

FOCUS ON TOMORROW

RESEARCH FUNDED BY **WORKSAFEBC**

An Evaluation of the Impact of the WorkSafeNB Focus Firms Intervention on reported Safety Behaviour and Injury Outcomes

March 2012

Principal Investigator/Applicant
Bob Barnetson

RS2010-DG01



WORKING TO MAKE A DIFFERENCE

All rights reserved. The Workers' Compensation Board of B.C. encourages the copying, reproduction, and distribution of this document to promote health and safety in the workplace, provided that the Workers' Compensation Board of B.C. is acknowledged. However, no part of this publication may be copied, reproduced, or distributed for profit or other commercial enterprise or may be incorporated into any other publication without written permission of the Workers' Compensation Board of B.C.

Additional copies of this publication may be obtained by contacting:

Research Services
6951 Westminster Highway
Richmond, B.C. V7C 1C6
Phone (604) 244-6300 / Fax (604) 244-6299
Email: resquery@worksafebc.com



WORK SAFE. FOR LIFE.
WORKERS' COMPENSATION BOARD OF NOVA SCOTIA

FINAL REPORT

**An evaluation of the impact of the WorkSafe New Brunswick Focus Firms
intervention on reported safety behaviour and injury outcomes.**

March 2012

Dr. Bob Barnetson

Dr. Shawn Fraser

Carole Lunny, MHS

Project No. RS2010-DG01

Contact:

Bob Barnetson, Associate Professor, Labour Relations

Athabasca University barnetso@athabascau.ca 780 488 9877

This research is supported by funds from WorkSafeBC, the Workers' Compensation Board of Nova Scotia and WorkSafeNB through the FOCUS ON TOMORROW program.

TABLE OF CONTENTS

Summary.....	3
Executive Summary	4
Introduction	6
Background.....	6
Methodology.....	7
Survey Data Analysis Process	7
Outcomes Data Analysis Process.....	7
Limitations	9
5*22 Survey Findings	12
Survey Development, Administration and Coding.....	Error! Bookmark not defined.
Survey Results.....	12
Conclusion	21
Injury Outcomes Findings	22
Outcomes Indicators.....	22
Descriptive Results: Injury Costs.....	24
Descriptive Results: Injury Numbers.....	26
RMANOVA Results.....	29
Injury Outcomes Conclusion.....	30
Implications For Future Ohs Research.....	31
Application For Policy And Prevention.....	32
Knowledge Transfer And Exchange	32
References.....	32
Appendix A: Questionnaire	33

SUMMARY

- Worksite interventions by WorkSafe New Brunswick designed to build occupational health and safety capacity among firms with poor safety records was associated with positive changes.
- Both workers and supervisors believe that workplaces made behavioral, process and knowledge changes after the intervention.
- Survey responses showed significant improvements in areas where improvements entail lower costs to the employer. The rate of improvement in areas where improvements entail higher costs to the employer is slower.
- Targeted firms saw positive changes in measures of injury and safety. Of particular interest is a reduction in injury costs and injury claims following the intervention.
- Concerns about the data available limit the degree to which these conclusions can be deemed reliable and valid. These conclusions should not be generalized to the broader population or to other jurisdictions.

EXECUTIVE SUMMARY

WorkSafe New Brunswick implemented the Focus Firms initiative to reduce workplace injuries and build health and safety infrastructure in workplaces with poor safety records. After eight years of working with employers, WorkSafeNB sought to evaluate the impact of the Focus Firms Initiative on safety performance. This report assesses changes in injury data and workplace safety measures using readily available program data.

Data from workplace pre- and post-surveys suggest both workers and supervisors believe that workplaces made behavioral, process and knowledge changes after the Focus Firms intervention. There remained significant differences in the perceptions of employees and supervisors.

Survey responses showed significant improvements in areas where improvements entail lower costs to the employer, such as the existence of written policy and procedures, and the occurrence of orientations, communication, accident analysis and safety education. By contrast, the rate of improvement in areas where improvements entail higher costs to the employer have shown slower change, such as knowledge of the law, reporting of risks and accidents, and workplace inspections.

These are not unexpected outcomes of an intervention. Firms typically will take easier steps at a greater rate and with greater speed than they will take hard steps. To the (unknown) degree that the perceptions assessed on this survey correspond with actual changes in the workplace, the changes noted appear to be a positive outcome. It is likely some of this change is due to the Focus Firms initiative. Due to the absence of a control group, it is not possible to determine what proportion of the change is due to the Focus Firms initiative. Nevertheless, the observations here are consistent with what one would expect from a successful intervention.

Data about injury outcomes and enforcement suggests Focus Firms saw positive changes in injury and safety measures. This includes reductions in injury costs and injury claims. It is less clear that there was an associated reduction in officer orders, although this may be the case over the longer term. These outcomes are consistent with the goals of the Focus Firm initiative but it is not possible to definitively link these changes to the Focus Firm initiative. That said, the timing and direction of the changes (particularly given that the actual intervention year varied) suggests the Focus Firms initiative was, at least in part, responsible for these changes.

This analysis also suggests that changes in the outcome measures tend to be greater when examining indicators derived from injury compensation data than when examining indicators derived from occupational health and safety enforcement data. This suggests that the Focus Firms initiative may have encouraged both more careful claims management by firms and an actual reduction in injuries. Although the long-term goal of the Focus Firms initiative is a reduction in the actual number of injuries among these employers, both of these outcomes are beneficial (albeit to different workplace groups).

Keywords: workplace safety; injury reduction; intervention; New Brunswick; claims management; safety and health enforcement

INTRODUCTION

The report sets out the results of an analysis of the changes in injury data and workplace safety behaviours among firms with poor safety records that were subject to Workplace New Brunswick's (WorkSafeNB) implementation of the "Engaging in Intensive Firm-Level Interventions" initiative (hereafter the "Focus Firms initiative"). This analysis uses available program data to inform its conclusions. One implication of this research design is that the conclusions drawn from the analyses of the survey data must be viewed with caution.

The report begins with a brief overview of the Focus Firms initiative and the research methodology used. Subsequently, the survey data is analyzed to highlight areas of greater and lesser organizational change in the views of survey respondents. Overall, respondents' self-reported behaviors and impressions of workplace safety measures indicated that workplaces demonstrated increases in positive workplace safety behaviours over time. Nevertheless, differences in reported frequencies of behaviors between supervisors and employees remained. Subsequently, the report presents changes in injury numbers and costs as well as orders regarding safety violations over time. Focus Firms saw reductions in injury costs and injury claims after the intervention, although the cause(s) of the change is not entirely clear.

BACKGROUND

WorkSafeNB implemented the Focus Firms initiative in 2002. This initiative identified firms with high injury frequency and the capacity to develop comprehensive occupational health and safety (OHS) infrastructure. Approximately 110 firms agreed to a multi-year intervention that includes developing an OHS plan with assistance by OHS consultants. The long-term goals of the program are to reduce workplace injuries and build sustainable health and safety infrastructure within these workplaces.

To evaluate the impact of the Focus Firms initiative, WorkSafeNB engaged three researchers to examine changes in injury data and workplace safety measures. Data on workplace injuries was drawn from WorkSafeNB's OHS enforcement and compensable injury database. Data on workplace safety behaviours, processes and knowledge before and after the implementation of the Focus Firm initiative was collected in the form of pre- and post-intervention employee surveys (hereafter the "5*22 survey").

METHODOLOGY

This study uses data collected during the operation of WorkSafeNB's Focus Firms initiative and, to a lesser extent, from its workers' compensation system. Two distinct analyses took place: an analysis of changes in responses between pre- and post-test workplace survey results and an analysis of changes in firm-level injury and safety data over time.

Survey Data Analysis Process

The 5*22 survey was administered twice at the 43 firms. The timing of each survey varied widely between firms (which entered the program over a period of several years). The dates of administration were not recorded for either survey. WorkSafeNB agreed that the first baseline survey (the pre-test) was implemented shortly after firms entered the program and thus reflects the state of affairs in the firm prior to intervention. WorkSafeNB also agreed that the second survey (the post-test) was administered in each firm two years after the intervention began. In a small number of cases, a third survey was administered in firms. Data from this third testing has been excluded from this analysis.

Approximately 15,000 5*22 surveys were returned (pre-test plus post-test). The questionnaire (Appendix A) included 22 main questions and a variety of more granular sub-questions, which sought further detail about the topic of the main question. Data was coded by WorkSafeNB and provided blind to the researchers. The data was cleaned and aggregate descriptive statistics generated about the 22 main questions. Concerns about the overall quality of the data (see Limitations below) resulted in a purely descriptive reporting of changes between the pre- and post-test results at the aggregate level, although data was broken into "employee" and "employer" (managers and supervisors) groups for comparative purposes.

Outcomes Data Analysis Process

The provided data was combined with New Brunswick Consumer Price Index (CPI) data from Statistics Canada to create the five indicators specified below for each year of available data. All cost data (Lost-Time Claim and No Lost-Time Claim costs) was first adjusted to 2002 costs based on annual average CPI data from 2001 to 2010 for the province of New Brunswick. Following CPI adjustments both LTC and NLTC cost, the number and costs of LTCs and NLTCs, and the number of Officer Safety Orders were all

converted to /100 FTEs based on the FTE data provided by WorkSafeNB. Several firms were missing FTE data.

Each employer then was assigned an intervention year, which was deemed to be the year in which the baseline 5*22 survey took place. Each firm's data was centered on its intervention year, resulting in five common data points for all five indicators. That is, each firm had one pre-intervention observation, one intervention observation, and three post intervention observations.

Several firms were missing FTE data or the data indicated that there were no FTEs for a few consecutive years. In the event that FTE data was missing or FTEs were equal to zero, the results were analyzed with these firms removed. In terms of inspections, most companies were not subject to many or any inspections in a given year. This paucity of inspections made calculation of Orders /100 inspections problematic, resulting in missing data. Firms with missing data or a large number of zero inspections were removed from the repeated measures analysis.

