

## 2. Training

Use this section to report OHS training and awareness sessions where there are learning objectives and the expectations that participants will have worked to achieve those objectives. This can include (and is not restricted to):

- classroom and on-site instruction
- distance and self-directed learning when there has been confirmation that learning to a particular level has taken place (e.g., by test completion).
- OHS training/ awareness sessions provided to youth/ students through non-workplace settings such as schools.

**Exclude:**

- education/ awareness sessions provided through conferences that will be included in section 3
- training where the primary audience is staff of OHSCO members (HSAs, IWH, MOL, WSIB)

**In the case of train-the-trainer programs:** - count only the trainers you have trained, not their participants.

**Participant-day Calculations:** 1 participant-day = the equivalent of 1 day of training for 1 participant. E.g.: a 1/2 day course with 20 participants = 10 participant-days.

Please answer **every** question unless instructed to skip. If service not provided, enter "0." If service provided, enter number greater than 0 or "unavail" (if data are unavailable).

a) Was your organization involved in the delivery of OHS training/ education to Ontario clients in 2007?		
b) For each type of training, report the number of participants trained and the number of Participant-days of training provided in 2007 Please ensure there is no double counting among categories i through v below		
i) JHSC certification Training - Part 1 (basic):		
number of Participants		
number of Participant-days		
ii) JHSC certification Training - Part 2 (hazard specific):		
number of Participants		
number of Participant-days		
iii) Train-the-trainer sessions (delivered to external participants):		
number of Participants		
number of Participant-days		
iv) All other training (i.e. Sessions with a component that evaluates* knowledge and/or skills): <i>* Evaluation needs to be built into the program design but may include informal methods such as feedback and observation</i>		
number of Participants		
number of Participant-days		
v) Awareness sessions (i.e. sessions with no evaluation component)		
number of Participants		
number of Participant-days		
c) Were there any training/ awareness sessions not included in the above because it could not be disaggregated to the level specified or did not fit into the categories?		
d) If yes, add the data not already captured and explain why it could not be included in the above:		
number of Participants		
number of Participant-days		
Please explain why the data were not already captured:		
<b>Total Reported Training Participants:</b>	0	
<b>Total Reported Training Participant-days:</b>	0	

### 3. Conferences, Workshops and Similar Functions

Use this section to report OHS education/ awareness delivered to external clients through conferences, workshops and similar type functions not reported in Section 2. For this section include:

- participant data for OHS conferences where your organization had the primary responsibility for the administrative task of receiving and processing participant registrations (this is to eliminate double counting where more than one OHSCO member has participated in a conference sponsored by one or more OHSCO members).
- participant data for speaking, workshop or other sessions that your organization has delivered at conferences sponsored by organizations/ groups other than OHSCO members.

**Exclude:**

- functions where the primary audience is staff of OHSCO members (HSAs, IWH, MOL, WSIB)

**Calculation of Participant-days:**

- if reporting for an entire conference, use Participant-days = Average daily attendance x length of conference in days. E.g., for a 2 day conference, with average daily attendance of 150, participant-days =  $150 \times 2 = 300$ .

- if reporting for a speaking session only, use Participant-days = session attendance x length of session in hours / 6 (hours/day).

E.g. for a session with an estimated attendance of 100 that was 1 hour in length,  
 participant-days =  $100 \times 1 / 6 = 17$ .

Please answer every question unless instructed to skip. If service not provided, enter "0." If service provided, enter number greater than 0 or "unavail" (if data are unavailable).

a) Was your organization involved in the delivery of OHS conferences, workshops and similar functions to Ontario clients in 2007?		
b) In the following table, for each type of function, report the number of participants, and the number of Participant-days of external attendees in 2007		
i) Functions where your organization had the primary responsibility for receiving and processing registrations:		
number of Participants		
number of Participant-days		
ii) Speaking, workshop or similar sessions that your organization delivered at functions sponsored by organizations/ groups other than OHSCO members:		
number of Participants at sessions delivered by your organization		
number of Participant-days corresponding to participants above		
<b>Total Reported Conference, Workshop etc. Participants:</b>		0
<b>Total Reported Conference, Workshop etc. Participant-days:</b>		0

