MINNESOTA DEPARTMENT OF LABOR AND INDUSTRY

SOII Undercount Project

Minnesota interviews with SOII respondents

Report prepared for the U.S. Bureau of Labor Statistics

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SOII respondents participated in phone interviews about their OSHA recordkeeping and SOII reporting experience, knowledge and actions. Significant differences were found between establishments in different size groups. Respondents for larger employers indicated that they have more experience and training in recordkeeping and their knowledge and actions are more likely to be consistent with the recordkeeping guidelines.

Introduction

The goal of the Survey of Occupational Injuries and Illnesses (SOII) is to provide annual estimates of the number and rate of non-fatal occupational injuries and illnesses for the nation and for each of the participating states. The SOII is a federal program administered by the Bureau of Labor Statistics (BLS), with participating states collecting the data from their own state.[1] SOII data are used as industry benchmarks by employers to evaluate their business's workplace safety status, to correct and identify occupational hazards, as an indicator of occupational health and safety trends and conditions across industries and occupations, to determine priorities to improve workplace safety and as a tool to measure the effectiveness of public and private workplace safety and health programs, including OSHA. Similarly industrial hygienists, manufacturers of safety equipment, epidemiologists and others concerned with job safety and health rely upon the SOII estimates to make reasoned judgments and business decisions.

The SOII relies exclusively on the national OSHA recordkeeping requirements (29 CFR 1904) to determine which injuries and illnesses are to be included in the survey submissions. Establishments, which are randomly sampled to participate in the SOII, are instructed to use the OSHA log (OSHA Form 300) to maintain a record of OSHA recordable injuries and illnesses and to track days away from work (DAFW) and days of job restriction or transfer (DJTR). Consequently, the injury and illness recordkeeper's understanding of OSHA recordkeeping requirements is essential for accurate reporting of workplace injuries through the SOII. Because the SOII is an estimate of occupational injuries and illnesses, not a census, nearly every establishment's response is weighted to represent additional establishments, so any reporting errors are magnified.

The power of the SOII is based on the ability of the BLS to combine data from all the states into national estimates and for the public to be able to compare the same industry in different states. Because of the larger sample size, the national estimates can be published at a level of industry detail that is not available in many individual states and they can often be published by establishment size within that industry. The data from the different states can be combined because they are all collected according to national OSHA recordkeeping standards.

The national requirements for OSHA recordable injuries[2] differ from what constitute compensable state workers' compensation claims (Oleinick and Zaidman, 2010). To the extent that establishments submit SOII responses based on state workers' compensation statutes and compensability decisions made by workers' compensation insurers, judges and administrators, the data from different states are not comparable or combinable, and the quality of the national estimates is compromised. Mendeloff and Burns (2012) document the effect of the crossover of workers' compensation statutes on SOII reporting, showing lower DAFW case incidence rates in states with longer workers' compensation waiting periods. Wuellner and Bonauto (2014) provide evidence of how employers in Washington State substitute workers' compensation claim eligibility criteria for OSHA recordkeeping requirements.

In Minnesota, workers' compensation claim eligibility for benefits differs from OSHA recordability requirements in nine primary areas, most notably in the definition of work-relatedness. While OSHA uses the positional risk standard as the basis of determining whether an injury or illness is work-related, Minnesota's workers' compensation system uses the increased risk standard. The positional risk standard presumes that events or exposures in the work environment that either caused or contributed to a resulting condition or that significantly aggravates a pre-existing injury or illness are work-related (OSHA Recordkeeping Handbook, 2005). Using the increased risk standard, Minnesota workers' compensation

[1] The BLS collects SOII data from employers in nonparticipating states in order to calculate the national estimates.
[2] "Injury" is often used in this report to refer to both injuries and illnesses.

claims need to result from conditions and activities that put the worker at a higher risk than members of the general public or what the worker might encounter when not at work. Definitions of employees, employers, days away from work, what is included as an injury or illness, and what constitutes a re-injury are markedly different. Even so, the overwhelming majority of workers' compensation claims are recordable log cases and most OSHA log recordable cases qualify for workers' compensation benefits.

The SOII has been criticized for undercounting the number of injuries and illnesses. Recent research has shown that many cases which should be included on OSHA logs, SOII reports and in workers' compensation claims databases are missing (Leigh et al, 2004; Rosenmann et al, 2006; Boden and Ozonoff, 2008, Spieler and Burton, 2012). According to Ruser (2008), estimates of the SOII undercount by various researchers range from 20 to 70 percent, depending on the methodology employed and the state studied. Ruser (2008) identified four dimensions of a potential undercount: Long latency periods of occupational illnesses; injuries and illnesses suffered by out-of-scope workers; injuries and illnesses reported in other systems; and occupational injuries and illnesses that are not reported at all. Many issues confound the matching of workers' compensation cases with SOII/OSHA recordable cases (Oleinick and Zaidman, 2010; Nestoriak and Pierce, 2009; Wiatrowski, 2014). For example, the SOII is based on reporting for individual establishments while workers' compensation systems typically amalgamate establishments into the state-wide firm level and SOII DAFW cases may not be identified as such in the workers' compensation system.

Minnesota's Department of Labor and Industry (DLI) conducted an internal study comparing employers' workers' compensation claims with their OSHA logs (Messiou and Zaidman, 2005). The study looked at the characteristics of OSHA log cases that were not in DLI's workers' compensation claims database and workers' compensation cases that were not included on the employers' OSHA logs. The study found that many of the failures to match cases in the two systems were due to misidentification of cases on OSHA logs, differences in reporting deadlines, or a lack of updated information in either the OSHA or workers' compensation programs.

The BLS has been engaged in research to understand the reasons for the SOII's undercount of injuries and illnesses (Wiatrowski, 2014). Following qualitative studies using in-person interviews with SOII respondents (Phipps, 2010 and SHARP, 2012), the purpose of the present study is to provide further measurements of SOII respondents' knowledge and their application of OSHA recordkeeping standards in the maintenance and reporting of injury and illness records to the BLS through the SOII. In particular, this report focuses on recordkeeping differences based on establishment size.

There is the strong and consistent relationship between establishment size and injury and illness rates reported in the SOII results. The reader needs to keep in mind that establishment size conveys many benefits to individual establishments. As this report notes, larger establishments typically have greater specialization in occupations allowing for a greater proportion of safety professionals with both more formal training and years of experience in recordkeeping. Larger establishments are much more likely to employ specialized injury-tracking software and track near-misses at their facilities. Figure 1 shows Minnesota's state total case incidence rates by establishment size for 2011(Zaidman, 2013) and the rate distribution for the industry supersectors is shown in Table 1. The estimated incidence rates for total cases and DAFW cases were lowest for the smallest establishments and highest for mid-sized establishments. The supersector rate table shows that not all industries follow the statewide pattern. These size differences might be the result of injury reporting and injury and illness recordkeeping, and also differences in overall safety at mid-sized firms, which might have a variety of work tasks happening and a lack of resources to employ safety professionals or train supervisors to guide workplace safety programs.

The Washington State SHARP study (2012) also showed that the occupation of the SOII respondents varied by employer size, with larger employers more likely to have safety or risk management

professionals responsible for their recordkeeping. Among the smallest establishments, the business owner or manager is often responsible for OSHA log recordkeeping and any SOII submission. OSHA log recordkeeping is not required for companies with fewer than 11 workers across all establishments. These companies are required to maintain a log only when they participate in the SOII. For slightly larger-sized

Figure 1 SOII injury and illness case incidence rate estimates by establishment size, Minnesota, 2011

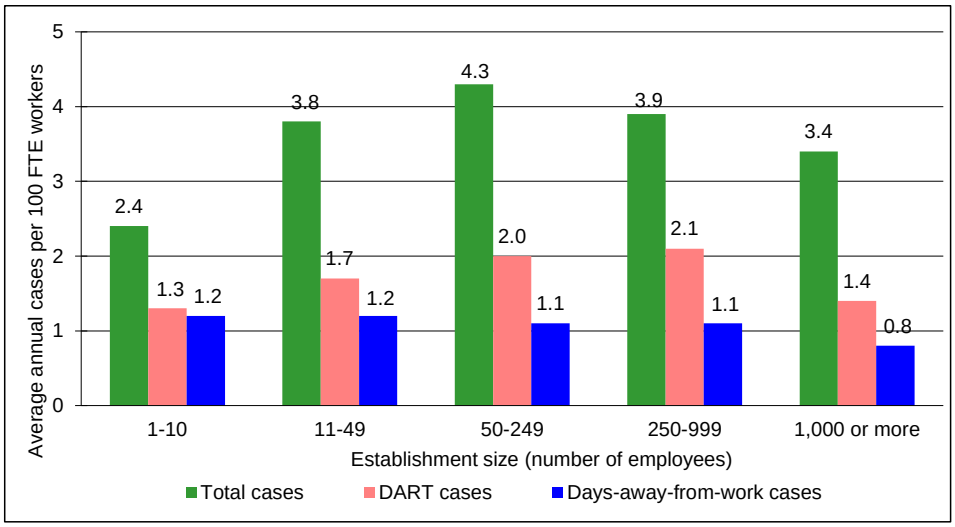

Table 1 SOII injury and illness case incidence rate estimates by industry and establishment size, Minnesota, 2011

Industry supersector[1]	Total recordable cases per 100 FTE workers by establishment size (number of employees)[2]					
	All Sizes	1-10	11-49	50-249	250-999	1,000+
Natural resources and mining	6.2	--	3.5	10.1	3.3	--
Construction	6.5	7.2	7.1	5.9	1.4	--
Manufacturing	4.8	--	7.0	5.4	4.3	2.8
Trade, transportation and utilities	3.8	1.2	3.2	5.0	4.6	4.9
Information	1.3	--	--	0.8	1.5	0.3
Financial activities	0.9	0.0	--	1.3	1.0	0.6
Professional and business services	1.7	--	3.4	1.9	1.1	0.8
Education and health services	4.7	--	3.6	4.7	5.4	5.6
Leisure and hospitality	4.1	--	3.2	4.2	7.8	7.7
Other services	2.8	--	1.8	4.7	4.1	--
State government	4.2	4.8	6.7	4.3	3.2	4.2
Local government	4.7	--	5.0	4.2	5.0	3.9

1. Except for state and local government, all supersectors include only privately owned establishments.
2. Only cells with data meeting BLS publication standards are shown.

establishments, where a manager might not have time to perform recordkeeping activities and the company might not be large enough to afford a trained safety manager or risk manager, OSHA recordkeeping responsibilities are often delegated to an office worker, typically someone with human resources responsibilities. The quality of the SOII submissions depends on the degree to which these SOII respondents are able to maintain their logs according to the OSHA recordkeeping requirements.

Methodology

Survey development

This study builds upon a series of qualitative interviews with SOII responders conducted by the BLS in and around Washington D.C. and in Kentucky (Phipps and Moore, 2010) and in Washington State (SHARP, 2012 and Wuellner and Bonauto, 2014). In 2102, BLS issued a request for proposal to conduct telephone interviews with 2010 and 2011 SOII participants. Four state's proposals were accepted by the BLS: Washington, Oregon, New York and Minnesota. The interview questionnaire used by the Washington researchers in their interviews served as the starting point for the development of the survey questions.

Research teams from the four states, under BLS guidance, developed the questionnaire (Appendix A) and interviewed SOII participants. The state researchers converted the in-person interview questions into forms understandable during a phone interview, using language that would be understood by respondents in a wide range of industries and workers' compensation systems, that could be primarily answered with a limited set of responses, and that could be completed in 30 minutes or less. For questions that could not be answered as Yes/No or using a few obvious choices, the research teams decided which would be converted to one or more simpler multiple response questions, which would be read as a list of choices, and which would be answered as a free-response and then coded to one or more response choices. The survey, as developed, covered the following topics:

- The establishment's OSHA log recordkeeping process;
- How injury and illness records are maintained;
- How the SOII is completed;
- OSHA recordkeeper and SOII respondent experience, training and responsibilities;
- Knowledge of and adherence to OSHA recordkeeping requirements;
- Establishment policies, safety programs and business uses for injury and illness measures that might influence reporting and recording of worker injuries.