One very influential outlier was identified and removed. That is, firm (#28) was identified as having an unusually large LTC and NLTC numbers and costs per 100 FTEs. This firm was removed for all LTC and NLTC analyses. The removal of legitimate data from the analysis and reporting of results was weighed carefully and the final decision to remove this data was based on the fact that the results were heavily skewed if the data were included. Removal of the data resulted in consistent and interpretable results that are more likely to represent mean changes over time. A number of firms were removed from analysis due to missing FTE data and incomplete data. These were firms 1, 4, 10, 30, and 43. Firm 3068 had an unusually large number of Orders and was removed from this analysis. All analyses were conducted using SPSS version 18.0.3.

Matched pairs were selected from the full set of firm data obtained from WorkSafeNB. Focus firms were matched with a comparable firm which did not participate in the Focus Firms initiative. Firms were matched based on size of firm (small, medium, or large) and then by type of firm (n = 28 intervention/match pairs) or just size of firm if a comparable firm type was not available (n = 10 intervention/match pairs).

Basic descriptive statistics were used to describe the mean adjusted values for all variables across the group. To examine changes over time, a between groups repeated measures MANOVA (RMANOVA) was conducted. The RMANOVA accounts for the

correlated nature of repeated measures increasing the power to detect significant changes over time. However, given the current small sample size, specific inferences to the larger population of firms in New Brunswick would be unclear and thus not advised. For this reason, the RMANOVA will be used to examine 1) the strength of the effect (i.e., how large was the change over time), 2) whether the differences between years were significant for firms providing complete data (firms with incomplete data were excluded) and 3) whether the intervention firms differed from a group of matched firms in terms of 1) and 2).

A RMANOVA was conducted for LTC and NLTC numbers and costs as well as for Orders. In examining Orders per inspections, many firms were not subject to any inspections for a given year. If a firm was not subject to an inspection, their data was not included for analysis in the RMANOVA, since the data was incomplete. Thus, Orders analysis includes only those firms who reported having undergone at least 1 inspection per given year over the 5 observed years.

Limitations

Using existing data to evaluate the effectiveness of a program poses challenges, both because the data was not necessarily collected for evaluative purposes and because data collection and coding may introduce sources of error. This section identifies various issues that limit the reliability, validity and generalizability of the conclusions presented in this study.

The population under study is firms that had poor safety records in the early 2000s and which indicated they were willing to make systemic change to improve safety. Because these firms were poor performers, they do not represent the general population of firms in New Brunswick. Consequently, the extent to which the results of the Focus Firms initiative generalize to all firms is unclear. Of particular concern is that repeated observations of such a select sample are vulnerable to 'regression to the mean'. That is to say, relevant outcomes may well improve regardless of the intervention since the safety outcomes are already relatively low.

Approximately 110 firms participated in the Focus Firms initiative. Upon review, pre- and post-test 5*22 survey data was available for only 43 firms. It is unclear whether these 43 firms are representative of all firms that participated in the Focus Firms initiative. Consequently, the conclusions reached about their performance may not reflect the

actual impact of the Focus Firms initiative. For this same reason, it is difficult to generalize the results of the Focus Firms to all firms with poor safety records. Further, 43 firms is a very small sample size. A small sample size increases the probability that observed results reflect random change, rather than real change. Small samples also increase the chance that meaningful differences may be dismissed as not statistically significant.

The 5*22 survey questionnaire (see Appendix A) included 22 main questions and a variety of more granular sub-questions, which sought further detail about the topic of the main question. For example, the first main question (addressing the health and safety responsibility dimension) is typical of the survey and asked:

Does your firm have a written “health and safety policy”? yes/no/don’t know

This question (and approach) assesses respondents’ beliefs about whether or not there is a written OHS policy. But it does not necessarily provide accurate information about whether or not there is such a policy; only actual observation of the policy written on a piece of paper would do so. Not surprisingly, significant differences were found in workers’ beliefs about a written OHS policy when comparing the pre-survey to the post-survey. There are also differences between both the pre-survey and the post-survey answers of workers and managers.

Identifying different perceptions as well as changes in perception over time is useful for the purposes of the Focus Firms initiative (i.e., building health and safety infrastructure). The changes that occur over time, however, do not necessarily reflect actual changes. For example, employees may answer Question 1 differently post-test because their knowledge about the existence of an OHS policy has changed (which may or may not be due to the Focus Firms intervention). Or the difference may reflect that respondents have inferred the “correct” answer to the question. Indeed, these possibilities are more likely to be the correct explanation than a real change. The point is that perception is less definitive than observation (e.g., an audit) thus conclusions reached based upon perception (self-report) should be viewed with caution.

The more granular sub-questions further developed respondents’ perception about specific issues. For example, following up on the question “Does your firm have a written ‘health and safety policy’?”, respondents were asked:

If a health and safety policy has been provided to you (fill in all circles that apply):

The H&S policy addresses the H&S expectations of management.

The H&S policy addresses the H&S needs of the workforce.

The H&S policy contains a statement of the organization's general health & safety commitment.

The H&S policy contains a statement of the organization's general health and safety goals.

The H&S policy is signed by our senior person at the workplace.

The H&S policy is signed by our joint health and safety committee members of our H&S representatives.

The H&S policy is posted throughout our workplace.

The H&S policy is read and reviewed by all employees on a yearly basis.

Again, this is useful information for guiding firm-level intervention but has little utility for the evaluation of the overall intervention. The structure of the questions means that it is not possible to determine if a circle that was left blank indicates that an employee is disagreeing with the statement (i.e., answering "no") or whether the employee simply does not know the answer (i.e., is a "no response"). Further, the manner in which responses to the second survey were coded differed from the coding in the first survey. Together, these issues undermine the reliability and validity of any conclusions drawn from a comparison of firm-level data from the pre- and post-test on the sub-question. This same coding issue affects main Questions 10a and 22b. As a result, this data was excluded from the analysis.

In assessing the outcomes of the Focus Firms initiative on injury rates and costs and officer orders, we attempted to partially control for systemic variation by creating matched pairs for each of the Focus Firms, based on employer industry and size. We were only partially successful in doing so due to the availability of data among the matching firms.

No information was available about the development of the survey instrument. Analysis indicated the five domains in the 5*22 model are not valid and require restructuring. Further, the questionnaire does not appear to be a valid measure of safety culture—rather it measures perceived compliance with a safety management system. If the purpose of the survey was to generate valid conclusions about changes in safety culture caused by the Focus Firms initiative, it would have been preferable to use an existing

and validated instrument. Overall, the conclusions presented in this report about the changes caused in surveyed firms by the Focus Firms initiative should be viewed as tentative. The extent to which these conclusions generalize to all Focus Firms is unclear. Consequently, these conclusions about the impact of the Focus Firms initiative should not be generalized to other firms, even other poor performing firms.

5*22 SURVEY FINDINGS

There were 15,283 respondents (pre-test and post-test). It was not possible to reliably determine response rates, as the authors were not responsible for data collection and this information was not available. Table 1 divides responses by employee group.

Table 1. Number and type of respondents.

	Frequency	Percent
Employee	12,174	79.1
Supervisor	1739	11.3
Manager	709	4.6
Missing Values	776	5.0
Total	15,283	100

For this analysis, manager and supervisor responses were combined to form one group and surveys from respondents with missing values were excluded. As a result of this exclusion, there were 14,754 respondents, 8158 in survey 1 and 6596 in survey 2. It is unclear if the difference in numbers reflects a reduction in the response rate between surveys or a reduction in the workforce (or both).

Survey Results

Table 2 outlines the changes in employee and supervisor group responses to the 22 main questions between the first and second surveys. There are several striking patterns of note:

1. Response Differs by Type: With a single exception, supervisors were more likely to answer “yes” to all questions than employees. This difference persisted

- (although it decreased) over time and suggests there may be an important difference between these two groups. It is unclear whether the difference is in their knowledge, their perception or their daily workplace reality.
2. Responses Trend Upwards: With a single exception, the percentage of both groups answering yes to a question increased between the surveys. Employee agreement tends to increase by a greater degree than supervisor agreement. It is unclear whether this change reflects a change respondents' knowledge, respondents' perception or the actual workplace reality.
 3. "Inexpensive" Fixes Show Larger Improvements: Change of $\geq 17\%$ in employee responses between the first and second surveys was deemed to be a large change. The questions showing large changes addressed the existence of written policy and procedures, and the occurrence of orientations, communication, accident analysis and safety education. These higher scores may reflect changing respondent perceptions or awareness. If these higher scores reflect an actual change in the workplace, the necessary change in the production process (which might drive cost increases) is not typically significant. For this reason, these changes are termed "inexpensive" to implement.
 4. "Expensive" Fixes Show Smaller Improvements: Change of $< 10\%$ in employee responses between the first and second surveys was deemed to be a small change. The questions showing small changes tended to focus on knowledge of the law, reporting of risks and accidents, and workplace inspections. These lower scores may reflect changing respondent perceptions or awareness. If these lower scores reflect an actual change in the workplace, the necessary change in the production process (which might drive cost increases) is typically significant. For this reason, these changes are termed "expensive" to implement.

Table 2 reports the aggregate results of the 43 firms.