### 4. Training Materials

Use this section to report OHS training materials distributed to external clients for which there was no formal confirmation that training delivery or achievement took place. For example you may have provided a video-based training program with 10 participant guides to a workplace but did not receive any formal confirmation as to the number of persons that actually received this training. For this example you would have delivered 10 participant-units of materials.

a) Did your organization distribute OHS training materials to Ontario clients in 2007?		
b) If yes, enter number of participant-units of training materials distributed:		

## 5. Consulting and Advisory Services

Use this section to report OHS consulting and advisory services that are tailored to a client's need, and provided to firms, workers or organizations comprised of firms or workers. Include:

### **Exclude**

- consultation/ advice provided by MOL (this is captured independently of this survey)
- activity already reported in sections 2 (training) and 3 (conferences, workshops and similar functions)
- information delivered via your website (this will be captured in section 6)
- bulk e-mails, faxing or mailings such as newsletters, magazines and promotional pieces

**Calculation of Hours** - include direct and associated indirect time (e.g. meeting preparation, report writing etc.) that Consulting/ H&S Professional Staff have spent associated with providing such services. This time should be comparable to the concept of "billable hours". Do not include general overhead time in this calculation.

Please answer **every** question unless instructed to skip. If service not provided, enter "0." If service provided, enter number greater than 0 or "unavail" (if data are unavailable).

a) Did your organization deliver OHS consulting or advisory services to firms or workers in Ontario in 2007?		
b) Hours of consulting/advisory service provided in 2007 that were devoted to High Risk/Last Chance Firms:		
c) Total hours of consulting/advisory service (including any reported in b above) provided in 2007:		

## 6. Website Activity

Use this section to report information on the **prevention related** pages of your organization's websites. This data should be readily available in standard reports provided by your web service provider.

Terminology:

- a **Page View** is defined as a hit to any file classified as a page (you will have fewer Page Views than "hits")
- a **Visit** is a series of actions that begins when a visitor views their first page from the server, and ends when the visitor leaves the site or the **idle-time limit** is reached.
- Note: the number of page views should be greater than the number of visits for a website. Also, number of page views should be greater than the number of downloads.

Please answer **every** question. If service not provided, enter "0." If service provided, enter number greater than 0 or "unavail" (if data are unavailable).

a) Total number of "Page Views" for 2007		
b) Total number of "Downloads" for 2007		
c) Total number of "Visits" for 2007:		
d) Idle-time limit in number of minutes (default time normally is 30 minutes):		

## 7. Alignment

**Alignment** within the Prevention System refers to the alignment of the goals, activities and metrics within and between OHSCO member organizations.

**Please ask the person in your organization who is a voting member of OHSCO to answer the following two questions.**

a) Which best describes your perception of alignment within the Prevention System in 2007? answer appropriate number corresponding to: 1 - Strongly aligned 2 - Quite strongly aligned 3 - Somewhat aligned 4 - Slightly aligned 5 - Not at all aligned	
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a) How does the alignment of the System in 2007 compare with that in 2006?

- 1 - Much more aligned
- 2 - Somewhat more aligned
- 3 - No change
- 4 - Somewhat less aligned
- 5 - Much less aligned

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### **8. Legislation & Regulations**

Have there been any notable changes in legislation or regulations in 2007 (i.e. changes likely to make a difference in terms of worker illness, injuries or fatalities in Ontario or your sector)? Please describe, including reference to the formal name and/or number of the legislation or regulation.

## Appendix D: Determination of Data Quality in Survey Data

As indicated in the introduction to the questionnaire in Appendix C, people were asked to rate the precision of each data element they provided in the survey of OHSCO members as follows:

- High = +/- 5%
- Medium = +/- 6% to 20%
- Low = more than +/- 20%

When the Sub-committee computed a number across organizations, a distribution of precision ratings could therefore be associated with it. The following example with only three organizations illustrates the principle involved:

### Example 1:

Data element	Org 1		Org 2		Org 3		Total across organizations			
	No.	Data rating	No.	Data rating	No.	Data rating	No.	% of total rated High	% of total rated Med	% of total Low
Consultation hrs	100	High	50	Med	100	Low	250	40	20	40

In the example above, the total number of 250 was derived from data of varying precision. 100/250 or 40% of the total was based on data rated as High precision; 20% of the total based on Medium precision; and 40% of the total based on Low precision.