Each state was permitted to add additional questions which might be of interest to that particular state. In Minnesota, four state-specific questions were added.

- Have you had an outside safety consultant visit your facility within the past two years?
- Does your facility collect information on near-misses?
- Do you think your OSHA 300 log is an accurate indicator of worker safety at your facility? Why or why not?
- Is there anything you would like to add that would help me understand how your company tracks workplace injuries and illnesses?

Pilot testing was coordinated between the four participating states. In Minnesota, 41 establishments provided complete pilot interviews. During the course of the pilot testing, four different variations of the

survey were used, as questions were refined and response categories adjusted to fit the common responses.

Two interviewers conducted all the Minnesota interviews. These individuals conducting the survey interviews were hired specifically for the project and did not have experience as OSHA log recordkeepers or SOII respondents. The interviewers received training from DLI staff on OSHA log recordkeeping, the SOII process and workers' compensation in order to become familiar with the questions, the likely responses, and to understand what to say when respondents request to clarify questions. The interviewers' training took two months, and, in addition to the practice obtained through the pilot testing, included practice interviews, in-person and by phone, with members of the department staff and establishment recordkeepers arranged through the DLI's Workplace Safety Consultation unit.

Sample selection

The combined file of 2010 and 2011 SOII participants, including the establishments in the special sample were categorized into sampling cells according to ownership, target employment industry (TEI, corresponding to NAICS industry sector) and size. Due to the small number of establishments with more than 1,000 employees, this size group was combined with 250 to 999 employee establishments. The number of unique establishments by sampling cell is shown in Table 2.

For sampling cells with more than 15 establishments, the establishments were randomly selected to enable collection of at least 10 surveys, given a response rate of 60 percent. A higher percentage of establishments in smaller cells were selected for the phone list and all the establishments in cells with five or fewer establishments were included. The three special samples included all unique respondents for establishments participating in the 2010 or 2011 SOII.

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Table 3 shows the resulting number of establishments in each cell. Overall, 1,265 of the 6,908 unique establishments (18 percent) were selected into the general industry survey contact file. The establishments identified for the contact list were then assigned a randomly-generated contact order number used to assign the establishments into weekly contact groups for each interviewer.

Minnesota special samples

This survey of SOII respondents provided an opportunity to gain information that can be applied to programs to improve recordkeeping compliance. Special samples were constructed for each of the three special focus industries, hospitals (NAICS 622), nursing homes (NAICS 6231) and fabricated metals manufacturing (NAICS 332). In 2012, hospitals and nursing homes accounted for 6.5 percent of Minnesota's private-sector employment, for 11.8 percent of all OSHA recordable injuries and illnesses and for 12.3 percent of the DAFW cases. Additionally, the department is responsible for administering the Minnesota Safe-Patient Handling Act, which became law in 2008. One of the duties involves monitoring injury and illness trends in hospitals and nursing homes. OSHA logs for the past five years have been collected from hospitals and nursing homes in order to classify the recordable cases and identify those that are related to patient-handling situations. Examination of their OSHA logs revealed many recordkeeping errors and wide variations in recorded injuries and illnesses due to changes in recordkeepers. Including these industries in the special samples provided further data to understand the cause of these errors while providing another opportunity to contact these establishments and open a dialogue about OSHA log recordkeeping.

Fabricated metals manufacturing is a Minnesota OSHA emphasis industry with a total recordable case rate of 7.2 injuries and illnesses per 100 full-time equivalent workers as compared to a rate of 4.7 for Minnesota manufacturing as a whole. Minnesota OSHA managers asked for this industry to be included

both to understand if the incidence rates have been accurate and to improve recordkeeping and SOII quality. Increased precision in the reporting of injuries and illnesses will allow managers to more accurately track industry trends and measure OSHA inspection performance.

For each of the three special focus industries, sampling was based on unique contacts, in order to learn about the recordkeeping issues affecting as many companies as possible. After identifying the unique establishments from SOII years 2010 and 2011, establishments with multiple sites that had the same contact persons were identified, and one site was randomly selected. Establishments selected for the general industry survey were also eligible to participate in the special sample survey.

Table 2 Unique establishments participating in the 2010 and 2011 Minnesota SOII surveys by industry and size

Industry-ownership (Targeted Estimation Industry (TEI))	Establishment size (number of employees)				
	1-10	11-49	50-249	250+	Total
State government					
Educational services	6	4	8	12	30
Health care and social assistance	12	7	3	4	26
Public administration	10	21	14	21	66
All other industries	21	11	9	3	44
Local government					
Educational services	2	15	106	28	151
Health care and social assistance	2	5	18	8	33
Public administration	17	28	61	53	159
All other industries	39	37	21	9	106
Private sector					
Natural resources	9	26	14	5	54
Construction	163	160	106	15	444
Manufacturing	136	248	402	218	1,004
Utilities	6	11	13	14	44
Wholesale trade	76	161	114	29	380
Retail trade	174	313	416	93	996
Transportation and warehousing	36	55	68	24	183
Information	15	39	37	22	113
Financial activities	92	76	61	59	288
Professional and business services	189	189	180	92	650
Educational services	11	14	25	25	75
Health care and social assistance	123	265	467	212	1,067
Leisure and hospitality	92	362	265	48	767
Other services	86	84	50	8	228
Total	1,317	2,131	2,458	1,002	6,908

Table 3 Establishments selected for contact by industry and size

Industry-ownership (Targeted Estimation Industry (TEI))	Establishment size (number of employees)					% of SOII establish-ments
	1-10	11-49	50-249	250+	Total	
State government						
Educational services	6	4	8	9	27	90%
Health care and social assistance	5	5	2	4	16	62%
Public administration	6	7	10	10	33	50%
All other industries	10	6	7	3	26	59%
Local government						
Educational services	2	11	15	11	39	26%
Health care and social assistance	2	5	16	7	30	91%
Public administration	10	11	15	15	51	32%
All other industries	13	12	12	7	44	42%
Private sector						
Natural resources	7	22	10	5	44	81%
Construction	27	20	20	15	82	18%
Manufacturing	29	23	19	15	86	9%
Utilities	5	5	9	6	25	57%
Wholesale trade	29	20	20	14	83	22%
Retail trade	27	36	32	17	112	11%
Transportation and warehousing	21	26	17	18	82	45%
Information	7	24	12	15	58	51%
Financial activities	19	13	14	14	60	21%
Professional and business services	33	25	21	15	94	14%
Educational services	8	10	15	12	45	60%
Health care and social assistance	16	22	27	22	87	8%
Leisure and hospitality	26	23	22	14	85	11%
Other services	18	16	15	7	56	25%
Total	326	346	338	255	1,265	18%

Phone call method

The general industry contact list was divided into cohorts, with each cohort sent an introductory email letter and receiving an initial scheduling phone call during the same week. The survey team attempted contact with every establishment. The introductory email was addressed to the contact person identified on the SOII response. If the email was undeliverable because the contact had left the company, phone calls were made to try to identify a new contact person. During the week following the survey interview, the respondents were mailed a thank-you email, which included links to online recordkeeping resources.

The study received a human subjects research exemption from the Minnesota Department of Health Institutional Review Board. Respondents received a statement about data confidentiality in their introductory email. If they did not recall receiving and reading the email, the interviewer read the respondent a paragraph stating that the information will be used for statistical purposes only and is protected by the Confidential Information Protection and Statistical Efficiency Act of 2002 and other applicable federal laws as well as the Minnesota Data Practices Act.

Results

Response analysis

The response rate for the SOII contacts on the general industry survey list was 52.2 percent (660 of 1,265 establishments). The nonrespondents included establishments that did not respond to three phone attempts, with messages left to call DLI, establishments that declined to participate, and contacts who scheduled interviews at a later time but who were unable to be reached for the phone interview. The survey team was unable to make contact with 8.0 percent of the sample, resulting in an adjusted response rate of 56.7 percent. Many of these noncontact establishments had gone out of business in the years since their SOII participation in 2010 or 2011 and the initial email to them was not deliverable.

Table 4 shows how the adjusted response rate varied by establishment characteristics. The response rate was above 60 percent for establishments with 50 or more employees, compared with a rate of 45 percent for establishments with 10 or fewer employees. State and local government establishments participated at a much higher rate than privately-owned establishments. Response rates by industry varied from a high of 81 percent in state government health care to a low of 38 percent in transportation and warehousing. The highest rate among private ownership industries was 63 percent in manufacturing.

The response rate among establishments from companies with multiple locations was higher than the rate for single-location companies. This difference was partially attributable to the higher rates in state and local government, many of which have multiple sites.

Establishments with DAFW or DART rates above their industry average had a higher response rate.

The response rates for single-year SOII participants from either 2010 or 2011 were nearly identical. Although establishments that participated in the SOII in both years had a slightly higher response rate than single-year participants, the difference was not statistically significant.

The response rate pattern suggests that small, single-location, privately-owned establishments were underrepresented among the respondents. These types of establishments are infrequent SOII participants, have few, if any workplace injuries, and likely weren't very interested in participating in a phone interview that takes more time than they spend completing the SOII.

The interviews took approximately 25 minutes to administer.

Contact was attempted with each unique SOII respondent in the three special industries. The three special industry survey groups achieved higher response rates (including out-of-business establishments): Hospitals, 72.5 percent (34 completed surveys), nursing homes, 69.2 percent (94 surveys) and fabricated metals manufacturing, 65.4 percent (87 surveys). Some of the respondents in these three industries also participated in the general industry survey: 27 hospitals, 25 nursing homes and 21 metal fabrication establishments. Survey results from these special groups will be presented in a later report.

Table 4 Survey response rate by establishment characteristics

Characteristic	Completed survey	Non-respondent	Response rate	Chi-Squared	Signifi-cance
Multi-establishment employer indicator				11.908	p<.001
1 unit in state with UI	362	327	52.5%		
More than 1 unit in state with UI	298	177	62.7%		
Days away from work case rate				17.025	p<.001
Not above average rate	466	409	53.3%		
Above average rate	194	95	67.1%		
Days away, restricted or transfer rate				23.810	p<.001
Not above average rate	452	409	52.5%		
Above average rate	208	95	68.6%		
Year participated in SOII				5.436	n.s.
2010 only	259	214	54.8%		
2011 only	249	202	55.2%		
Both years	152	88	63.3%		
Survey size group				31.804	p<.001
1-10 employees	128	158	44.8%		
11-49 employees	168	144	53.8%		
50-249 employees	211	109	65.9%		
250 or more employees	153	93	62.2%		
Ownership category				32.981	p<.001
State government	73	26	73.7%		
Local government	116	47	71.2%		
Private ownership	471	431	52.2%		
MN survey industry				60.296	p<.001
State gov. education	18	9	66.7%		
State gov. health care and social asst.	13	3	81.3%		
State gov. public administration	24	8	75.0%		
State gov. residual industries	18	6	75.0%		
Local gov. education	30	9	76.9%		
Local gov. health care and social asst.	24	6	80.0%		
Local gov. public administration	33	18	64.7%		
Local gov. residual industries	29	14	67.4%		
Natural resources	20	18	52.6%		
Construction	46	31	59.7%		
Manufacturing	51	30	63.0%		
Utilities	15	10	60.0%		
Wholesale trade	44	31	58.7%		
Retail trade	44	61	41.9%		
Transportation and warehousing	29	48	37.7%		
Information	18	28	39.1%		
Financial activities	27	24	52.9%		
Professional and business services	45	38	54.2%		
Educational services	22	19	53.7%		
Health care and social assistance	43	38	53.1%		
Leisure and hospitality	37	36	50.7%		
Other services	30	19	61.2%		

Respondent distribution by establishment size

The respondents were distributed across the four size categories using three different weighting schemes as shown in Table 5. The category of establishments of 250 or more workers had the lowest percentage of respondents weighted to the SOII survey responses, with just over 10 percent. However, these large units accounted for 25 percent of the employees at establishments covered by the SOII.