Table 2. 5*22 Survey Results

#	Question	Survey 1 Employee		Survey 1 Employer		Survey 2 Employee		Survey 2 Employer	
		Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)	No (%)
1	Does your workplace have a <u>written</u> "health and safety policy"?	4128 (64)	2360 (36)	998 (82)	219 (18)	4123 (82)	911 (28)	1012 (93)	72(7)
2	Was a health and safety plan communicated to you within the last 12 months?	2571 (40)	3917 (60)	565 (46)	652 (54)	2915 (58)	2119 (42)	718 (66)	366 (34)
3	Do you know the "general health and safety (H&S) rules" in your workplace? (<i>General health and safety rules</i> are recognized health and safety practices that are mandatory and enforced throughout the entire workplace.)	4393 (68)	2095 (32)	992 (81)	225 (19)	4076 (81)	958 (19)	967 (89)	117 (11)
4	Does your workplace have <u>written</u> "health and safety procedures or practices" for existing identified hazards? (<i>Health and safety procedures or practices</i> are written step-by-step instructions to be followed in a certain order for particular tasks and handling of equipment (i.e. tag & lockout, manual handling, working alone).)	3760 (58)	2760 (42)	940 (77)	280 (23)	3788 (75)	1257 (26)	950 (87)	144 (13)
5	Are you aware of your "legal obligations" as stated in the legislation (<i>Occupational Health and Safety Act (OHS Act)</i> and regulations)? (<i>Legal obligations</i> are health and safety duties every employee is responsible to carry out, as stated in the legislation (<i>Occupational Health and Safety Act</i> and regulations).)	4075 (62)	2445 (38)	959 (79)	261 (21)	3581 (71)	1464 (29)	860 (79)	234 (21)
6	Does your workplace take "action(s)" toward addressing health and safety? (<i>Action</i> means doing activities to improve health and safety in the workplace.)	4292 (66)	2228 (34)	1032 (85)	188 (15)	3971 (79)	1074 (21)	1002 (92)	92 (8)

7	Does your workplace " <i>communicate</i> " health and safety issues to you? (<i>Communication means</i> to provide all employees with current, timely information and progress updates on health and safety issues.)	4795 (74)	1709 (26)	1077 (88)	143 (12)	4249 (84)	798 (16)	1009 (93)	79 (7)
8	Is there " <i>support</i> " for health and safety activities, actions, and initiatives in your workplace? (Support means that management actively promotes and resolves health and safety (H&S) issues in the workplace (i.e. management: talks to employees about H&S issues, participates in H&S activities, provides H&S information, provides resources, acknowledges employees' H&S practices).	3871 (60)	2633 (40)	989 (81)	231 (19)	3696 (73)	1351 (27)	974 (89)	114 (11)
9	Does your workplace address the " <i>well-being</i> " of its employees? (The <i>well-being</i> of employees means the employer implements activities and programs, which supports the overall health of their employees.)	4376 (67)	2131 (33)	1031 (85)	184 (15)	3899 (77)	1156 (23)	978 (90)	110 (10)
10b	Have you received any " <i>health and safety orientation</i> " about your workplace?	250 (7)	3110 (93)	827 (68)	388 (32)	223 (100)	0	866 (80)	215 (20)
11	Have you " <i>participated</i> " in health and safety activities at your workplace within the last 12 months? (<i>Participation</i> refers to the active involvement of employees in the improvement of health and safety in their workplace.)	2798 (43)	3896 (57)	827 (68)	388 (32)	2814 (57)	2155 (43)	800 (75)	269 (25)
12	Are you <i>required</i> to work safely at your workplace? (<i>Required</i> means that management expects all employees to follow safe work practices when performing their job duties.)	5752 (89)	742 (11)	1158 (95)	57 (5)	4583 (92)	385 (7)	1020 (95)	49 (5)
13	Are known hazards " <i>identified</i> " at your workplace? (<i>Identification</i> means to recognize hazards and risks. A <i>hazard</i> is a practice, behaviour, physical condition, or a situation that can cause injury, illness, or damage to property. A <i>risk</i> is a possibility or probability of injury, illness, or damage to property.)	3429 (53)	3049 (47)	866 (71)	352 (29)	3328 (66)	1672 (34)	838 (78)	242 (22)

14	Does your workplace " <i>control</i> " for known hazards and risks? (<i>Control</i> means to prevent or minimize any potential harm or loss from any hazards and risks in the workplace.)	4453 (69)	2025 (31)	1047 (86)	171 (14)	4003 (80)	997 (20)	988 (91)	92 (9)
15	Are hazards and risks " <i>reported</i> " in your workplace? (<i>Reporting</i> means to inform the front-line supervisor or the person responsible for health and safety in your workplace of a hazard or risk.)	5052 (77)	1467 (22)	1097 (90)	121 (10)	4342 (86)	715 (14)	1026 (94)	62 (6)
16	Are accidents <i>reported</i> in your workplace? (An <i>accident</i> is an event that results in harm or damage. An <i>incident</i> is an event that could result in harm or damage (near miss or near hit).)	5562 (86)	914 (14)	1144 (94)	66 (6)	4492 (91)	425 (9)	1032 (97)	32 (3)
17	Are accidents that occur in your workplace " <i>investigated</i> "? (An <i>accident investigation</i> is a detailed search to find out the factors (who, what, where, when, how) of an accident to determine the cause(s).)	3759 (58)	2717 (42)	974 (80)	236 (20)	3398 (69)	1520 (31)	947 (89)	117 (11)
18a	Does your workplace record (in writing) accident or injury information? (An <i>analysis</i> is the evaluation of accident and injury information (recorded) to find the causes of accidents and injuries and to see if there are any harmful patterns developing in the workplace.)	3898 (60)	2554 (40)	968 (80)	239 (20)	3423 (70)	1466 (30)	920 (87)	132 (15)
18b	If yes, does your workplace " <i>analyze</i> " the accident and injury information that it records?	1787 (37)	3077 (63)	535 (57)	396 (43)	1676 (62)	1012 (38)	486 (76)	155 (24)
19	Are " <i>health and safety inspections</i> " conducted in your workplace? (A <i>health and safety inspection</i> is a planned walk-through of the workplace to identify existing or possible hazards and risks, and to recommend appropriate corrective actions.)	3946 (61)	2543 (39)	947 (78)	271 (22)	3505 (70)	1518 (30)	945 (88)	128 (12)

20	Have your health and safety <i>"educational needs"</i> been identified by your workplace? (<i>Educational Needs</i> refers to the identification by your employer of any information, instruction or training that would help employees do their job safely and protect their health.)	2619 (40)	3883 (60)	670 (55)	550 (45)	2925 (58)	2118 (42)	808 (74)	278 (26)
21	Have you been provided with any health and safety education in your workplace? (The <i>delivery of health and safety education</i> means providing the necessary information, instruction, or training to help employees do their job safely and to protect their health.)	3637 (56)	2860 (44)	889 (73)	329 (27)	3672 (73)	1384 (27)	937 (86)	154 (14)
22a	Does your workplace track and record the delivery of health and safety education? (The <i>effectiveness of health and safety education</i> involves tracking and recording the delivery of the health and safety education of all employees, and evaluating whether the educational needs of all employees are being met.)	2170 (33)	4324 (67)	641 (53)	577 (47)	2661 (52)	2431 (48)	776 (71)	320 (29)

Overall, supervisors were more likely to answer “yes” to questions than employees. This occurred on all questions in both surveys except supervisors’ answers to the question “Have you received any health and safety orientation?” in the second survey. Here, the supervisor scores remained a constant 80% while the employee score rose (rather remarkably) from 7% in the first survey to 100% in the second survey.

This exception aside, supervisors’ propensity to answer yes at a greater rate than employees persisted over time, although employee responses close the gap during the second survey. It is unclear what explains this difference. It might be a difference in their knowledge, their perception or their daily workplace reality.

An interesting thought experiment is to (momentarily) assume that the Focus Firms intervention eliminated differences in knowledge between the first and second survey. Any remaining differences between employee and supervisor scores on the second survey would then reflect a real difference in perception and/or workplace reality. Then eliminate any items where the difference is small (arbitrarily <17%) to isolate items of significant divergence. Table 3 outlines these items.

Table 3. Large Employee-Supervisor Differences

		Survey 2 Employee	Survey 2 Supervisor	% Difference
#	Question	Yes	Yes	
10b	Have you received any "health and safety orientation" about your workplace?	223 (100)	866 (80)	20
11	Have you "participated" in health and safety activities at your workplace within the last 12 months?	2814 (57)	800 (75)	18
17	Are accidents that occur in your workplace "investigated"?	3398 (69)	947 (89)	20
18a	Does your workplace record (in writing) accident or injury information?	3423 (70)	920 (87)	17
19	Are "health and safety inspections" conducted in your workplace?	3505 (70)	945 (88)	18
22a	Does your workplace track and record the delivery of health and safety education?	2661 (52)	776 (71)	19

Whereas there may well be some actual differences in how employers behave towards each group, it appears more likely these differences reflect mostly perceptual differences between the groups. That this survey measures perception (rather than reality) is a significant limitation in the utility of these results for evaluative purposes because it is unclear whose perceptions are correct. Are employees ignorant of the reality of their workplace? Or are supervisors simply caught up in management hype about commitment to health and safety?

That said, there is a general upwards trend in responses over time that is almost universal. The only item not demonstrating an upward trend was supervisor responses to the question “Are you required to work safely?” This exception can be discounted because it held high at 95%. The percentage of employees answering “yes” to questions tended to increase at a greater rate than supervisor answers did, perhaps reflecting, at least in part, an improvement in employees’ knowledge of OHS practices in their workplace.

More subjectively, it is possible to discern a pattern in the degree of change between the first and second survey. For example, employee responses on some questions changed significantly. A change of $\geq 17\%$ was (arbitrarily) deemed to be a large change. Table 4 shows the questions where there were large changes.

The questions showing large changes tended to focus on the existence of written policy and procedures, and the occurrence of orientations, communication, accident analysis and safety education. It is unclear whether these changes were caused by changing respondent perceptions or awareness or an actual change in the workplace (or some combination of these explanations).

If these higher scores reflect an actual change in the workplace, the required change in the production process is not typically significant. That is to say, it is relatively inexpensive to implement these changes, such as by developing a written health and safety policy and communicating it to employees. For this reason, these changes are termed “inexpensive” to implement.

Table 4. Large Employee Changes, Survey 1 to Survey 2

		Survey 1 Employee	Survey 2 Employee	Change
#	Question	Yes (%)	Yes (%)	(%)
1	Does your workplace have a <u>written</u> "health and safety policy"?	64	82	+18
2	Was a health and safety plan communicated to you within the last 12 months?	40	58	+18
4	Does your workplace have <u>written</u> "health and safety procedures or practices" for existing identified hazards?	58	75	+17
10b	Have you received any "health and safety orientation" about your workplace?	7	100	+93
18b	If yes, does your workplace "analyze" the accident and injury information that it records?	37	62	+25
20	Have your health and safety "educational needs" been identified by your workplace?	40	58	+18
21	Have you been provided with any health and safety education in your workplace?	56	73	+17
22a	Does your workplace track and record the delivery of health and safety education?	33	52	+19

Examining questions upon which there was less change over time yields a different pattern. A change of <10% was (arbitrarily) deemed to be a small change. Table 5 shows the questions where there were small changes.