Another element not yet mentioned contributes to the data quality. There were cases where organizations acknowledged carrying out a particular activity, but did not have the requested data available.

The final set of criteria used to judge the quality of any number derived across organizations was based on both the estimated precision of data contributing to the total and the number of organizations unable to provide data.

### Quality criteria for numbers in report

Quality rating of data derived across multiple organizations	Criterion related to the distribution of precision rating	Criterion related to the number of organizations that were not able to provide data	Link between the two criteria
High	At least 90% of the contributing data rated as <u>High</u>	Data unavailable from <u>no more than one</u> organization	AND
Medium	At least 90% of the contributing data rated as <u>Medium or High</u>	Data unavailable from <u>no more than two</u> organizations	AND
Low	Less than 90% of the contributing data rated as <u>Medium or High</u>	Data unavailable from <u>three or more</u> organizations	OR

The following example will illustrate the application of the criteria.

*Example 2:*

Data element	Org 1		Org 2		Org 3		Org 4		Total across organizations				
	No.	Data rating	No.	Data rating	No.	Data rating	No.	Data rating	No.	% of total rated High	% of total rated Med	% of total rated Low	No. of orgs with data unavail
Consult'n hrs	100	High	50	Med	100	Low	unavail	n/a	<b>250</b>	40	20	40	1

Although data is unavailable from only one organization, only 60% of the data contributing to the total of 250 is rated Medium or High. The total of 250 would therefore be given a rating of “Low” using the criteria described above.

## Appendix E: Additional Knowledge/Skill Transfer Indicators

The main body of the report includes knowledge/skill transfer indicators based on participant-days. Below are similar indicators based on participants.

Knowledge/Skills Transfer Indicators	2003	2004	2005	2006	2007	Change 2006-7 <sup>100</sup>	Avg change over time period <sup>101</sup>	Data quality 2007 <sup>102</sup>
<b>Training &amp; Conferences - counts</b>								
Certification Training - Pt 1 - ppts	15,547	10,852	11,938	12,303	19,581	59%	6%	High
Certification Training - Pt 2 - ppts	24,826	26,831	20,886	23,654	24,255	3%	-1%	High
Train-the-trainer sessions - ppts	* <sup>103</sup>	*	*	1,826	1,792	-2%	-2%	High
All other training <sup>104</sup> – ppts	*	*	*	93,402	104,115	11%	11%	High
Awareness sessions <sup>105</sup> - ppts	*	*	*	186,423	240,393	29%	29%	Med
Other training/awareness sessions - ppts	*	*	*	22,968	7,525			Low
Conferences as primary sponsor - ppts	*	*	*	12,739	22,920	80%	80%	High
Sessions in non-OHSCO conferences – ppts	*	*	*	17,816	18,185			Low
Participants in System training and conferences	357,998	371,525	288,399	371,131	438,766			Low
<b>Training &amp; Conferences - rates</b>								
Participants in Certification Training Pt 1 per 100 Ontario workers	0.25	0.17	0.19	0.19	0.30	57%	4%	High
Participants in Certification Training Pt 2 per 100 Ontario workers	0.40	0.43	0.33	0.36	0.37	1%	-2%	High
Participants attending System training and conferences per 100 Ontario workers	5.8	5.9	4.5	5.7	6.7			Low

<sup>100</sup> Change in indicator from 2005 to 2006 is expressed as a percentage of the value in 2005. It was calculated where data were of at least Medium quality in 2005 and 2006.

<sup>101</sup> Average of all year-to-year changes for the time period. It was calculated when the data involved were thought to be of at least Medium quality over the entire time period.

<sup>102</sup> See Appendix E for explanation of data quality. High means that no more than one organization was unable to provide data and that 90% of the organizations submitting data rated its precision as +/- 5%.

<sup>103</sup> \* means data not collected at all or they were collected using a different method than that used in 2006.

<sup>104</sup> Refers to all other training where there is an evaluation component, either formal (i.e., testing) or informal (i.e., observation and feedback).

<sup>105</sup> Educational sessions with no evaluation component.