The 660 undercount survey respondents, weighted to represent 6,233 unique SOII respondents from 2010 and 2011, were used to produce the results discussed in most of this report. All of the survey responses comparing distributions by size class in the following tables are statistically significant by chi-square analysis at the $p<.001$ level. Comparisons of pairs of proportions also show that the highest and lowest values are all significantly different, and in the majority of response distributions, three of the four size classes have significantly different proportions. For most of the questions, the tables show one response type. The majority of the questions were Yes/No or Yes/No/Don't know.

Table 5 Distribution of responding establishments by number of workers at establishment

	Establishment size (number of employees)			
Weighting	1-10	11-49	50-249	250 or more
Unweighted responses	19.4%	25.5%	32.0%	23.2%
Weighted to SOII respondents	20.6	32.6	36.3	10.5
Weighted to all state establishments (eligible for SOII participation)	63.7	26.1	9.3	0.8
Weighted to all covered state employees	11.8	25.7	37.2	25.4

Establishment characteristics

Responses relating to establishment and company characteristics are shown in Table 6. A company may include one or more establishments. Respondents in the largest size group were least likely to say that the workers covered in their SOII submission included only a single location. The largest establishments were also most likely to have other locations in Minnesota and in other states. Unionization or collective bargaining representation was also related to establishment size, with a range from 8 percent among the smallest establishments to 46 percent among the largest establishments. Use of temporary workers hired through a temporary worker agency and use of leased employees also increased with establishment size.

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Safety and workers' compensation characteristics

The safety characteristics include the survey items concerning how injury and illness measurements are used and policies relating to planning for and responding to worker injuries (Table 7). Workers' compensation characteristics cover how the establishment is insured and whether a third-party administrator (TPA) provides services.

Overall, fewer than 10 percent of the establishments bid for contracts where they have to submit their injury and illness rates. The responses were also related to industry, where the highest industry was construction, with 46 percent. Only four other sectors of the 22 industry sectors had at least a 10 percent use of injury and illness measures in contract bids, with the highest at 16 percent.

Table 6 Establishment and company characteristics by establishment size, percentage within each size group

	Establishment size (number of employees)			
Survey item	1-10	11-49	50-249	250 or more
SOII workers at only one location	81.5%	80.1%	72.1%	58.1%
Other locations in Minnesota	38.2	55.8	64.7	73.2
Locations in other states	19.9	36.4	46.6	58.6
Workers covered by union	8.1	15.1	21.5	45.6
Use temporary workers from agency	14.2	20.1	41.9	54.7
Use leased workers	--	3.5	6.5	7.9

Note: "--" indicates the data in the cell do not meet publication guidelines.

Table 7 Workplace safety and workers' compensation characteristics by establishment size, percentage within each size group

	Establishment size (number of employees)			
Survey item	1-10	11-49	50-249	250 or more
Injury measures used in contract bids	5.9%	11.5%	9.5%	10.5%
Offer workers safety incentives or rewards	15.6	20.5	32.9	36.5
Safety performance affects supervisor job performance	22.8	26.7	31.6	34.3
Compare injury measures between company sites (if multi-site company)	43.3	34.5	42.2	49.7
Used outside safety consultant	31.3	41.8	59.2	66.2
Consider log to be accurate safety indicator	58.9	68.8	73.8	74.5
Medical staff available for injured workers	5.3	1.8	12.4	34.3
Recommend clinic, health care providers to injured workers	40.7	51.7	65.8	63.1
Policy to discipline workers for unsafe practices	43.3	66.6	64.8	67.3
Policy to test injured workers for alcohol or drugs	26.3	43.5	50.7	49.1
Workers' compensation insurance type				
Individual self-insurance	7.0	4.6	13.0	23.6
Group self-insurance	16.2	12.7	14.8	19.0
Assigned Risk Plan	9.2	3.1	--	1.7
Privately insured through voluntary market	63.5	75.3	63.7	51.8
Use a third-party administrator for claims management	49.7	52.5	64.8	70.4

Note: "--" indicates the data in the cell do not meet publication guidelines.

The largest-sized establishments were more active in their use of injury and illness measures, including OSHA log-based rates and workers' compensation measures. The use of safety incentives or rewards increased with establishment size, although even for the largest establishments, only just over a third used them. There was a wide variety of programs employed, from rewards given to the entire workforce to individual recognition. The use of safety performance measures in rating frontline supervisor job performance also increased with establishment size. Among companies with multiple locations, less than half compared the rates between sites, with the largest establishments most likely to report doing so.

The largest establishments were the most likely to report using the services of an external safety consultant, double the rate of the smallest-sized establishments.

While relatively few establishments had medical staff available to provide care beyond first aid to injured workers, more than one-third of the largest establishments provided this service. Employers were much more likely to direct injured workers to particular providers or clinics, with higher percentages in the two larger size groups. Under Minnesota's workers' compensation law, employees have the right to select providers, although employers who contract for services with a certified managed care plan may direct workers to the providers in the care plans.

The smallest sized establishments were much less likely to respond that they have a policy or practice to discipline workers for unsafe practices and less likely to respond that they test workers for alcohol or drugs after their involvement in injury-causing incidents. Implementation of these two policies may be an incentive for workers not to report injuries. Comments made by the respondents when answering these questions indicated that these practices were usually applied on a case-by-case basis.

Workers' compensation insurance coverage followed a predictable pattern, with the largest establishments more likely to have individual self-insurance, the smallest establishments more likely to be insured through the Assigned Risk Plan, Minnesota's insurer of last resort, and the majority of establishments insured through the voluntary insurance market. These results are very similar to the market share of insurance arrangements in 2012 (Berry and Zaidman, 2014): 25 percent were self-insured (individual or group), 3 percent used the Assigned Risk Plan and 72 percent used the voluntary market. The corresponding percentages for the SOII respondents were 25 percent, 3 percent and 67 percent, respectively. The difference can be attributed to survey respondents who didn't know how their company was insured. Use of TPAs increased with establishment size and was consistent with the higher proportion of large establishments using self-insurance.

Recording injuries and illnesses

There was a wide range among the size groups in the percentage of establishments that maintained an OSHA log during either or both of the years that they participated in the 2010 and 2011 SOII (Table 8). Only 48 percent of the establishments with fewer than 11 workers kept a log, compared with 97 percent of the establishments with 250 or more workers. It is possible that some respondents may have understood the phrase "keep an OSHA log" to mean only the paper form or a spreadsheet or software dedicated to OSHA log records, instead of maintaining records that can be reported in an OSHA log format. Among the small establishments, the percentage keeping a log during a SOII participation year was even lower for single-location companies, 32 percent, compared with companies having multiple locations, 70 percent. Among establishments with 11 to 49 workers, who are required to maintain a log in all industries, the percentage of single-location companies keeping a log was only 60 percent, compared with 85 percent among multi-location companies. The proportion keeping a log during non-SOII participation years was nearly the same as during the SOII year in all size groups.

Even if establishments do not keep an OSHA log, the large majority in all size groups track workplace injuries and illnesses. Among establishments with fewer than 11 workers, 22 percent do not track injuries and illnesses, and for those sites that do, a paper form was the most common record format. Use of electronic spreadsheets and specialized tracking software increased with establishment size. Collection of information relating to near-misses also steeply increased with establishment size.

Table 8 Injury and illness recordkeeping activities by establishment size, percentage within each size group	Establishment size (number of employees)			
Survey item	1-10	11-49	50-249	250 or more
Collect information about near-misses	28.4%	43.2%	51.3%	69.3%
Kept log in 2010 or 2011 (SOII year)	48.4	74.9	91.6	97.4
Keep log when not in SOII	46.2	72.3	92.1	96.8
How record injuries and illnesses				
Paper form	33.2	49.3	48.1	31.7
Electronic spreadsheet	11.6	27.9	39.2	46.9
Specialized software	11.3	11.7	29.3	47.6
Don't track	22.3	11.6	--	--
If keep log				
What injuries do you record on the log?				
All injuries	16.1	24.6	11.8	6.3
Injuries that require medical treatment	36.4	26.7	19.3	18.0
Follow OSHA criteria	37.5	31.4	52.7	58.5
Where do you get the information to complete a log entry?				
Company internal report or interview	55.3	57.0	73.4	84.7
Work comp report/insurer/TPA	41.6	51.9	53.6	33.1
Doctor's report	11.0	24.7	16.2	31.9
How do you count days away from work?				
Count calendar days	55.2	46.7	46.2	80.3
Count shift days	41.5	45.6	44.0	17.7
Added cases to a previous year's log	22.9	17.2	22.6	53.4
Updated days away on a previous year's log	36.1	31.8	35.2	74.8
Recordkeeping resources used				
State OSHA	8.3	21.9	31.0	41.2
Federal OSHA	4.2	5.3	11.5	14.8
Federal OSHA recordkeeping website	26.9	44.1	62.1	73.0
BLS-SOII contact	5.4	14.9	19.3	32.8
None	42.9	32.4	23.1	10.1

Note: "--" indicates the data in the cell do not meet publication guidelines.

Respondents from establishments that keep an OSHA log were asked how they decide what cases are included on the log. The response pattern showed differences by establishment size. Establishments with fewer than 50 workers were more likely to say that they include all injuries, compared with larger

establishments, which rarely provided this response. The percentage of responses that indicated the log includes all injuries that require medical treatment decreased with establishment size, while following OSHA criteria to include cases increased with size. The response that OSHA criteria are followed to decide which cases to include on the log does not mean that the recordkeeper has a correct understanding of OSHA criteria. With the exception of one question about the recordability of a case with only diagnostic services, respondents from establishments that followed OSHA criteria were not more likely to provide the correct responses to a set of OSHA recordkeeping scenarios (the "test" questions, 46 a-d, Appendix A) than were other respondents.

Respondents who kept a log were also asked what information sources they used to help complete their OSHA log entries. The majority of establishments used internal reports and direct communication with the worker or supervisor to provide the information, and use increased with establishment size. The majority of establishments with 11 to 249 workers reported that they used workers' compensation reports or other information from their insurer or TPA. Nearly one-third of the largest establishments reported that doctor's reports are used to provide information.

The OSHA recordkeeping requirements specify that days away from work are counted as calendar days and the day count should not be restricted to only those days the worker was scheduled to work. While 81 percent of the establishments in the largest size group responded that they used calendar days, shift days were counted by more than 40 percent of the establishments in all the other size groups. The largest sized establishments were also more active in maintaining their logs, with significantly higher proportions saying that they have added cases and updated the count of days away from work on a previous year's log.

The survey also inquired about the resources the recordkeepers used for assistance with their OSHA logs. Among the choices offered, the respondents were most likely to use the federal OSHA recordkeeping website. Use of all the resources increased with employer size, and the smallest establishments were most likely to respond that they did not use any of the resources.

Respondent experience and responsibilities

The establishment respondents were asked about their recordkeeping and SOII experience and training and their responsibilities for injury and illness reporting. The responses all showed differences by establishment size (Table 9).

The proportion of respondents who received OSHA recordkeeping training increased with establishment size, from 32 percent at the smallest establishments to 79 percent at the largest. OSHA recordkeepers with 10 or more years of experience were also more common at larger establishments.

The proportion of respondents who reported they completed or assisted with their establishment's OSHA log increased with establishment size, and reflected the responses as to whether or not the establishment kept a log. Nearly every respondent at the largest establishments was an OSHA recordkeeper. Among establishments with fewer than 50 workers, a slightly higher proportion of respondents were involved with their establishment's SOII submission than with their OSHA log. The respondents at these establishments were more likely to report responsibility for workers' compensation claims than responsibility for an OSHA log. Many of the respondents said that other persons also complete or assist with their injury and illness reporting, and the proportion increased with establishment size.

Commented [GM-B3]: I may be misinterpreting this sentence, but according to Table 9 a higher proportion of respondents at estabs w/ more than 50 employees were involved with completing the SOII than smaller estabs.

Was this meant to be a comparison to the proportions on the OSHA log question? I.E. "Respondents at small estabs were more likely to complete/assist with the SOII than with the OSHA log."