The questions showing small changes tended to focus on knowledge of the law, reporting of risks and accidents, and workplace inspections. These questions address areas where an actual change in the workplace may result in significant changes in the production process. For this reason, these changes are termed "expensive" to implement.

Table 5. Small Employee Changes, Survey 1 to Survey 2

		Survey 1 Employee	Survey 2 Employee	Change
#	Question	Yes (%)	Yes (%)	(%)
5	Are you aware of your " <i>legal obligations</i> " as stated in the legislation (<i>Occupational Health and Safety Act (OHS Act)</i> and regulations)?	62	71	+9
15	Are hazards and risks " <i>reported</i> " in your workplace?	77	86	+9
16	Are accidents <i>reported</i> in your workplace?	86	91	+5
19	Are " <i>health and safety inspections</i> " conducted in your workplace?	61	70	+9

Of particular interest were the relatively low levels of employee agreement around knowing their legal obligations and the occurrence of health and safety inspections. While increasing the percent of employees who know their legal obligations (and, one, presumes, rights) seems like a fairly straight-forward fix, one of the implications of a knowledgeable workforce is that they may begin to exercise their rights which may, in turn, entail significant costs to the employer. Similarly, conducting health and safety inspections is not particularly difficult, but the outcome of such inspections may entail significant costs for the employer.

Conclusion

Taken together, this analysis suggests the Focus Firms intervention has generated positive outcomes of varying strength. Assuming, for the moment, that results reflect actual changes in the workplace and that all changes are caused by the Focus Firms intervention, we might conclude:

1. There was a significant change in the views of employees and supervisors about workplace safety behaviours, processes and knowledge after the Focus Firm intervention. At a high level, this suggests that employees and supervisors believed that their workplaces had in place more OHS measures after the initiative, and, to the degree that awareness alters behaviour, this may be a significant outcome.

2. There remain significant differences in the perceptions of workplace safety between employees and supervisors, although this gap closed over time.
3. There have been significant improvements in areas where improvements entail lower cost such as the existence of written policy and procedures, and the occurrence of orientations, communication, accident analysis and safety education.
4. By contrast, the rate of improvement in areas where improvements entail higher costs has been slower, such as knowledge of the law, reporting of risks and accidents, and workplace inspections.

The strength of these conclusions is reduced by the degree to which the assumptions about perception mirroring reality and the causality of the Focus Firms initiative are relaxed. Overall, there appears to be evidence of modest improvements in workplace safety behaviours, processes and knowledge at the Focus Firms during the period of the intervention.

INJURY OUTCOMES FINDINGS

One way to assess the impact of Focus Firms intervention is to examine changes in outcomes and enforcement activity over time. This section analyzes workers' compensation and OHS enforcement data for the 43 Focus Firms for which full data sets were available. Data was drawn from WorkSafeNB's OHS enforcement and compensable injury database. Where possible, Focus Firms were matched with similar firms that did not participate in the intervention to partially control for changes unrelated to the Focus Firms intervention.

Outcomes Indicators

Five indicators of the incidence of workplace injury and safety violations were constructed from data supplied by WorkSafeNB:

1. Lost-time claims per 100 FTEs
2. Lost-time claim costs per 100 FTEs
3. No lost time claims per 100 FTEs
4. No lost-time claim costs per 100 FTEs
5. Officer orders per 100 FTEs.

Workers' compensation claims requiring workers to spend time away from work (i.e., lost-time claims) typically indicate more serious injuries. Serious injuries are a useful high-level indicator of overall workplace safety. Two indicators addressing lost-time claims were constructed:

1. **Lost-time claims per 100 FTEs:** This indicator examines the number of lost-time claims (LTCs) per 100 full-time equivalent (FTE) employees. This indicator allows comparisons of LTC incidence over time.
2. **Lost-time claims cost per 100 FTEs:** This indicator examines real dollar LTC costs per 100 FTE employees. This indicator allows comparisons of the cost of LTC injuries to an employer over time.

It is important to note that lost-time claim data can be affected by employer behaviour. For example, employers can convert lost-time claims to no-lost-time claims via the provision of modified work. Reputational and financial incentives (e.g., universal experience rating) can motivate such behaviour.

Workers' compensation claims that entail workers spending no time away from work (i.e., no lost-time claims) but which still require the payment of wage-replacement and/or medical-rehabilitation costs associated with an injury provide a broader measure of the incidence of workplace injury. Two indicators addressing no lost-time claims were constructed:

3. **No lost-time claims per 100 FTEs:** This indicator examines the number of no lost-time claim (NLTC) injuries per 100 FTE employees. This indicator allows comparisons of NLTC incidence over time and, in conjunction with the indicator measuring the number of LTCs, the overall change in reported injuries.
4. **No lost-time claims cost per 100 FTEs:** This indicator examines real dollar costs of NLTC injuries per 100 FTE employees. This indicator allows comparisons of the cost of NLTC injuries to an employer over time and, in conjunction with the indicator measuring the cost of LTCs, the overall change in reported injury costs.

When the number of NLTCs is added to the number of LTCs, it becomes possible to draw some conclusions about the overall level of injury. It should be noted, however, that combining LTCs and NLTCs provides only a partial measure of injury. It excluded injuries not requiring reporting, injuries not reported and most occupational diseases.

The number of officer orders issued is an indicator of the incidence of safety violations identified in their workplace that required remedy but that do not pose imminent danger. One indicator of safety was constructed:

5. **Officer orders:** This indicator examines safety orders issued per 100 inspections. This allows comparisons of employers over time.

Note that quantitative measures of orders obscure qualitative changes in violations that are seen on worksites. Further, this indicator is vulnerable to changing enforcement strategies as well as employer responses (e.g., if an employer complies immediately with an identified violation, an order may not be issued).

Descriptive Results: Injury Costs

Descriptive results are presented graphically in Figures 1-6 below. Where there was matched pairs data, the Focus Firm data is the dark line while the comparison firm data is the light line.

Figure 1 presents mean real-dollar LTC cost per 100 FTEs. Matched pairs data was available for this indicator. Prior to the intervention, Focus Firms had significantly higher LTC costs per 100 FTE than comparator firms. Three years after the intervention, the LTC costs per 100 FTEs of both groups converged. This convergence was at a level significantly lower than the Focus Firms' baseline LTC costs.

This convergence reflects a combination of declining Focus Firms' LTC costs and increasing comparator firms' LTC costs. Declining Focus Firms' LTC costs make the greater contribution to the convergence. It should be noted that declining Focus Firms' LTC costs does not necessarily mean Focus Firms had fewer or less severe injuries. LTC cost measures can be affected by employer behaviour such as the provision of modified work whereby LTC costs are converted to NLTC costs. It is not clear the degree to which conversion occurred, although Figure 2 suggests some "converting" did occur.

Figure 2 presents mean real-dollar NLTC cost per 100 FTE employees. Matched pairs data was available for this indicator. Prior to the intervention, Focus Firms had slightly lower NLTC costs per 100 FTE than comparator firms. During the intervention year, Focus Firms' NLTC costs became higher than those of comparator firms (which also showed a decline). This gap persisted throughout the three years after the intervention.

Figure 1. Real-Dollar Mean LTC Costs per 100 FTEs

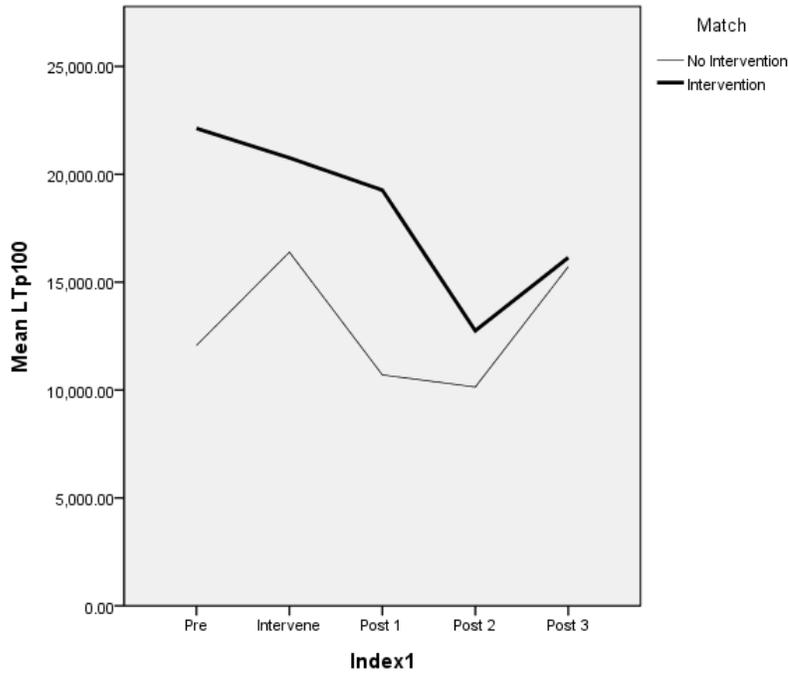
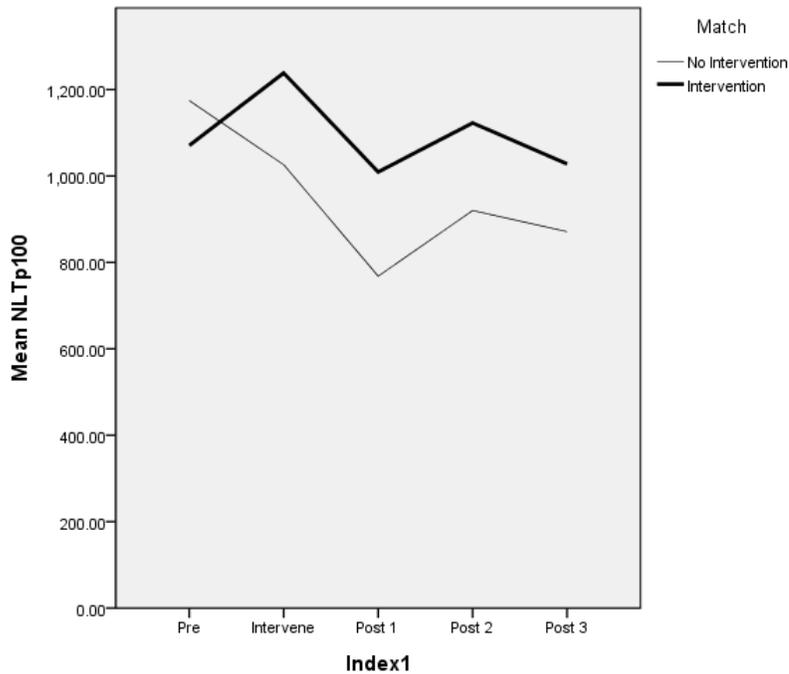


Figure 2. Real-Dollar Mean NLTC Costs per 100 FTEs



When the data underlying Figures 1 and 2 is examined, what we see is that the LTC claims costs per 100 FTEs converging between Focus Firms and comparator firms while

NLTC costs are diverging. This suggests that the Focus Firms initiative may have triggered a conversion of some LTCs to NLTCs among Focus Firms.