Establishments are randomly selected to participate in the SOII based on cells defined by size, industry and ownership. In most industries, there are more small-sized establishments than large establishments. This means that small establishments have a lower likelihood of being selected to participate in the SOII

in any year. The correlation of size and SOII participation is reflected in the respondents' SOII experience; 42 percent of the respondents in the smallest establishments said that the 2010/2011 SOII was their first time in the survey, twice as high as the proportion for respondents in the largest establishments. Eighty percent of the respondents in multi-location companies reported that they are also responsible for completing SOII responses for other locations. This percentage decreased as size increased, indicating that larger companies are more likely to have different persons be the SOII contacts at separate locations.

One fifth of the respondents said that their establishment's (or company's) worker safety performance was used to rate their own job performance. This might create an incentive for the recordkeeper to make decisions that would influence the number or severity of cases that are recorded.

Table 9 Survey respondent experience and training by establishment size, percentage within each size group

	Establishment size (number of employees)			
Survey item	1-10	11-49	50-249	250 or more
Received recordkeeping training	32.0%	51.9%	55.8%	78.6%
Log recordkeeper 5 years or less	42.5	29.8	28.6	26.8
Usually complete or assist with OSHA log	61.8	73.1	95.6	99.2
Usually complete or assist with SOII	88.9	86.3	91.2	97.3
Usually complete or assist with work comp claims	88.0	85.3	89.5	83.4
Have coworker assistance with log	20.8	30.1	34.8	47.2
Have coworker assistance with SOII	17.8	26.8	22.4	37.9
Have coworker assistance with work comp claims	32.0	41.3	48.7	52.7
Responsible for SOII at other sites (if multi-site company)	98.4	85.9	78.2	63.4
Completed SOII for first time in 2010 or 2011	42.1	31.8	37.5	21.2
Did not complete SOII	14.5	12.9	9.7	8.5
Job performance tied to safety performance	18.6	16.8	24.9	23.1

OSHA cases and workers' compensation claims

The respondents were asked a set of questions relating to how workers' compensation claims and OSHA log cases constitute the same or different sets of cases (Table 10). The questions were based on actual experience, so some of the differences may be due to lack of opportunity to apply a rule and not lack of knowledge of the differences between workers' compensation and OSHA log recordkeeping. Respondents at larger establishments, which would generally have more log cases to record and thus encounter a wider variety of situations, would be expected to answer differently than respondents at smaller establishments. The results support this perspective, with much higher proportions of respondents at large establishments reporting that they have had OSHA log cases that were not workers' compensation claims, that claims denied workers' compensation benefits have been included on the log and that some workers' compensation claims are not recordable on the OSHA log.

However, the exact wording of the question about whether the respondent had any accepted workers' compensation claims that were not entered on the log could have been interpreted as asking whether the respondent ever held back accepted claims that should have been recorded on the log. Some of the differences are the result of recordkeeping knowledge; respondents with recordkeeping training were significantly more likely than untrained respondents to acknowledge the differences between the two systems.

Table 10 Separate handling of OSHA log cases and workers' compensation claims by establishment size, percentage within each size group, among establishments that maintain an OSHA log

	Establishment size (number of employees)			
Survey item	1-10	11-49	50-249	250 or more
Had log cases that weren't work comp claims	29.9%	25.2%	30.0%	49.4%
Had log cases denied work comp benefits	28.6	33.9	33.5	55.2
Had work comp claims not entered on log	12.8	12.0	9.9	23.4

Recordkeeping requirements knowledge

Towards the end of the interview, the respondents were asked a set of questions about the OSHA log recordability of four different injury scenarios. The probability of correct responses varied with establishment size (Table 11). While the results table only shows the proportions responding with the correct answer, many of the respondents answered "don't know," and their comments indicated that they would have to consult recordkeeping resources to decide whether to record a case.

Overall, only 38 percent of SOII respondents correctly answered the question about the recordability of a case that involved no lost time and no medical care except for an x-ray. More than three-quarters of the respondents correctly answered that a person suffering a cut on a Friday, who was told not to work for the weekend when he was not scheduled to work, and who returned to work on Monday, was a recordable case. However, a lower proportion said that they would record any days away from work. Most of the respondents correctly said that an injury that results from horseplay is recordable. Similar percentages also responded that a person who receives stitches for a cut has a recordable injury and that if the cut later becomes infected and results in days away from work, the log case should be updated.

Responses to the medical treatment/x-ray question varied by OSHA recordkeeping training: 57 percent of respondents with training answered the question correctly, compared with 26 percent among respondents without training. Training did not exert a large effect on the responses to any of the other recordkeeping scenarios. Overall, 23 percent of the respondents answered the four questions correctly.

Table 11 Survey respondent recordkeeping requirements knowledge by establishment size, percentage within each size group

	Establishment size (number of employees)			
Recordkeeping scenario survey items	1-10	11-49	50-249	250 or more
Don't record case with x-ray only, no medical treatment	21.4%	36.1%	45.3%	54.0%
Record Friday injury, doctor says no work on weekend, return to work on Monday	73.9	76.7	80.3	87.2
Record any days away	44.6	48.0	42.7	67.9
Record 2 days away (if any days recorded)	84.2	92.1	83.0	89.5
Record injury from horseplay	79.4	84.4	89.3	92.1
Record injury with stitches, no lost time	78.9	86.5	89.7	96.1
Update record if worker later has days away	77.1	88.2	89.6	95.6

Completing the SOII

Survey respondents who indicated that they were responsible for completing the SOII were asked a series of questions about how the SOII was completed and what cases were included. The responses generally show that SOII proficiency is related to establishment size (Table 12). However, because some of the questions concern the relationship between the OSHA log and the SOII, those establishments that do not use the OSHA log may have responded that the log is not used to complete the SOII.

Just over half of the respondents in each of the larger two groups responded that their SOII cases are the same as their log cases; smaller establishments showed lower percentages. The proportion of respondents indicating that the OSHA log is a source of information for the SOII cases also increased with size, from 26 percent among the smaller establishments to 73 percent among the largest respondents. While nearly all SOII respondents from establishments with 50 or more workers said that the number of days away from work is the same on the SOII as on the log, this decreased to only half of the respondents from establishments with fewer than 11 workers. Few respondents indicated that they were notified of an injury too late to include it on their SOII response.

Among establishments that used temporary workers hired through a temporary help agency, only among the largest establishments did a majority of the respondents say that they would include temporary worker injuries on the establishment's log and SOII response.

Value of the incidence rate measures

At the conclusion of the survey, Minnesota respondents were asked whether they thought the OSHA log is an accurate indicator of worker safety at their facility. This question was included to understand the value that the respondents place on the OSHA log measures. Companies that do not consider the OSHA log to be a useful measurement tool might not be as motivated to follow the recordkeeping requirements and to submit accurate SOII data. While 70 percent of the SOII respondents considered the log to be an accurate indicator of worker safety, this varied from 59 percent among the smallest establishments to 75 percent among the largest establishments. Comments received from the survey respondents showed that small establishments did not like that the case incidence rates jump around from year to year, and that

establishments with only one log case can end up with a case incidence rate higher than the industry average, which can put them at a competitive disadvantage if they have to bid on contracts. Some respondents at larger establishments commented that measures of leading safety indicators were better measures of worker safety.

Table 12 SOII completion decisions by establishment size, percentage within each size group, among respondents that completed SOII

	Establishment size (number of employees)			
Survey item	1-10	11-49	50-249	250 or more
SOII case inclusion:				
Same as OSHA log cases	27.2%	42.3%	54.3%	53.4%
Follow OSHA criteria	17.2	14.1	9.5	21.1
Information to complete SOII cases comes from:				
OSHA log	25.8	52.3	66.7	73.2
Workers' compensation report	12.4	11.4	24.0	20.8
SOII days away same as on log	52.6	76.1	94.5	99.8
Have been notified of injury too late to include on SOII	4.9	8.9	9.0	12.5
Include temp agency workers on SOII (if use temp workers from an agency)	42.2	24.6	37.1	70.3

Respondent job title

The SOII response form includes space for respondents to include their job title, although it is not required. The BLS included the job title in the information used to contact the establishment respondents. The Minnesota interviewers also tried to collect job title information from new contacts. Even so, job titles were available for only 327 of the 660 respondents. This analysis of survey results by job title is limited to the job titles collected by the interviewers. Due to the large amount of missing job title information, the analysis of the response distributions by job title was not weighted to represent all SOII respondents or state establishments. The analysis is meant to be suggestive, not definitive.

Job titles were categorized into four groups: Safety professional, which included safety director, occupational health nurse and risk manager; manager, which included owner, manager and office manager; human resources (HR), which included all human resources and personnel positions, from manager and supervisor to assistant and clerk; and all other, which included a wide range of occupations that could not be categorized into any of the other three categories, and included job titles such as engineer, bookkeeper, secretary and analyst.

Distribution among establishments. The distribution of the job categories among the respondents with available information is shown in Table 13. Only 11 percent of the job titles could not be categorized into one of the three main categories. Safety professional accounted for 16 percent of the respondents, less than half the proportions of the managers and HR categories.

Respondent occupation was strongly associated with establishment size and with the company's single-multiple location status (which is related to overall company size) (Table 13). The proportion of safety

professionals among the SOII respondents increased with establishment size, while the proportion of respondents who were managers decreased with size. Even within the largest establishment group, only 31 percent of the respondents were safety professionals. Respondents with HR jobs accounted for nearly half of the respondents among establishments with more than 50 employees. Over 90 percent of all safety professional respondents and 83 percent of HR respondents worked at multiple-site establishments (based on their survey responses), while 62 percent of the managers worked at single-site establishments. Among single-site establishments, two-thirds of the respondents were managers, while HR members accounted for the largest group of respondents at multi-site firms. (Proportions for the "all other" job title category typically fell between the values for managers and HR.)

Table 13 Distribution of job title groups within establishment characteristics

	Safety professional	Manager	Human resources	Other
All establishments	15.6%	39.1%	34.6%	10.7%
Establishment size	χ^2=79.809, p<.001			
1-10 workers	2.7%	63.5%	14.9%	18.9%
11-49 workers	10.2	54.5	26.1	9.1
50-249 workers	18.9	25.3	48.4	7.4
250+ workers	31.4	12.9	47.1	8.6
Multiple site company (survey response)	χ^2=73.255, p<.001			
Single site	3.4%	67.5%	16.2%	12.8%
Multi-site	22.4	23.3	44.8	9.5
SOII year participated	χ^2=44.900, p<.001			
2010	8.9%	48.0%	31.7%	11.4%
2011	11.2	42.0	33.6	13.3
Both years	39.3	14.8	42.6	3.3
Ownership	χ^2=12.001, p<.10			
State government	0.0%	28.6%	71.4%	0.0%
Local government	17.4	30.4	39.1	13.0
Private ownership	16.1	41.2	31.8	10.9
DAFW rate	χ^2=14.526, p<.01			
Not above avg. rate	12.7%	44.7%	32.0%	10.7%
Above avg. rate	24.1	22.9	42.2	10.8

The concentration of safety professionals among large and multi-site establishments is consistent with their increased presence among establishments that regularly participate in the SOII; while 39 percent of the establishments in both the 2010 and 2011 SOII were safety professionals, this dropped to about 10 percent among establishments participating in only one of the years. Due to their larger overall numbers, HR staff accounted for the largest group of multi-year respondents.

HR respondents are the dominant group among state government establishments. Safety professionals are not located at individual Minnesota state government agencies or at any of the state's higher education facilities participating in this survey. The state government's safety professionals are centrally located in the Risk Management Division of the Department of Administration, and are available to provide assistance to the HR staff members who complete the SOII surveys. In contrast, local government and privately-owned establishments have much broader job title distributions.

Recordkeeping experience and knowledge. Safety professionals had more recordkeeping experience and training than the other occupation groups (Table 14). More than 60 percent of the HR respondents received formal OSHA recordkeeping training, nearly double the proportion among managers. Consistent with their higher rate of training, significantly higher proportions of safety professionals provided responses to the questions about the independent handling of OSHA log cases and workers' compensation claims and about log maintenance (Table 15). The proportion of HR respondents with answers following the OSHA criteria fell midway between those of the other two groups, while managers provided "correct" answers less often. However, less than one quarter of HR respondents indicated that they have had OSHA log cases that were not workers' compensation cases, a smaller proportion than among managers and less than half the rate of safety professionals. The manager respondents predominantly work at smaller establishments and are less likely to encounter injury coding situations.

Table 14 OSHA recordkeeping and SOII experience and training by job title group

Survey item	Safety professional	Manager	Human resources	χ^2	p
OSHA recordkeeper for 10+ years	49.0%	26.6%	33.6%	34.463	<.001
Took OSHA recordkeeping training	90.2	31.6	62.2	54.915	<.001
Regularly keep an OSHA log	100.0	67.2	96.5	51.995	<.001
Had completed a SOII prior to 2010/2011	56.9	17.2	44.2	45.261	<.001

Table 15 OSHA log recordkeeping decisions and activities by job title group

Survey item	Safety professional	Manager	Human resources	χ^2	p
Count days as calendar days	80.4%	29.1%	64.5%	51.825	<.001
Had log cases that weren't work comp claims	51.0	31.3	23.1	14.126	<.05
Had log cases denied work comp benefits	56.9	25.3	42.6	39.924	<.001
Had work comp claims not entered on log	31.4	1.3	15.7	42.751	<.001
Updated cases on previous year's log	56.9	15.0	24.1	28.618	<.001
Updated days on previous year's log	66.7	25.0	56.5	28.013	<.001

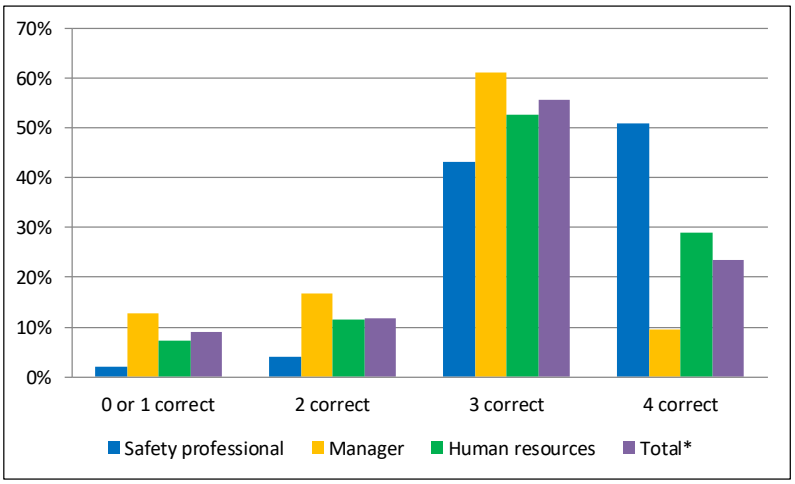
Responses to the recordability of cases described in the four scenarios also showed more correct answers among the safety professionals, although the only statistically significant differences were for the recordability of a case with x-rays and counting days away from work for a Friday injury (Table 16). Combining the four main recordability responses into a count of correct answers shows the overall

recordkeeping knowledge difference for safety professionals compared with the other two groups. Respondents who did not provide the correct recordkeeping response were just as likely to respond that they did not know how to answer as to give the incorrect response.

Table 16 Log recordability scenario decisions by job title group

Survey item	Safety professional	Manager	Human resources	χ^2	p
Don't record case with x-ray only, no medical treatment	76.5%	21.4%	44.6%	53.611	<.001
Record Friday injury, doctor says no work on weekend, return to work Monday	82.4	71.4	81.3	.463	NS
Record any days away	84.0	38.9	56.0	28.046	<.001
Record injury from horseplay	86.3	84.7	85.7	8.028	NS
Record injury with stitches, no lost time	98.0	82.5	87.5	10.165	NS
Update record if later has days away	98.0	87.4	89.9	6.582	NS

Figure 2 Combined correct scores on recordability items by job title group



*Total includes job titles not included in the three main groups.

Respondent comments and multiple responses

During the course of administering the survey, respondents supplied multiple responses to some questions. According to the survey protocol, multiple responses were recorded as "other." This occasionally led to "other" becoming a significant category for particular questions. In Minnesota, we recorded these multiple responses and analyzed questions where "other" had become a significant category, allowing for multiple responses and creating a series of response categories dependent on the frequency of the response. For example, one comment in response to the question "How do you decide

what cases to include on the BLS survey?" was "Same as OSHA log and insurance report." In such a case, both the category "Same as OSHA log" and a category generated by frequency of comments to this question, "Insurer supplies" were marked for analysis. The analysis of the comments was conducted on unweighted responses.

"How do you decide what cases to include on the BLS survey?"

For Question 36, there were 478 single category responses collected, 64 multiple category responses and118 non-responses (due to respondents who did not regularly keep an OSHA log). The "other" category consisted of 23 percent of all cases when the protocol was followed and 17 percent when multiple coding is included. As shown in Figure 3, allowing for multiple responses did not significantly alter the distribution of responses, other than the reduction of the "other" category.

Figure 3 Distribution of reasons for including cases on the SOII

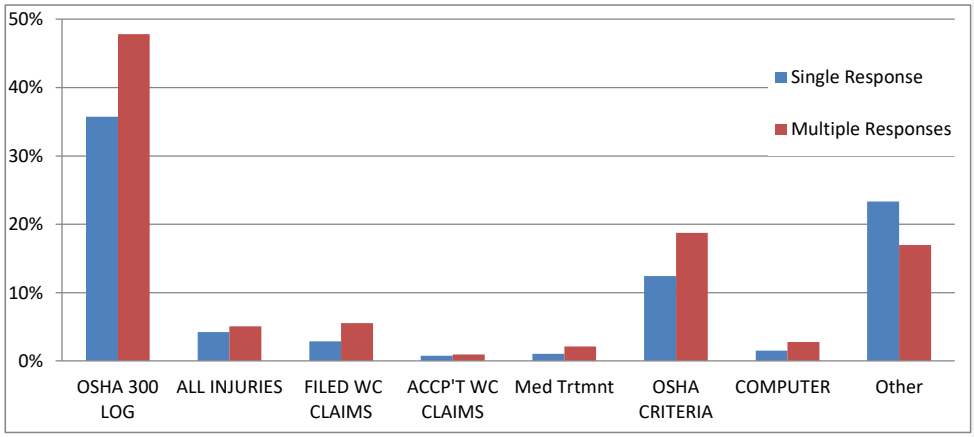


Table 17 Distribution of "other" responses for SOII inclusion criteria not listed in multiple choice categories

SOII inclusion criteria or comment	Count	Percentage
Only DAFW or DART cases counted	13	12.5%
Used other company records	31	29.8%
No injuries occurred	24	23.0%
Insurer supplies information	4	3.8%
Don't know	28	26.9%
Other	4	3.8%

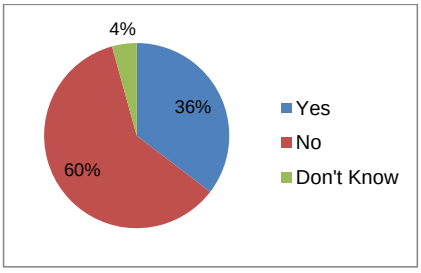
The most common "Other company records" noted were employee files and payroll records by respondents. Even with inclusion of the multiple responses, only 47 percent of the respondents relied on the OSHA log as the primary source of information for completing the SOII. There is little reported reliance on computer software to determine SOII inclusion. Confusion among workers' compensation cases and OSHA recordkeeping was noted in 7 percent of all respondents who replied they relied on

accepted or filed workers' compensation cases, or information supplied by their workers' compensation insurance carrier or claims administrator to complete the SOII. Four percent of respondents stated they had no injuries to include on the SOII and an additional 5 percent replied they did not know how they decided to include an injury on their SOII.

"Have you ever put any cases on the OSHA log that are not workers' compensation claims?" (Q30a)

Only respondents who said their establishment regularly keeps an OSHA log were asked this question. The majority of respondents stated that they never included cases on their OSHA logs which were not workers' compensation claims. A further 25 respondents, when asked for an example, noted that while they would place non-workers' compensation cases on their OSHA log, they would remove those cases from their logs if workers' compensation was denied.

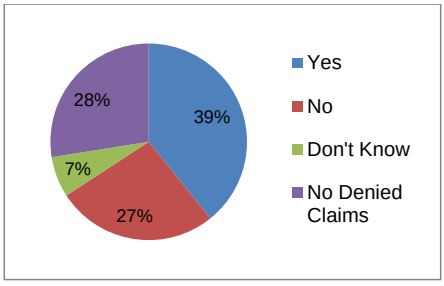
Figure 4 Distribution of responses to question 30a



"Do you keep cases on the OSHA log that have been denied workers' compensation benefits?" (Q30b)

Only respondents who said their establishment regularly keeps an OSHA log were asked this question. After supplying a Yes/No response, 39 respondents, when asked for an example, noted that while they would keep non-workers' compensation cases on their OSHA log they would remove those cases from their logs when workers' compensation was denied. Nineteen of those respondents had answered that they kept denied cases on the log.

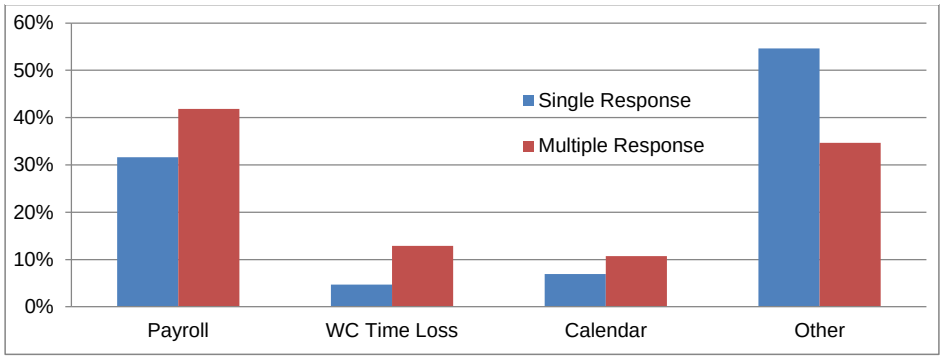
Figure 5 Distribution of responses to question 30b



"Where do you get the number of days away from work for the OSHA log? (Q29)

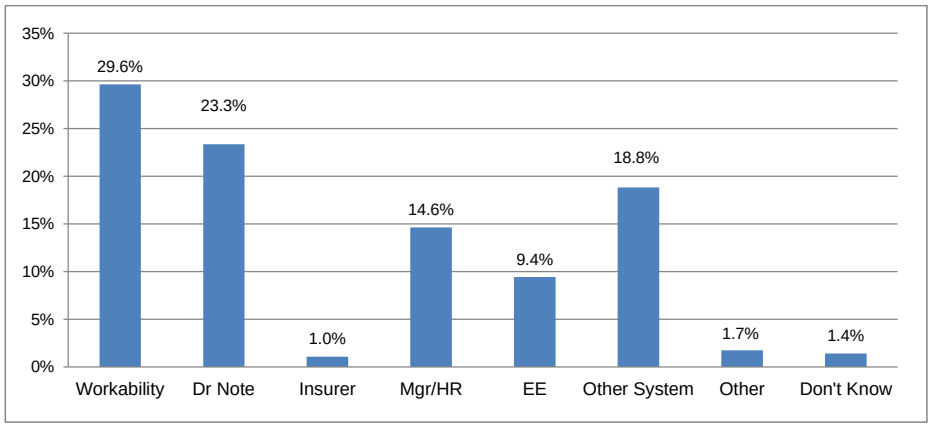
Question 29 was subject to the skip pattern on the telephone survey in question 24, "Did you keep an OSHA log during 2010/2011?" For question 29, 553 valid responses were received. Allowing for multiple responses reduced the "other" category from 57 percent to 35 percent. A large number of comments were received for this question, 287 in total. Multiple responses were distributed fairly evenly

Figure 6 Comparison of distribution of "other" responses



as the chart above indicates. One cause for concern is the large number of respondents, 55 percent, who are relying on payroll or WC time loss data to calculate their days away from work on the OSHA log. Using either of these methods would likely lead to undercounting DAFW.