The conversion of LTC costs to NLTC costs may be a positive outcome for Focus Firms because it reduced total, real-dollar injury claim costs during the five-year period of study by 26%. It could also indicate less severe accidents which is a positive outcome. While much of this savings will be paid out in the form of wages for workers on modified work, modified work does yield a return to the employer in the form of work done.

It is not clear, however, whether this conversion is consistent with the Focus Firms initiative's goal of reducing workplace injuries. As noted above, conversion can occur through a reduction in the severity of injury (the ideal outcome). Or conversions can come through the provision of modified work. Modified work can be provided for legitimate reasons (typically a positive outcome). Modified work can also be a form of employer gaming in pursuit of reputational and/or financial incentives for reduced LTC costs (typically a negative outcome). And, of course, all three can happen at once. It is not possible to determine the degree to which each of these explanations contributes to the conversion effect noted here.

Descriptive Results: Injury Numbers

Figure 3 presents the mean LTCs per 100 FTEs. Matched pairs data was not available for this indicator. Focus Firms saw the number of LTCs decline each year post intervention, although the rate of reduction tailed off in year three. Figure 4 presents the mean NLTCs per 100 FTEs. Focus Firms saw the number of NLTCs decline in the year following intervention, then move slightly higher and then drop.

When combined, the mean LTC and NLTC are useful proxy for overall injury rates. This is because, while it is possible that reductions in LTCs can reflect conversions of LTCs to NLTCs, it is much more difficult to convert NLTCs to non-claims. Consequently, when combined (in Figure 5), mean LTCs and NLTCs per 100 FTEs provides a useful (albeit imperfect) gauge of overall injury rates. Figure 5 shows an overall reduction in injury rates in the first year post-intervention. Subsequently, the rate of injury reduction flattens out, but does not go back up in the second or third year.

Figure 3. Mean LTC per 100 FTEs

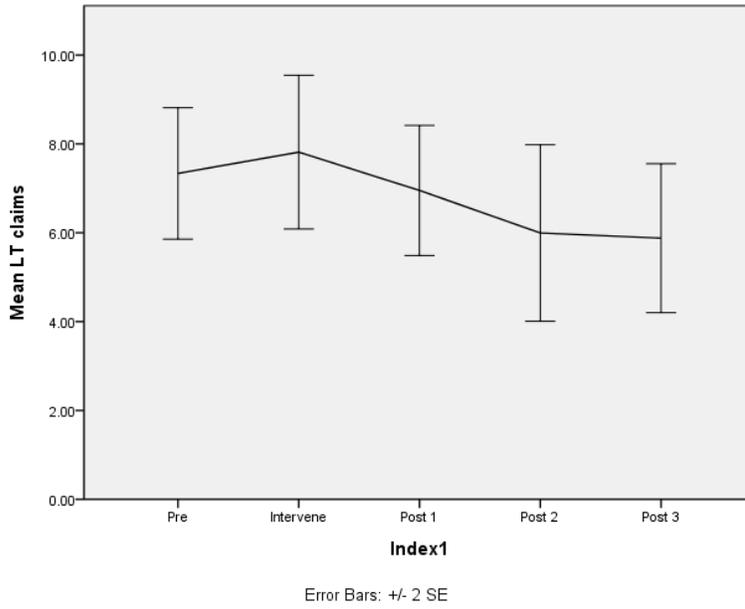


Figure 4. Mean NLTCs per 100 FTEs

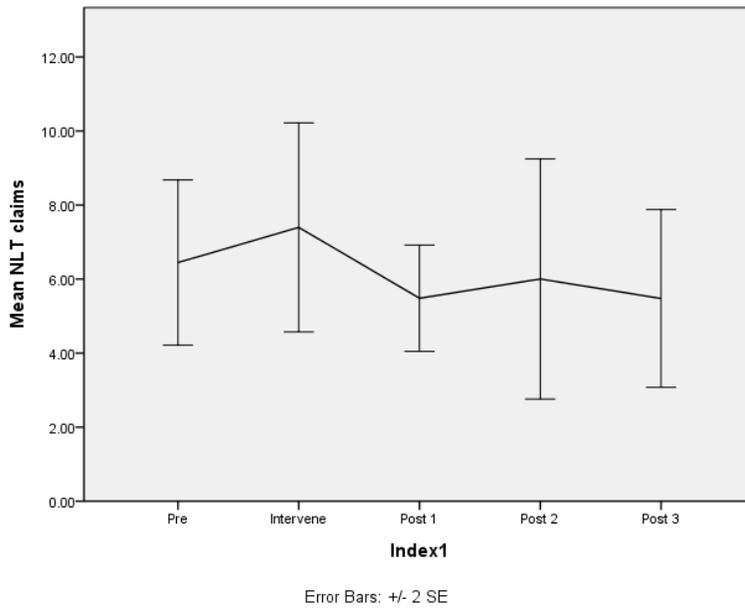
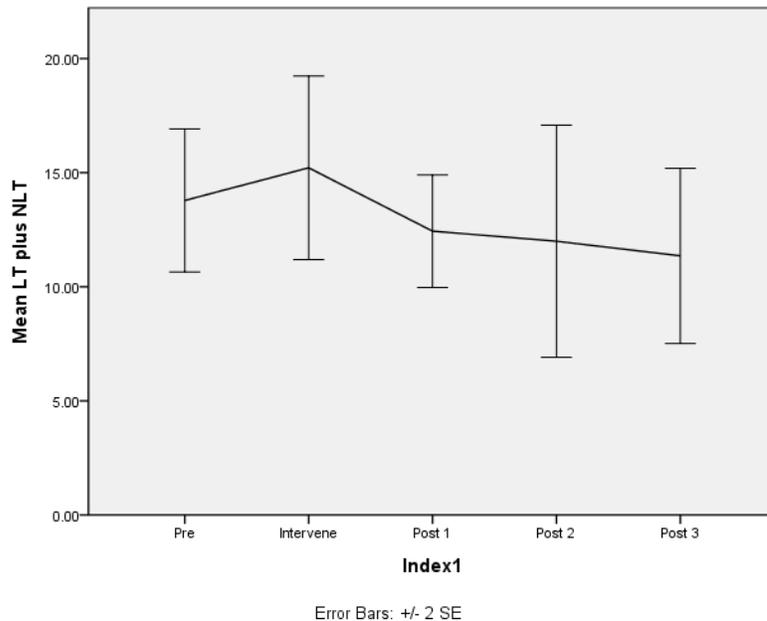


Figure 5. Mean LTC and NTLC per 100 FTEs.



The change shown in Figure 5 is important given the goals of the Focus Firm initiative. The timing of the change suggests it is related to the Focus Firm initiative. The data points were centred on the intervention year (which was different for different firms). The clear pattern of reduction following the intervention and that the reduction is consistent with the expected effect of the Focus Firm initiative augur against chance causing this reduction. That said, it is important to note that we cannot be sure this change was triggered by the Focus Firm initiative due to a lack of adequate data on the comparator firms. It is possible that this decline reflects a broad reduction in injury rates or a regression towards the mean by the Focus Firms unrelated to the Focus Firm initiative.

Figure 6 presents the number of officer orders issued per 100 inspections. Matched pairs data was available for this indicator. Focus Firms saw an increase in the rate of officer orders issued in each year excepting the last year, when the rate of officer orders dropped. Comparator firms follow a similar pattern, excepting the last year, when comparator firms continued to see an increase in officer orders per 100 inspections.

Figure 6. Officer Orders per 100 Inspections

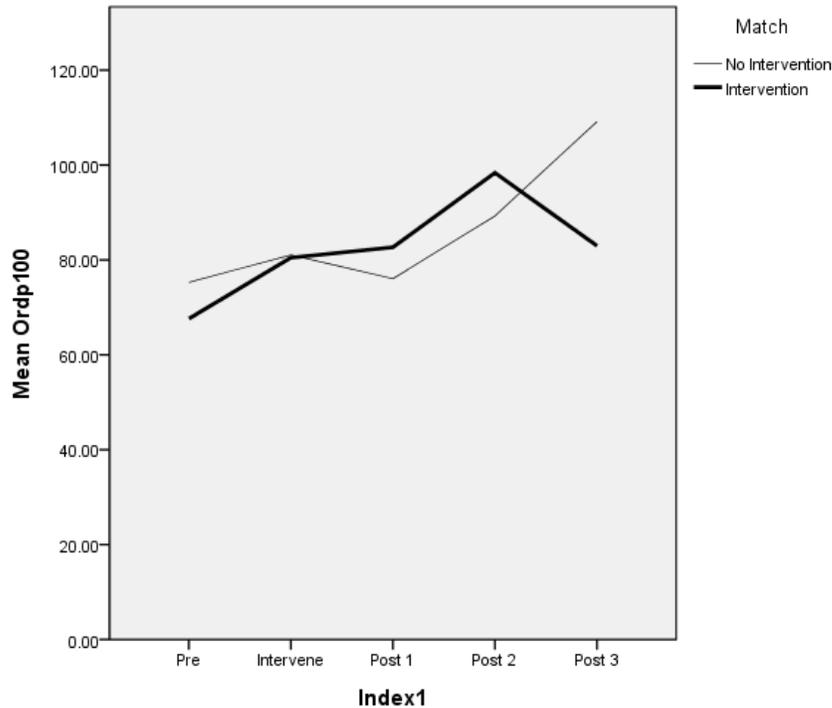


Figure 6 suggests that, over time, there has been a general trend towards more officer orders being issued per 100 inspections. The Focus Firm initiative does not appear to have significantly altered the likelihood of an order being issued until the third year following intervention. It should be noted that the officer order measure does not provide any sense of whether (and how) the violations for which orders are being written may have changed over time. That is to say, the measure may obscure important qualitative changes in the orders issued to the focus firms and the comparator firms over time.