Figure 7 Categorization of comments from question 29



Comments were categorized into eight areas, although three are relatively insignificant. Of those who chose other, 29 percent of responders cited "work ability". *The Report of Work Ability* is a structured Minnesota workers' compensation form completed by the physician to report the need for continued time loss and job restrictions. A further 23 percent of respondents replied "Doctor's note", which may well

mean the same thing to many Minnesota respondents. Combining these categories accounts for 53 percent of all comments. Depending on how the information is used, it indicates possible confusion between the workers' compensation system and OSHA recordkeeping among a large segment of the respondents.

Discussion

What constitutes a high-quality SOII submission? The SOII needs to be based on an OSHA log that conforms to the OSHA log recordkeeping requirements. The recordkeeping requirements provide the official guidance for employers to complete and maintain their OSHA logs. Injuries and illnesses need to be reported to the employer in order to be considered whether they meet recordability standards. The OSHA log needs to include injuries to all workers under the direct supervision of the employer. The final set of log statistics must include only recordable cases. Days away from work and days of job restriction or job transfer are counted for all calendar days, including days the worker may not be scheduled to work.

The SOII depends on the quality of the data submitted by employers, and the weight of the employers' responsibility is placed on the individuals completing the SOII. The Washington State study (SHARP, 2012) showed that this person is almost always the same person responsible for the establishment's OSHA log and workers' compensation claims reporting.

The SOII data submitted to the BLS are the result of a series of decisions. Employers make decisions, knowingly or unknowingly, about how easy or difficult it is for their employees to report workplace injuries and illnesses and about the consequences of reporting injuries and illnesses. Employers make decisions about the incentives offered to employees to keep their workplace safe or injury-free. Employers also make decisions about who is responsible for maintaining injury and illness records and whether they have opportunities for OSHA log recordkeeping training.

The OSHA log recordkeepers and SOII respondents make decisions about which reported cases are recorded on the log and how the cases are classified. One persistent question about these decisions is the degree to which the recordkeepers are able to make separate decisions about the OSHA log and workers' compensation.

The degree of relationship between an establishment's OSHA log and workers' compensation records may be the result of decisions made by company management or decisions made by the recordkeepers. Employers might delegate their OSHA log recordkeeping decisions to their workers' compensation insurer when their OSHA log records conform to their workers' compensation records. In other cases, the OSHA log recordkeepers might decide to use the workers' compensation claims data as the source for the log, perhaps without understanding the OSHA recordkeeping requirements. The workers' compensation claims reports they may receive from their insurers provide all or most of the information needed to complete an OSHA log record, and it may be very tempting to rely on this information for the OSHA log.

While the strategy to use workers' compensation information to complete the OSHA log may work for the majority of workplace injuries and illnesses, there are enough differences between any state's workers' compensation laws and OSHA's recordkeeping requirements to introduce errors into the log and the subsequent submissions to the SOII. Injuries and illnesses may be considered work-related for log recordkeeping purposes, but they may not be compensable under a particular state workers' compensation statute.

Confusion or ignorance about the differences between workers' compensation records and OSHA log recordkeeping may lead some employers to believe that these are duplicative programs and the SOII is a waste of government resources. This may further lead those employers to reduce the time spent

maintaining the OSHA log, to pass up opportunities for recordkeeping training and perhaps even to decide not to submit data to the BLS. Employers may be more concerned about workers' compensation claims records because of the insurance premiums they pay, their concern with their claims experience modification factor, and their interactions with their workers' compensation insurer. In contrast, employers rarely interact with OSHA about their logs and may only be contacted by a SOII data collector if the pattern or level of responses triggers an error code. Some employers may not care to spend resources intended to provide data for the study and analysis of work-related injuries and illnesses, especially if they do not see any short-term benefit for their company.

The results of Minnesota's survey shows that the establishments themselves are highly varied, and their characteristics influence the process and content of what is reported on the SOII. The establishment differences are readily apparent in the comparisons of establishments by size. While establishments of any size may be part of companies with multiple sites and many different sizes, larger establishments (250 or more workers) were more likely to be part of companies with multiple units. These large, multi-site companies are more likely to have more worker injuries to record and their recordkeepers are more likely to encounter a wide variety of recordkeeping situations.

The phone interview responses show that there is a wide range of OSHA log experiences and knowledge among people responsible for providing SOII data to the BLS. The SOII respondents are a diverse set of people, ranging from office clerks to business owners. Larger companies have the resources to employ occupational safety professionals to be responsible for recordkeeping. Many other companies rely on their workers' compensation insurers and third-party administrators to provide them with the information to complete their OSHA logs and SOII responses, and ignore the differences between workers' compensation claims and OSHA recordability.

Many SOII respondents, especially those at small establishments, have no OSHA log training. While this is to be expected for companies with fewer than 11 workers, this is likely to affect the quality of the data submitted to the SOII. SOII respondents who do not regularly keep an OSHA log appear to have a large disadvantage in their understanding of the OSHA recordkeeping requirements.

The survey shows that establishments with fewer than 11 workers company-wide take advantage of their exemption from OSHA recordkeeping. However, log maintenance was not universal among larger establishments, which are required to maintain an OSHA log. Some establishments may not be aware that the federal recordkeeping exemptions for certain industries are not valid in Minnesota. It is not readily apparent on the OSHA recordkeeping web pages that the industry exemptions may vary from state to state. Other establishments might have very few, if any, workplace injuries, and might rely on workers' compensation records. Establishments that did not regularly keep a log did not necessarily keep a log during the year they participated in the SOII. Establishments that do not keep a log or have no one with log recordkeeping experience cannot be expected to understand which injuries and illnesses need to be recorded and how they should be recorded.

The larger establishments are less likely to use paper forms for injury and illness recordkeeping and they are more likely to use specialized recordkeeping software programs. Some establishments use both paper and electronic forms. While small establishments tended to respond that all injuries are entered on the log, larger establishments tended to respond that they followed OSHA recordability criteria. Even when specialized software is used, the respondents reported that they make the final decision about whether an injury is recordable.

Trained OSHA recordkeepers with many years of experience are more common at the larger establishments. These establishments are also more likely to be frequent SOII participants. These SOII respondents add year-to-year stability to the SOII estimates, while the small establishments that rarely

participate in the SOII are more likely to make recordkeeping errors leading to over-reporting or under-reporting their true number of OSHA recordable cases. What is of greatest concern is the quality of data from frequent SOII participants at mid-sized establishments who do not have trained recordkeepers or whose recordkeepers have misconceptions about what belongs on the OSHA log.

The OSHA recordkeeping experience and training of the respondents at large establishments (who more often employed safety professionals as recordkeepers) was evident in their reports of making separate decisions about workers' compensation claims and OSHA log cases and in their responses to the OSHA recordability questions. Respondents' understanding of how to count days away from work (and by extension, days of job restriction or job transfer) changed markedly by establishment size.

Limitations

Response differences by establishment characteristics might have introduced bias into the results. A briefer survey conducted soon after the SOII submission might generate a higher response rate and attract a wider range of establishments.

Recordkeeping is a complex activity and trying to gather the information through a set of multiple choice questions over the phone may have generated some misunderstanding and led some respondents to select the socially desirable response. It is also possible that some respondents were not paying their full attention to the interview questions. Some respondents may have provided a brief response so that the survey would take less time.

Misunderstanding of the questions and responses may have occurred for respondents who initially enter all injuries and illnesses into their log and later decide which cases are recordable. For these recordkeepers, the act of recording a case on the log involves more than one step, and recording a case on the log is not the same as including the case in the final tally of recordable cases. For these people, responses to the question about what cases are included on the log would be very broad, and they wouldn't show that the injury and illness lists are edited.

Although this report does not compare responses by industry, there is a wide range of distributions for nearly every question at the industry sector level. Each industry sector is composed of subsectors and more detailed industries, some of which may have not been included in the survey sample. Because the SOII respondent samples used in this study were structured to represent the industry sectors, no attempt was made to ensure that the industry sector samples covered all or most of the detailed industries within the sectors. Therefore, conclusions about the recordkeeping characteristics of the industry sectors that might be generated from the state databases must be viewed as preliminary. Preliminary results of the special survey samples also show that there may be large differences between detailed industries; hospitals and nursing homes, which are both in the health care and social assistance industry sector, have very different response profiles.

Conclusions

This survey interview was designed to further our knowledge of how establishment respondents gather injury and illness information and prepare it for submission to BLS through the SOII. Through the breadth of the questions and the wide scope of establishments, the goal of the present research project was to sift through the various reasons available for the SOII undercount and point researchers to the most promising areas for more intensive research and direct program administrators to consider actions to improve the value of the SOII estimates.

The results in this report have focused on size because that is a characteristic known before there has been any other contact with the establishment. Other establishment characteristics, such as unionization and all of the respondent characteristics are not known or subject to change before contact has been made and up-to-date information has been collected. Even multi-location status may not be known, especially if other establishments have different unemployment insurance numbers or are located in other states. The BLS can make plans and adapt its messages based on establishment size much easier than for other characteristics.

The BLS may need to consider providing an alternative or simplified recordkeeping form for establishments that do not regularly keep an OSHA log, something that provides a more self-evident, step-by-step process and does not assume the SOII respondent has any OSHA recordkeeping knowledge.

The SOII is a partnership between the employers who supply the data and the BLS that collects it and transforms the data into estimates that are used by employers, safety professionals, government officials and researchers. To improve the quality of the SOII data, national and state government resources should be directed toward training OSHA log recordkeepers, improving the log itself, and limiting confusion among state workers' compensation cases and OSHA recordability.

Training

While the OSHA recordkeeping website presently has information in print and a slide-based tutorial, more outreach is needed to reach people who do not visit the website. Information about where OSHA recordkeepers and SOII respondents can find resources for training should be included in the pre-notification letters sent to the SOII participants at the beginning of the year the OSHA log data is recorded. These training opportunities should be free or at very low cost and the recordkeeping information needs to be available in a wide variety of media and formats, including in-person presentations and workshops where recordkeepers can meet with experts to discuss their questions. Recordkeeping "cheat sheets" that provide a handy reference on the most important recordkeeping topics would be useful for the recordkeepers.

The Minnesota DLI started providing free recordkeeping training seminars on a regular basis in 2014 and has provided presentations and workshops to more than 200 OSHA log recordkeepers. These training sessions fill to capacity with people who are very eager to learn more about recordkeeping and who want their logs to comply with the recordkeeping requirements. Presentations to improve recordkeeping have also been made or are planned to regional workplace safety groups, to state government recordkeepers at their annual conference, and through a statewide training link to state college and university recordkeepers. Recordkeeping training modules will be created in 2015 to provide an online resource. A notice is posted on MNOSHA's recordkeeping website (www.dli.mn.gov/OSHA/Recordkeeping.asp) stating that OSHA recordkeeping cases and workers' compensation claims are not necessarily the same, and a recent article in the agency's quarterly workers' compensation newsletter (Zaidman, 2014) that is sent to many workers' compensation insurance offices, TPAs, and self-insurers discusses the differences between workers' compensation and OSHA recordkeeping for a workers' compensation audience.

The outreach effort to promote OSHA recordkeeping literacy can also have a positive effect on the SOII response rate. The high proportion of log recordkeepers that work in human resource occupations can be used to enable another channel of communication. The BLS and OSHA should enlist HR professional organizations to disseminate recordkeeping information through their magazines and websites and recordkeeping classes could be held at HR conferences.

Create a campaign of public acknowledgement of the importance of recordkeepers to OSHA and the BLS. This strategy can both add more energy and improve the results of the recordkeeping training campaign.

Acknowledgement would provide feedback and recognition to recordkeepers for their important work. It also sends a message to employers that log recordkeeping is an important job task that requires training.

An online recordkeeping certification program should be developed. This could either be mandatory for SOII respondents, where a BLS generated certification number had to be entered into the SOII form, or as a voluntary training opportunity. If structured as a voluntary training opportunity, we would suggest targeting those establishments with less than 50 employees. As an added benefit, the trained and certified recordkeepers might become prompter SOII respondents, with fewer data errors, cutting down on the costs of multiple contact attempts.