RMANOVA Results

A Repeated Measures Analysis of Variance (RMANOVA) was also conducted for LTC and NLTC numbers and costs as well as for SWOs and Orders. The small numbers in this study preclude interpreting the RMANOVA results as an inference to the larger population of firms. Nevertheless, these results do give an indication of the magnitude of change over time (i.e., effect size, η^2_{partial}). These results should be interpreted as pilot data for comparative purposes against firms without intervention and/or against the results of future interventions. Unless otherwise noted, the results of the RMANOVAs were not statistically significant. All significant effects noted below are based on a 'univariate' analysis of the data following a non-significant MANOVA. Thus, these results

are considered 'exploratory' and should be interpreted with caution if making inferences to the population of firms in NB.

The RMANOVA for LTC costs included 36 Focus Firms and 36 comparator firms and the results were consistent with the descriptive results. That is, in the 3 years after the intervention the LTC costs were lower than at baseline for the Focus Firms. By the 5th year of observations the Focus Firms and comparator firms closed the large initial gap in LTC costs and had similar LTC costs. The MANOVA results showed that the difference between Focus Firms and comparator firms on LTC costs was significant ($\eta^2_{\text{partial}} = .06$, $p < .05$).

The RMANOVA for NLTC costs included 36 Focus Firms and 36 comparator firms and the results were consistent with the descriptive results. That is, in the year after the intervention, the NLT costs for Focus Firms dropped from the intervention year. However, the comparator firms showed a similar decline in the same time period along with a similar pattern of change. Indeed, the MANOVA results showed that the difference between Focus Firms and comparator firms was small ($\eta^2_{\text{partial}} = .005$). When both groups are considered together, this pattern of change (drop, followed by increase, followed by drop) was considered significant ($\eta^2_{\text{partial}} = .06$, $p < .05$). A test of differences between years showed no significant differences between years.

The RMANOVA for Officer Orders included 22 Focus Firms and 24 comparator firms and the results were consistent with the descriptive results. That is, in the first 3 years after the intervention the Orders increased from baseline followed by a slight decline. In contrast, the comparator firms showed a spike in year 2 followed by a drop and then 2 years of increases. The overall difference between the comparator firms and Focus Firms was extremely small ($\eta^2_{\text{partial}} = .001$). Both groups increased in the number of Orders overall and this effect was significant ($\eta^2_{\text{partial}} = .09$, $p < .05$).

Injury Outcomes Conclusion

This analysis suggests that the Focus Firm initiative intervention was associated with changes in the injury and health and safety infrastructure measures assessed. For example, Focus Firm participants saw a 26% reduction in overall injury costs (while injury costs rose among comparison firms). This reduction may be the result of reduced injury frequency/severity, legitimate claims management activity, illegitimate claims management activity or all three. These results may also be partially or fully explained as

a typical 'regression to the mean' pattern as we see costs return to levels similar to the comparison group. The data at hand do not allow us to determine the relative contributions of these explanations.

Focus Firm participants saw a reduction in overall injury claims. This is consistent with an important goal of the Focus Firm initiative. It is not possible to tell if the Focus Firm initiative caused this reduction due to a lack of data for these variables among the matched pairs. An alternate explanation is that this reduction mirrors a broader change in injury rates or a regression towards the mean. That said, our sense is that this reduction is related (at least in part) to the Focus Firms initiative due to the timing of the change: the intervention year was standardized for analytical purposes and the real year of intervention varies significantly among the firms.

Finally, in the last year of the study, Focus Firms also saw a decline in officer orders greater than the reduction seen in comparator firms. While the quantitative nature of the indicator may mask qualitative changes in the orders being issued, the downward trend in orders for Focus Firms in the third year after the intervention is a positive sign.

It is not possible to establish unequivocal causality between the Focus Firms initiative and the changes in the outcome measures. Nevertheless, the changing outcomes were consistent with the intent of the Focus Firms initiative and the timing of the changes is difficult to accept as mere coincidence. This analysis also suggests that changes in the outcome measures tend to be greater when examining indicators derived from injury compensation data than when examining indicators derived from occupational health and safety enforcement data. This suggests that the Focus Firms initiative may have encouraged both more careful claims management by firms and an actual reduction in injuries. Although the long-term goal of the Focus Firms initiative is a reduction in the actual number of injuries among these employers, both of these outcomes are beneficial (albeit to different workplace groups).

IMPLICATIONS FOR FUTURE OHS RESEARCH

This study suggests, subject to the limitation set out above, that intervening to build capacity in firms demonstrating poor safety performance can yield positive changes in injury outcomes. It should be possible, with more careful data collection and a more rigorous methodology, to test this tentative hypothesis. The current instrument is not suitable for such testing due to its unknown reliability and validity.

APPLICATION FOR POLICY AND PREVENTION

To the degree that the conclusions reached are considered valid and reliable by the reader, this study supports interventions by regulatory agencies to build health and safety infrastructure within poor performing firms as a means of reducing workplace injuries. The current 5*22 model does not match the factor structure revealed in the survey results and should be revised or replaced with a validated model.

KNOWLEDGE TRANSFER AND EXCHANGE

WorkSafeNB has taken receipt of a final report, detailing these findings as well as recommendations for improving future prospects for evaluation. WorkSafeNB has invited Barnetson and Fraser to present the results of the Canadian Association of Administrators of Labour Law conference in May 2012. While the results of this study may have utility for practitioners (if used cautiously), we do not believe the results are suitable for academic publication due to the limitations expressed above.

REFERENCES

- Bigelow PL, Robson LS. Occupational Health and Safety Management Audit Instruments: A Literature Review. Institute for Work & Health; 2006: Toronto, Ontario. Available at: www.iwh.on.ca
- Carmines EG, Zeller RA. Reliability and Validity Assessment . Beverly Hills, CA: Sage, 1979.
- Flin R, Mearns K, O'Connor P, et al. Measuring safety climate: identifying common features. Safety Science 2000;34:177–192.
- WorkSafeNB. (n.d.) TOPIC 1 of 22 - HEALTH & SAFETY POLICY. http://www.worksafenb.ca/522top1a_e.htm

APPENDIX A: QUESTIONNAIRE



Why fill out this Workplace Health & Safety Assessment Survey?

By completing this Health & Safety Survey you will be helping to meet your health & safety needs as well as those of all other employees at your workplace.

Read Instructions!

- This survey does **NOT** require your name, address or any other personal information.
- The information provided by you in this survey is completely confidential.
- Only your experience and opinions are what matter!

Sample Question (q):

→ Do you have concerns about safety issues at your workplace?... Yes No Don't Know

- **Fill the circle completely** () beside the answer you choose. **Example:** ().
- If you select **"Yes"** choose all statements below the question and **fill each circle** that corresponds to your choice.
- If you select **"No"** or **"Don't Know"** then follow the instructions on how to proceed.
- Answer only what you **KNOW** to be true – please **DO NOT** make any assumptions (guesses).

Please Note: In no way are you obligated to complete any part of this survey. Your participation is greatly appreciated. Your response, and others like you, will provide information to help create a safe and healthy workplace for all.

Thanks!

V	E	R		1	.	0
---	---	---	--	---	---	---

© WHSCC of N.B., 1999
© CSSIAT du N.-B., 1999

All Accidents Are Preventable

See back of page →

BACKGROUND INFORMATION

☛ All persons involved within a workplace are considered to be **EMPLOYEES**.

➔ Please identify what **BEST** describes you according to **ONE** of the following three groups.

WORKER

This group refers to individuals employed at a place of employment who **DO NOT** have any permanent authority (supervisory duties) over other persons or groups of employees.

People in this group may have one of the following titles:

- Worker
- Staff
- Front-Line Worker
- Service Deliverer
- Crew Member
- Operator
- Professional Staff Person
- Assistant
- Clerk
- Support Person
- Journeyman
- Labourer
- Team Member
- Consultant

FRONT-LINE SUPERVISOR

This group refers to the front-line supervisory positions that are situated within departments, divisions, plants, etc. and have authority over specific employees. These individuals directly supervise employees on a daily or regular basis.

People in this group may have one of the following titles:

- Front-line Supervisor
- Foreman
- Working Foreman
- Shop Foreman
- Job Foreman
- Crew Chief
- Area Supervisor
- Team Leader
- Crew Supervisor
- Job Supervisor
- Project Leader
- Lead Hand
- Department Manager

MANAGEMENT

This group refers to management staff in an organization or a workplace who have working authority over front-line supervisors or personnel and are responsible for managing the work of a corporation, plant, department, division, office, etc.

People in this group may have one of the following titles:

- General Manager
- Plant Manager
- Employer
- CEO
- President
- Vice-President
- Executive Director
- Superintendent
- Owner
- Divisional Head
- Department Head
- Chairperson
- Director
- Board Member
- Administrator

OTHER

If none of the above describe you please explain:

➔ The name of the company that I work for is...

HEALTH & SAFETY RESPONSIBILITY

1 - Health & Safety Policy

 A **health and safety policy** is a statement of the intention and commitment by the employer toward the health and safety of all employees at the workplace.