Modify the OSHA log

An alternative, but complementary approach to providing more training is to modify the OSHA log to make it more easily understandable and less error-prone. Without changing content fields, could a different design reduce the likelihood of errors? Would it be possible to create a special log, paper-based or electronic, that would be used by establishments participating in the SOII?

The BLS may also consider whether the present scope of the SOII should be maintained or whether a smaller, but higher-quality set of data should be collected. Above all, the BLS and state government agencies involved in collecting the SOII need to sell the SOII to businesses so that they understand the need for the data and become users of the data, and thus beneficiaries of improved data quality. The goal is to change attitudes so that they don't consider the SOII to be an unnecessary government nuisance that appears to be duplicative of workers' compensation records. Success can lead to increased training of recordkeepers and subsequent improvements in data quality, higher SOII response rates and responses earlier in the data collection period.

Limit reliance on compensability for recordability

Most SOII data submissions are made through an on-line system, the Internet Data Collection Facility. An enhanced error detection system and submission review system should be considered. These systems would ask respondents about the recordability of the cases and whether their establishments have had any recently-denied workers' compensation claims that might be recordable. The questions and edits could be structured as a teaching system. SOII respondents could be directed to enter all log cases into the OSHA Recordkeeping Advisor or a similar system. The OSHA Recordkeeping Advisor (www.dol.gov/elaws/OSHARecordkeeping.htm) asks a series of multiple choice questions to determine whether an injury or illness is work-related and whether it is recordable. Even slight improvements in the quality of the SOII submissions can save hundreds of hours, nationally, in the editing and review of the SOII data. The data submission system might also include a brief set of questions to enable the BLS to collect information about how the SOII submissions were recorded.

Another strategy to increase understanding of the differences between OSHA log recordkeeping and workers' compensation claims is to use workers' compensation agencies and insurers to tell employers that workers' compensation claim status does not affect OSHA recordability status. This notice could be included in the claims reports insurers and claims administrators send to employers. Employers have regular contact with their insurers and may be more receptive to information received through this channel as compared with a letter from OSHA. It may also be possible to work with national workers' compensation organizations, such as the International Association of Industrial Accident Boards and Commissions (IAIABC) and the National Council on Compensation Insurance (NCCI), to help spread the word about workers' compensation limitations for OSHA log recordkeeping.

Future Research

Further research into improving the SOII should be pursued in many different directions. More focused surveys can be developed to target specific establishment types, such as by industry, size or case incidence rate. These can be shorter surveys than the interview used in the present research and would gather information to test theses about establishment and respondent characteristics, recordkeeping activities and reliance on workers' compensation records.

One research direction is to start testing different prototypes of the SOII, its instructions and injury and illness logs to improve the quality of the SOII data submissions. This could include changes to the online data submission system to test and teach the SOII respondents about OSHA recordkeeping requirements and to de-construct the log data to ensure only recordable cases are included and that they are properly categorized. This research should be evaluated on immediate and long-term data quality improvement, cost of implementation and time needed to complete the data submission. Another question is whether the changes are enough to benefit the users of the SOII estimates.

Additional research should be undertaken to learn more about SOII non-respondents and their reasons for not complying with BLS requests to participate in a mandatory government survey. Are non-respondents similar to SOII respondents who respond very late in the SOII data collection period?

The interaction of establishment size and respondent occupation also presents opportunities for further research. Large companies, either single site or multi-establishment, have the resources to hire safety managers or other people with specialized occupational safety and health backgrounds. Based on our survey results, these safety professionals tend to have a greater understanding of the OSHA recordkeeping requirements and their self-reported activities closely follow the OSHA standards, relative to other occupation groups. Smaller-sized companies do not have the resources to employ safety professionals, but could the use of safety professionals improve the OSHA log data quality for smaller companies? The BLS could set up an experiment to have highly-trained safety professionals keep log information for groups of small companies in select industries and compare it with the OSHA logs maintained by those companies. These logs can also be compared with logs from a control group of companies in the same industry, in case the regular OSHA recordkeeping was affected by the oversight-at-a-distance from the safety professional. The companies/establishments would be from the 1-10 employee and 11-49 employee size groups. This experiment would show the difference in SOII data possible from safety professionals and other recordkeepers and might also show an effect on recordkeeping from having an external expert "judging" recordkeeping performance.

The broader context

The main finding from this project and its predecessor interview research studies is that SOII respondents are often ignorant of or fail to follow the OSHA injury and illness recordkeeping requirements. This failure to follow the national standards has many effects on the SOII, increasing the injury estimates for certain injury types and decreasing the estimates for other types. The OSHA recordkeeping requirements can be followed only after the employer has been informed of a possible work-related injury or illness. Reducing the undercount of work-related injuries and illnesses depends on creating work environments that encourage workers to report injuries, or, at least workplaces that are free of disincentives for workers to report injuries. This challenge involves changes to state workers' compensation systems, an issue which has recently been addressed by Hilgert (2012), Lipple (2012) and Speiler and Burton (2012).

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Appendix A

Survey Questionnaire

START TIME:

Interviewer: _____
Date: _____

*First, the caller establishes contact with the person who completes the SOII and makes sure it's a good time to conduct the interview using the telephone solicitation script. Verify that the introductory letter was received. If it was **not**, read the statement in the box below before proceeding:*

The BLS, its employees, agents and partner statistical agencies will use the information you provide for statistical purposes only and will hold the information in confidence to the full extent permitted by law. In accordance with the Confidential Information Protection and Statistical Efficiency Act of 2002 (Title 5 of Public Law 107-347) and other applicable Federal laws, your responses will not be disclosed in identifiable form without your informed consent. This survey is being conducted under OMB Control Number 1220-0045.

Thank you for agreeing to participate in our study of workplace injury and illness recordkeeping. We are talking with people about how companies gather, record, and use information about workplace injuries and illnesses. Everything we discuss today is strictly confidential. If at any point you don't understand a question, feel free to ask for clarification. Do you have any questions for me before we get started?

COMPANY

Ok, first I have a few questions about your company and the business location identified for this survey:

1) The location we selected for this survey is (unit description and/or address). We show the annual average employment at this location is (employment). Does that sound correct? ☐ YES ☐ NO, specify:

2) Are all the workers at (sampled unit description/address) or does this number include workers at other locations?
☐ SAMPLED UNIT DESCRIPTION/ADDRESS ONLY ☐ INCLUDES OTHER LOCATIONS

3) Do you have additional locations in Minnesota? ☐ YES ☐ NO [YES=MULTI]

4) Do you have locations in other states? ☐ YES ☐ NO [YES=MULTI]

5) Does your company use temporary workers hired through a temp help agency? ☐ YES ☐NO

☐ NOT NOW, BUT HAS IN PAST ☐ DK

a. [IF YES] Are they normally supervised by staff within your company? ☐ YES ☐ NO ☐ DK

6) Does your company lease workers? ☐ YES ☐ NO ☐ NOT NOW, BUT HAS IN PAST ☐ DK

a. [IF YES] Are they normally supervised by staff within your company? ☐ YES ☐ NO ☐ DK

7) Are any workers covered by a union or collective bargaining agreement? ☐ YES ☐ NO ☐ DK

a. [IF YES] Approximately what percent of workers are covered?
☐ LESS THAN 25% ☐ 25-49% ☐ 50-74% ☐ 75% OR MORE ☐ DK

8) Does your company compete or apply for contracts or subcontracts that ask for injury rates?
☐ YES ☐ NO ☐ DK

a. [IF YES] Are any of the following injury or illness measures included in any bid submissions or applications for contracts/subcontracts?

i. OSHA total recordable injury rate or DART rate ☐ YES ☐ NO ☐ DK

ii. WC experience factor/modifier ☐ YES ☐ NO ☐ DK

iii. Do you include any other measures? ☐ YES ☐ NO ☐ DK

Specify:_____

9) What type of workers' compensation insurance does your company have? ☐ INDIVIDUAL SELF-INSURANCE ☐ GROUP SELF-INSURANCE ☐ STATE FUND/ASSIGNED RISK PLAN ☐ PRIVATE INSURANCE ☐ LEASING CO (ALSO HAS INSURANCE) ☐ OTHER, specify: _____ ☐ DK

10) Does a Third Party Administrator help manage your company's workers' comp. claims?

☐ YES ☐ NO ☐ DK

11) Do you have on-site medical staff available to treat injuries that require more than first aid?

☐ YES ☐ NO ☐ DK

12) OPTIONAL: Do you recommend a specific clinic, facility, or treatment provider for your injured employees?

☐ YES ☐ NO ☐ DK

EMPLOYEE ROLES

Now, let's move on to the people who deal with workplace injury and illness reporting for this location:

13) First, I have a question about your role in workplace injury and illnesses reporting. Do you usually complete or assist with the:

a. OSHA 300 log? ☐ YES ☐ NO
b. Workers' compensation claims? ☐ YES ☐ NO
c. BLS survey of occupational injuries and illnesses? ☐ YES ☐ NO
d. Any other injury or illness recordkeeping? ☐ YES ☐ NO

Specify: _____

14) Do other persons complete or assist with the:

a. OSHA 300 log? ☐ YES ☐ NO ☐ DK
b. Workers compensation claims? ☐ YES ☐ NO ☐ DK
c. BLS survey of occupational injuries and illnesses? ☐ YES ☐ NO ☐ DK
d. Any other injury or illness recordkeeping? ☐ YES ☐ NO ☐ DK

15) [IF YES on 14a]: Who has primary responsibility for completing the OSHA 300 log?
- ☐ RESPONDENT
- ☐ OTHER COMPANY EMPLOYEE, specify: _____
- ☐ TPA, OTHER EXTERNAL CLAIMS MGR
- ☐ OTHER, specify: _____

a. [IF NOT TPA/EXTERNAL]: Are you/Is that individual located at the (sampled location) work site?

☐ YES ☐ NO ☐ TRAVEL BETWEEN SITES
☐ SAMPLED LOCATION IS PRIMARY SITE AND TRAVELS TO OTHER SITES

16) Did you keep an OSHA log during (2010/2011)? ☐ YES ☐ NO ☐ DK

17) When your company is <u>not</u> participating in the BLS survey, do you keep an OSHA log? ☐ YES ☐ NO ☐ DK

18) How long have you been an OSHA record keeper? _____YEARS

19) Have/has (you/other company EE Q15) received **formal training** on OSHA recordkeeping, such as classes, seminars, or on-line courses? ☐YES ☐NO (GO TO Q22) ☐ DK (GO TO Q22)

20) [IF YES ON Q19] When did (you/other company EE Q15) last receive OSHA recordkeeping training?
☐ Within the past 12 months ☐ 1-3 years ago ☐ 4-5 years ago ☐ more than 5 years ago? ☐ DK

21) [IF YES ON Q19] Who provided that OSHA recordkeeping training to (you/other company EE Q15)?
☐ COMPANY STAFF ☐ OSHA ☐ OTHER STATE/LOCAL GOVERNMENT AGENCY
☐ TPA/INSURANCE COMPANY/RETRO ☐ TRADE ASSOCIATION ☐ COLLEGE/UNIVERSITY
☐ PRIVATE COMPANY/CONSULTANT ☐ DK ☐ OTHER, specify:_____

OSHA RECORDKEEPING and INJURY PROCESSING

Now I have a few questions on how your company tracks injuries and about OSHA recordkeeping:

22) What do you use to record your workplace injuries and illnesses on?

- ☐ PAPER FORM [PROBE: ARE THE PAPER FORMS ENTERED INTO ANY SOFTWARE PROGRAM?]
- ☐ ELECTRONIC SPREADSHEET
- ☐ SPECIALIZED INJURY SOFTWARE PROGRAM
- ☐ OTHER, SPECIFY: _____
- ☐ DON'T TRACK
- ☐ DK

23) [IF INJURY SOFTWARE PROGRAM in Q22 above]:

a. What injuries/illnesses are entered into the program? ☐ ALL INJURIES ☐ ALL WC CLAIMS ☐ CASES WITH MEDICAL CARE ☐ OSHA LOG ☐ OTHER, specify: _____

b. Do (you/person with primary responsibility from 15) or does the program determine if an injury/illness is recordable on the OSHA log? ☐ YOU/OTHER PERSON ☐ PROGRAM

[IF PROGRAM determines recordability:]

i. Do you ever over-ride the computer's decision? ☐ YES ☐ NO

24) **INTERVIEWER CHECKPOINT:** ☐ CHECK BOX IF NO LOG IS KEPT IN Q16/17, **THEN SKIP TO Q33**

25) How do you decide whether to record a worker injury on your OSHA log? [USE PROBES TO HELP TRY TO SELECT APPROPRIATE BOX BELOW.]