➔ Does your workplace have a **written** “health and safety policy”?..... Yes No (Go to q2) Don't Know (Go to q2)

➔ If a “health and safety (H&S) policy” has been provided to you... (Fill in all circles that apply)

- The H&S policy addresses the health and safety expectations of management.
- The H&S policy addresses the health and safety needs of the workforce.
- The H&S policy contains a statement of the organization's general health & safety commitment.
- The H&S policy contains a statement of the organization's general health & safety goals.
- The H&S policy is signed by our senior person at the workplace.
- The H&S policy is signed by our joint health and safety committee members or our H&S representative.
- The H&S policy is posted throughout our workplace.
- The H&S policy is read and reviewed by all employees on a yearly basis.

2 - Health & Safety Plan

 A **health and safety plan** describes the health and safety work to be done and measures progress made in the workplace on a yearly basis.

Goals are what you plan to do. **Objectives** are how you plan to meet your goals.

➔ Was a “health and safety plan” communicated to you within the last 12 months?..... Yes No (Go to q3) Don't Know (Go to q3)

➔ If a “health and safety (H&S) plan” has been communicated to you, ... (Fill in all circles that apply)

- The H&S plan addresses the health and safety goal(s) that our workplace wants to achieve this year.
- The H&S plan addresses the health and safety objectives which describe the actions to be taken this year.
- The H&S plan explains the reasons for selecting actions to be taken this year.
- The H&S plan identifies the employees responsible for accomplishing the objectives in the Plan.
- The H&S plan identifies a time frame to accomplish these objectives.
- The H&S plan explains management commitment to the identified goals and objectives.
- The H&S plan states employee involvement in the actions to be taken.
- The H&S plan addresses specific hazard and risk control actions to be taken.
- The H&S plan identifies health and safety educational and training needs to be met.
- The H&S plan addresses methods for measuring and reviewing progress.

3 - General Health & Safety Rules

 **General health and safety rules** are recognized health and safety practices that are mandatory and enforced throughout the entire workplace.

➔ Do you know the “general health and safety (H&S) rules” in your workplace?..... Yes No (Go to q4)

➔ In my workplace... (Fill in all circles that apply)

- Time has been taken to explain the general H&S rules to me.
- Our general H&S rules are written.
- A copy of the general H&S rules is made available to me.
- Failure to comply with the general H&S rules results in disciplinary action.
- I follow and support the general H&S rules.

4 - Health & Safety Procedures or Practices

 **Health and safety procedures or practices** are written step-by-step instructions to be followed in a certain order for particular tasks and handling of equipment (i.e. tag & lockout, manual handling, working alone).

➔ Does your workplace have written “health and safety procedures or practices” for any existing identified hazards?..... Yes No (Go to q5) Don't Know (Go to q5)

➔ If “health and safety (H&S) procedures or practices” were communicated to you... (Fill in all circles that apply)

The H&S procedures address existing hazards as required by legislation (*Occupational Health & Safety Act* and regulations).

The H&S procedures are available to the affected workforce.

The H&S procedures address identified hazards in your workplace when needed.

The H&S procedures are reviewed by the applicable front-line supervisor(s) with their workers.

The H&S procedures are reviewed by our joint health & safety committee or our H&S representatives.

The H&S procedures are revised as necessary by the workforce that they affect.

5 - Legal Obligations

 **Legal obligations** are health and safety duties every employee is responsible to carry out, as stated in the legislation (*Occupational Health and Safety Act* and regulations).

➔ Are you aware of your “legal obligations” as stated in the legislation (*Occupational Health and Safety Act (OHS Act)* and regulations)?..... Yes No (Go to q6)

➔ “Legal obligations” present in my workplace include the following... (Fill in all circles that apply)

My tools, equipment, machines, devices, and materials are kept in good condition to minimize risk.

I am made aware of any known hazards at my place of employment.

I am provided with information, instruction, training and supervision to ensure my health and safety.

I am provided with well-maintained personal protective equipment when it is necessary.

My employer ensures that I use personal protective equipment when it is necessary.

I co-operate with anyone who is responsible for health and safety in the workplace.

I do all of my job duties in a safe manner to protect myself and others.

I follow safe work practices to minimize risk.

I report all health and safety hazards and concerns to a front-line supervisor, management or my employer.

6 - Health & Safety Actions

 **Action** means doing activities to improve health and safety in the workplace.

➔ Does your workplace take “action(s)” toward addressing health and safety?..... Yes No (Go to q7) Don't Know (Go to q7)

➔ “Actions” towards addressing health & safety include the following... (Fill in all circles that apply)

The front-line supervisor enforces the legal health and safety requirements that affect my work area.

The front-line supervisor enforces the legal health and safety requirements for specific jobs.

The front-line supervisor acknowledges the safe work practices of workers.

My workplace has a written disciplinary procedure to deal with non-compliance of safe work practices.

The senior management at my workplace acknowledge the safe work practices of myself and my fellow employees.

MANAGEMENT COMMITMENT

7 - Health & Safety Communication

 **Communication** means to provide all employees with current, timely information and progress updates on health and safety issues.

➔ Does your workplace “*communicate*” health and safety issues to you?..... Yes No (Go to q8)

➔ If health and safety information is “*communicated*” to you, this is done in the following way... (Fill in all circles that apply)

- The *Occupational Health and Safety Act* and regulations are posted or accessible to me.
- I have been informed about the known hazards in my workplace.
- The health and safety policy in my workplace has been explained to me.
- The general health and safety rules in my workplace have been explained to me.
- The names of the employees who are members of the joint health and safety committee (JHSC) or our health and safety representatives are posted.
- The minutes from the JHSC meetings in my workplace are posted.
- I am provided with timely updates on health and safety concerns raised by myself or any other employee.
- Management provides health and safety information at least once every three months.
- The front-line supervisor reinforces health and safety information in my work area.
- In my work area, monthly or bi-monthly health and safety talks are conducted.
- I am given the opportunity to give feedback and make comments when discussing health & safety information.

8 - Management Support

 **Support** means that management actively promotes and resolves health and safety (H&S) issues in the workplace (i.e. management: talks to employees about H&S issues, participates in H&S activities, provides H&S information, provides resources, acknowledges employees’ H&S practices).

➔ Is there “*support*” for health and safety activities, actions, and initiatives in your workplace?..... Yes No (Go to q9) Don’t Know (Go to q9)

➔ Health and safety has been supported in my workplace through the following activities... (Fill in all circles that apply)

- Urgent health and safety concerns of the workforce are addressed immediately.
- Health and safety information is circulated or posted in the workplace (i.e. bulletins, hazard alerts, and posters).
- Some employees from our workplace go to health and safety workshops and conferences.
- Instruction is given to affected employees when changes are made to equipment, materials, and processes.
- Management includes health and safety on the agenda of all business meetings.
- New health and safety initiatives or projects are identified and acted upon on a yearly basis.
- Recognition is given to individuals for health and safety accomplishments.

9 - Well-being of Employees

 The **well-being of employees** means the employer implements activities and programs, which supports the overall health of their employees.

➔ Does your workplace address the “*well-being*” of its employees?..... Yes No (Go to q10) Don’t Know (Go to q10)

➔ The “*well-being of employees*” in our workplace is addressed by the following actions... (Fill in all circles that apply)

- I am told about hazards and risks involved in doing a particular task or duty.
- I am told how to protect myself from known hazards and risks in my work area.
- My workplace has an employee assistance program (EAP) that is available to all employees.
- My workplace has a harassment policy that I understand.
- My workplace has a non-smoking policy that is enforced.
- My workplace has a disability management program.
- My workplace participates in wellness initiatives for all employees.

EMPLOYEE INVOLVEMENT

10 - Health & Safety Orientation

 **Health and safety orientation** means becoming familiar with the hazards and risks of your workplace by being provided with health and safety information, explanations on how to use this information and instructions on health and safety roles and responsibilities.

➔ Who in your workplace gets a “health and safety orientation”?... *(Fill in all circles that apply)*

No One	Contractors
Don't Know	Visitors
New Employees	Summer Students
Transferred Employees	Other <i>(Please Specify)</i>

➔ Have you received any “health and safety orientation” about your workplace?..... Yes No *(Go to q11)*

➔ If a “health and safety orientation” has been given to you, it addressed the following areas... *(Fill in all circles that apply)*

- The health and safety policy of your workplace.
- The general health and safety rules of your workplace.
- Employee's legal health and safety rights and responsibilities (*OHS Act & regulations*).
- Health and safety procedures or practices.
- Hazard and accident reporting procedures for your workplace.
- The health and safety management practices of your workplace.
- Health and safety education or training given to employees.

11 - Employee Participation

 **Participation** refers to the active involvement of employees in the improvement of health and safety in their workplace.

➔ Have you “participated” in health and safety activities at your workplace within the last 12 months?..... Yes No *(go to q12)*

➔ The “participation” of you or any other employees in health and safety activities in your workplace is demonstrated by the fact that... *(Fill in all circles that apply)*

- Workers report any accidents to the front-line supervisor.
- My workplace has a joint health and safety committee or a health and safety representative (JHSC/H&S rep.).
- My workplace JHSC/H&S rep.(s) have been selected by the employees.
- My workplace JHSC/H&S rep.(s) are given time to complete JHSC/H&S rep. training.
- My workplace JHSC/H&S rep.(s) meets once a month.
- My workplace JHSC/H&S rep.(s) are able to perform their assigned tasks.
- Workers are encouraged to make health and safety suggestions to the front-line supervisor.
- I am asked to attend and/or participate in monthly or bi-monthly health and safety talks.
- I am asked to participate in health and safety initiatives, projects, or meetings.

12 - Required Safe Work Practices

 **Required** means that management expects all employees to follow safe work practices when performing their job duties.

➔ Are you “required” to work safely at your workplace?..... Yes No *(Go to q13)* Don't Know *(Go to q13)*

➔ If you are “required” to work safely, this is apparent because... *(Fill in all circles that apply)*

- I am expected to report any existing hazards in my work area.
- I am expected to wear personal protective equipment when it is required for my safety.
- I am expected to support the health and safety recommendations made by our JHSC/H&S rep(s).
- I am expected to cooperate with anyone responsible for the enforcement of the *OHS Act* and regulations.
- Our health and safety disciplinary procedure for non-compliance has been explained to me.
- My work area is inspected regularly to see if I am performing my job duties safely.
- The health and safety inspections of my work area are documented and filed.

HAZARD & RISK MANAGEMENT

13 - Identification of Hazards & Risks

 **Identification** means to recognize hazards and risks.

A **hazard** is a practice, behaviour, physical condition, or a situation that can cause injury, illness, or damage to property.

A **risk** is a possibility or probability of injury, illness, or damage to property.

➔ Are known hazards “**identified**” at your workplace?..... Yes No (Go to q14) Don't Know (Go to q14)

➔ If hazards have been “**identified**” in your workplace, this is apparent because... (Fill in all circles that apply)

My employer has a written list which identifies all of the hazards in my work area.

The hazards in my work area have been identified by a person(s) knowledgeable, trained, and experienced in health and safety matters.

The hazards in my work area have been assessed for potential risks.

Priorities have been set to resolve any health and safety risks in my work area.

When my workplace addresses risks in my work area, they ask for input from those of us who would be affected.

14 - Control of Hazards & Risks

 **Control** means to prevent or minimize any potential harm or loss from any hazards and risks in the workplace.

➔ Does your workplace “**control**” for known hazards and risks?..... Yes No (Go to q15) Don't Know (Go to q15)

➔ If hazards and risks have been “**controlled**” in your workplace, this is apparent because... (Fill in all circles that apply)

I am provided with well-maintained personal protective equipment when it is necessary.

Current material safety data sheets (MSDS) are made available to me.

In my workplace, the containers of hazardous materials are properly labeled and maintained.

My workplace has individuals trained in standard first aid and I know who they are.

My workplace has first aid supplies that are available and accessible to me.

Where it is required by legislation, my workplace tests and monitors for hazards and risks.

My workplace has written guidelines or instructions for the control of hazards and risks.

My workplace has preventative maintenance protocols in place for equipment.

My workplace has an emergency plan with responsibilities assigned to individuals.

My workplace has health and safety purchasing controls in place for materials and equipment.

My workplace gives priority to design and engineering controls.

My workplace takes corrective actions that are recommended by a person(s) knowledgeable, trained, and experienced in health and safety matters.

My workplace takes corrective actions in consultation with the employees that would be affected by them.

My workplace has programs in place which address occupational health, hygiene, or ergonomic issues.

15 - Hazard & Risk Reporting

 **Reporting** means to inform the front-line supervisor or the person responsible for health and safety in your workplace of a hazard or risk.

➔ Are hazards and risks “**reported**” in your workplace?..... Yes No (Go to q16) Don't Know (Go to q16)

➔ If hazards and risks are “**reported**” in your workplace, this is apparent because... (Fill in all circles that apply)

If a hazard or risk is likely to endanger my safety, I would report this concern to the front-line supervisor in my area.

If a hazard or risk is likely to endanger another employee's safety, I would report this concern to the front-line supervisor in their area.

Activities are in place in my workplace to encourage me and other employees to report hazards and risks.

16 - Accident Reporting



An **accident** is an event that results in harm or damage.

An **incident** is an event that could result in harm or damage (near miss or near hit).

➔ Are “accidents” reported in your workplace?..... Yes No (Go to q17) Don't Know (Go to q17)

➔ If “accidents” are reported in your workplace... (Fill in all circles that apply)

I would report any accident that resulted in harm or damage to a person or materials or equipment immediately to the front-line supervisor in the area or a manager.

Accidents in my workplace that cause or may cause – a death, a loss of a limb, an occupational disease, or that requires or may require hospitalization – are reported immediately to WHSCC (Prevention Division).

Accidents in my workplace that - require medical aid or compensation - are reported to WHSCC (Compensation Division) within three days of the occurrence of the injury or disease.

My workplace has a written procedure for reporting accidents.

My workplace’s JHSC/H&S rep. is notified of any accident that occurs in the workplace.

Activities are in place in my workplace to encourage incident reporting.

17 - Accident Investigation



An **accident investigation** is a detailed search to find out the factors (who, what, where, when, how) of an accident to determine the cause(s).

➔ Are accidents that occur in your workplace “investigated”? Yes No (Go to q18) Don't Know (Go to q18)

➔ If your workplace “investigates” accidents, the following steps are taken... (Fill in all circles that apply)

WHSCC (Prevention Division) is notified of any serious accidents and injuries immediately.

The scene of an accident that results in a serious injury, is preserved.

Your JHSC/H&S rep. is notified of any accidents and injuries.

The accident is documented in writing.

The causes of the accident are identified.

The findings of the investigation are reported to senior management.

A plan for corrective action is developed.

Corrective action is completed.

The effectiveness of the corrective action is evaluated.

Changes are made for continuous improvement.

18 - Accident & Injury Analysis



An **analysis** is the evaluation of accident and injury information (recorded) to find the causes of accidents and injuries and to see if there are any harmful patterns developing in the workplace.

➔ Does your workplace record (in writing) accident or injury information?..... Yes No (Go to q19) Don't Know (Go to q19)

↳ If Yes, does your workplace “analyze” the accident and injury information that it records?..... Yes No Don't Know

➔ If your workplace records and/or “analyses” accident and injury data, the following is included... (Fill in all circles that apply)

Some recorded (written) information on accidents and injuries in the workplace is collected.

The accident and injury information is analyzed to determine immediate and root causes.

Recommendations are made based on the results of any analysis of the accident or injury information.

The JHSC/H&S rep(s). participate by reviewing the results of the analysis and any recommendations that are made.

The analyzed results and recommendations are used to plan corrective actions.

Corrective actions are taken so that future injuries and damages can be prevented.

19 - Health & Safety Inspections



A **health and safety inspection** is a planned walk-through of the workplace to identify existing or possible hazards and risks, and to recommend appropriate corrective actions.

➔ Are “**health and safety inspections**” conducted in your workplace?..... Yes No (Go to q20) Don't Know (Go to q20)

↳ If Yes, who participates in the “**health and safety inspections**”?... (Fill in all circles that apply)

Front-line Supervisors

Health & Safety Representatives(s)

JHSC Members

An Employee From The Inspected Work Area

Don't Know Who Participates

Other (Please Specify)

➔ If your workplace does “**health and safety (H&S) inspections**”, they include the following... (Fill in all circles that apply)

H&S inspections are done when equipment fails.

H&S inspections are done when poor working conditions cause problems.

H&S inspections are done of our work area.

H&S inspections are done on equipment – that is required by the *OHS Act* and regulations – and are documented by front-line supervisors.

Work practices are inspected to encourage safe work practices.

H&S inspections are done on equipment – that is not specifically required by the *OHS Act* and regulations – and are documented by front-line supervisors.

H&S inspections are done jointly by trained management and employee representatives.

H&S inspections are conducted at least once a month in our work area.

H&S inspections are used to develop key findings that are summarized in a report to senior management.

H&S inspections result in appropriate actions being taken to fix any observed problems or deficiencies.

HEALTH & SAFETY EDUCATION

20 - Health & Safety Educational Needs



Educational Needs refers to the identification by your employer of any information, instruction or training that would help employees do their job safely and protect their health.

➔ Have your health and safety “**educational needs**” been identified by your workplace?..... Yes No (Go to q21) Don't Know (Go to q21)

➔ If your workplace does identify the health & safety “**educational needs**” of employees, it is apparent because... (Fill in all circles that apply)

I know what is legally required in terms of health and safety education according to the *OHS Act* and regulations.

All new and transferred employees are identified as requiring a health and safety orientation.

I am asked yearly what health and safety education is required for me to do my job safely.

My workplace has developed a health and safety educational plan (with learning objectives) for this year.

My workplace has allotted resources to carry out the health and safety educational plan.

My workplace keeps records to help carry out and track our health and safety educational plan.

My workplace has developed a health and safety educational needs assessment for each occupation.

21 - Health & Safety Education Delivery



The **delivery of health and safety education** means providing the necessary information, instruction, or training to help employees do their job safely and to protect their health.

➔ Have you been provided with any health and safety education in your workplace?... **Yes** **No** (Go to q22)

➔ What health and safety education is “**delivered**” in your workplace?... (Fill in all circles that apply)

I am informed of my legal health and safety rights and responsibilities according to the *OHS Act* & regulations.

The front-line supervisor in my area is informed of his or her legal health and safety rights and responsibilities according to the *OHS Act and* regulations.

My workplace JHSC/H&S reps. are informed of their legal health and safety rights and responsibilities according to the *OHS Act and* regulations.

Management is informed of their legal health and safety rights and responsibilities according to the *OHS Act and* regulations.

Instruction is given to management on the principles of health and safety.

Instruction is given to management on the principles of hazard and risk control.

Instruction is given to front-line supervisors on managing health and safety at the workplace.

Instruction is given to front-line supervisors on hazard and risk control.

My workplace uses people who are knowledgeable, trained and experienced in health and safety matters to deliver instruction.

In my workplace, the person(s) assigned to coordinating health and safety has received formal instruction on the principles and management of health and safety and loss control from a recognized organization.

22 - Health & Safety Education Effectiveness



The **effectiveness of health and safety education** involves tracking and recording the delivery of the health and safety education of all employees, and evaluating whether the educational needs of all employees are being met.

➔ Does your workplace **track** and **record** the delivery of health and safety education?..... **Yes** **No** (Skip) **Don't Know** (Skip)

↳ If Yes, does your workplace **evaluate** the effectiveness of health and safety education provided?..... **Yes** **No** **Don't Know**

➔ If your workplace “**measures the effectiveness**” of its health & safety education, how is this done?... (Fill in all circles that apply)

My workplace has documents on file that state what health and safety education employees have received.

I have received the legally required health and safety education according to the *OHS Act and* regulations.

The health and safety education provided to me helps me do my job safely and protects my health.

The educational learning objectives for my workplace are met during the course of a year.

I get health and safety refreshers based on my educational needs.

Please make any comments regarding health and safety at your workplace.

Thank You! - All Accidents Are Preventable