_____

_____

☐ ALL INJURIES [(CLARIFICATION PROBES: Would that include injuries and illnesses where worker does not go to the doctor? Would that include cases that do not end up as a WC claim? Do you remove any cases after they have been listed on the OSHA log?

☐ ALL FILED WC CLAIMS

☐ ALL ACCEPTED WC CLAIMS

☐ ALL INJURIES AND ILLNESSES THAT REQUIRE MEDICAL TREATMENT (BEYOND FIRST AID) (CLARIFICATION PROBE: Would that include cases that do not end up as a WC claim?)

☐ FOLLOW OSHA CRITERIA (CLEAN LOG OR ORIGINAL LOG)

☐ COMPUTER SOFTWARE DECIDES

☐ OTHER, specify _____

26) Where do you get the information needed to complete an OSHA log entry? ☐ COMPANY REPORT COMPLETED BY EMPLOYEE/SUPERVISOR ☐ WC REPORT OF ACCIDENT (FROI) OR OTHER CLAIM/INSURER INFORMATION (INCLUDING INFO FROM TPA) ☐ DOCTOR'S REPORT ☐ OTHER, specify_____

27) Do you get any information for the OSHA log from your insurance company or TPA? ☐ YES ☐ NO

a. [IF YES] What information is provided?

☐ DATE OF INJURY ☐ NUMBER OF DAYS AWAY FROM WORK ☐ INJURY TYPE ☐ WORKER NAME ☐ NONE

28) How long after the injury or illness is reported to you do you record it on the OSHA log?

☐WITHIN 1 DAY OF INJURY REPORT

☐WITHIN 1 WEEK OF INJURY ☐WITHIN 1 MONTH OF INJURY ☐END OF YEAR

☐ WHEN WC CLAIM DECISION IS MADE ☐ OTHER, specify:_____

29) Where do you get the number of days away from work for the OSHA log? ☐ PAYROLL DATA/TIMESHEET ☐ WC TIME LOSS DATA ☐ CALENDAR (PAPER OR COMPUTER) ☐ OTHER, specify: _____

a. Does the number of days away from work include all calendar days or is it limited to days of missed work or scheduled shifts? CHECK ONE. ☐CALENDAR DAYS ☐ SCHEDULED SHIFTS/DAYS ☐DK ☐ OTHER, specify: _____

30) Now, I have a few questions on differences between the OSHA log and workers' compensation reporting.

a. Have you ever put any cases on the OSHA log that are not workers' compensation claims?

☐YES ☐NO ☐ DK

i. [IF YES] Can you give me an example? _____

b. Do you keep cases on the OSHA log that have been denied workers' compensation benefits?

☐YES ☐NO ☐ DK ☐ NO DENIED CLAIMS

ii. [IF YES] Can you give me an example? _____

c. Have you ever had an accepted WC claim for your company that was not included on your OSHA log?

☐YES ☐NO ☐ DK

i. [IF YES] Can you give me an example? _____

31) Have you ever added cases to a previous year's OSHA log? ☐ YES ☐ NO

a. [IF YES] Can you give me an example?

32) Have you ever updated the number of days on a previous year's log? ☐YES ☐ NO

a. [IF NO], why not? _____

33) Have you used any of the following recordkeeping resources or contacts? ☐ OSHA state contact ☐ OSHA federal contact ☐ OSHA recordkeeping website ☐ BLS contact or BLS survey hotline ☐ OTHER, specify:_____ ☐ NONE

SOII RECORDKEEPING

Now I have a few questions about the BLS Survey of Injuries and Illnesses.

34) Was (SURVEY YEAR) the first time you've personally completed the BLS Survey of Occupational Injuries and Illnesses? ☐ YES ☐ NO ☐ DID NOT COMPLETE SOII ☐DK ☐OTHER, specify:_____

35) [IF YES IN Q3 OR Q4-- MULTI-UNIT]: Are you responsible for completing the survey for any other company location? ☐ YES ☐ NO

36) How do you decide what cases to include on the BLS survey?

☐ SAME AS OSHA 300 LOG
☐ ALL INJURIES
☐ ALL FILED WC CLAIMS
☐ ALL ACCEPTED WC CLAIMS
☐ ALL INJURIES AND ILLNESSES REQUIRING MEDICAL TREATMENT(BEYOND FIRST AID)
☐ FOLLOW OSHA CRITERIA [CLEAN LOG OR ORIGINAL LOG]
☐ COMPUTER SOFTWARE DECIDES
☐ OTHER, specify

[IF ONLY OSHA LOG, THEN ASK IF THIS IS THE ONLY SOURCE AND MARK ITEM 37]

37) Where do you get the injury and illness information needed to complete the BLS Survey? ☐ OSHA 300 LOG ☐ OSHA 301 FORM ☐ COMPANY REPORT COMPLETED BY EMPLOYEE/SUPERVISOR ☐ WC REPORT OF ACCIDENT OR OTHER CLAIM INFORMATION (INCLUDING INFO FROM TPA) ☐ DOCTOR'S REPORT ☐ OTHER SOURCE, specify: _____

38) Are days away from work on the BLS survey the same as what was reported on the OSHA log?

☐YES ☐ NO ☐ DID NOT USE OSHA LOG

a. [IF NO OR DID NOT USE LOG] What information or source do you use to determine the number of days away from work for the BLS survey? ☐ PAYROLL DATA ☐ WC TIME LOSS DATA ☐ CALENDAR (PAPER OR COMPUTER) ☐ OTHER, specify: _____

39) Have you ever been notified of an injury or illness that was reported too late to include in the BLS survey?

☐ YES ☐ NO ☐DK

[IF YES] Can you give me an example? _____

40) [IF YES IN Q5,] Would you ever include a temp agency worker on your:

a. OSHA log? ☐YES ☐NO ☐DK

b. BLS survey? ☐YES ☐NO ☐ DK

41) [IF YES IN Q6,] Would you ever include a leased worker on your:

a. OSHA Log ☐YES ☐NO ☐ DK

b. BLS survey? ☐YES ☐NO ☐ DK

WORKPLACE PRACTICES AND RECORDING QUESTIONS

We're almost done. We have a few more questions on your company's workplace performance practices.

42) Does your company use any safety incentives or rewards? ☐YES ☐NO ☐DK

a. [IF YES AND OPTIONAL] Can you tell me a little about your programs (general description, award/prize, and approximate value)?_____

b. How is safety performance measured for these programs? ☐ OSHA CASES/LOG
☐ WC CLAIM ☐ANY INJURY ☐HAZARD IDENTIFICATION/MITIGATION
☐ OTHER, specify:

43) a. Are worker safety performance measures used in rating **Your** job performance? ☐YES ☐NO ☐DK

i. [IF YES] What is performance based on?
☐ OSHA RECORDABLE CASES ☐ WC CLAIMS (TL CASES, CLAIM $, EXP. FACTOR)

☐OTHER:_____

b. Are worker safety performance measures used in rating f**rontline supervisor** job performance?

☐YES ☐NO ☐DK

i. [IF YES] What is performance based on?
☐ OSHA RECORDABLE CASES ☐ WC CLAIMS (TL CASES, CLAIM $, EXP. FACTOR) ☐OTHER:_____

c. [IF MULTI-UNIT]: Are worker safety performance measures used to compare worksites?
☐YES ☐NO ☐DK

i. What is used to evaluate or compare worksites?
☐ OSHA RECORDABLE CASES ☐ WC CLAIMS (TL CASES, CLAIM $, EXP. FACTOR)

☐OTHER: _____

44) Does your company have a policy or practice of disciplining workers for unsafe practices?
☐YES ☐NO ☐DK

45) Does your company have a policy or practice of testing workers for alcohol or drugs after their involvement in injury-causing incidents (aside from any driving accidents)?
☐YES ☐NO ☐DK

46) What recordkeeping decisions would you make in the following situations:.

a. An employee injured his ribs at work, and went to have an X-ray. The rib was not broken and he had no further medical care.

Is this an OSHA-recordable injury? ☐YES ☐NO ☐DK

b. An employee cut his arm at work on Friday. His doctor recommended he take two days off from work. He was not scheduled to work the weekend, and he returned to work on Monday.

Is this an OSHA-recordable injury? ☐YES ☐NO ☐DK

[IF YES] Would you record any days away from work? ☐YES ☐NO ☐DK

[IF YES] How many? _____

c. A worker was engaged in horseplay at work while stacking some boxes of lutefisk and fell, resulting in days away from work.

Is this an OSHA-recordable injury? ☐YES ☐NO ☐DK

d. A worker cut her thumb and had stitches, but did not miss any time away from work.

Is this an OSHA-recordable injury? ☐YES ☐NO ☐DK

i. A week later, the same worker ended up missing 7 days when the thumb became infected. Would you: ☐Record as new injury (☐Update old injury NOT OPTION IF NO ABOVE) ☐Not record ☐DK

47) Have you had an outside safety consultant visit your facility within the past two years?

☐Yes ☐No ☐DK

48) Does your facility collect information on near-misses?

☐Yes ☐No ☐DK

49) Do you think your OSHA 300 log is an accurate indicator of worker safety at your facility? Why or why not?

☐Yes ☐No ☐DK

50) OPTIONAL: Is there anything you would like to add that would help me understand how your company tracks workplace injuries and illnesses?

Ok, that covers it. Thank you so much for your time. Do you have any questions? If we have any questions, we might call you back briefly for clarification.

END TIME:

GENDER: ☐MALE ☐FEMALE ☐DK

Appendix B

Standard state report tables

The BLS asked each state to produce a standard series of tables in order to compare estates across states. The tables focus on errors and issues that were identified in earlier undercount research and on characteristics of establishments and respondents that might be associated with the errors and issues. Many of the topics addressed in these tables are discussed elsewhere in the report in relation to size differences. The findings from the Minnesota tables are briefly summarized.

Table set 1 shows the magnitude of safety programs, establishment characteristics and injury and illness recording practices by size and industry for private ownership establishments. These are all weighted to show the proportions of all private ownership Minnesota establishments. The tables include the standard errors for the proportions. Tables included in table set 1 are size and industry by each of the following survey items:

- Apply for contracts that ask for injury rates (Q8)
- Onsite medical treatment (Q11)
- SOII respondent completes or assists with workers' compensation claims (Q13b)
- Formal recordkeeping training (Q19)
- Uses specialized injury software program (Q22)
- Adds cases to previous year's log (Q31)
- Updates DAFW on previous year's log (Q32)
- Use of recordkeeping resources contacts (Q33, each response)
- Has been notified of cases too late to add to SOII (Q39)
- Includes temporary help agency workers on log and SOII (Q40a, b)
- Includes leased workers on log and SOII (Q41a,b)

Table set 2 addresses the hypothesis that OSHA recordkeeping knowledge and SOII responses vary by establishment and respondent characteristics. Tables for each of the listed questions are tabulated by size and multi-establishment status, presence of unionized employee (Q7), regular maintenance of an OSHA log (Q17), workers' compensation insurance type (Q9), use of a third-party administrator (TPA) for workers' compensation claims (Q10), and OSHA recordkeeping training (Q19). The size and multi-establishment tables are weighted to represent all Minnesota establishments, and the remainder of the tables are weighted to represent proportions of all Minnesota employees. All ownership groups are included.

- How do you decide whether to include a worker injury on OSHA log (Q25)
- How do you decide what cases to include on BLS Survey (Q36)
- Records case on log within 7 days (Q28)
- DAFW based on calendar or missed days (Q29a)
- Each OSHA recordkeeping scenario: (Q46a), (Q46b), (Q46bi), (Q46c), (Q46d), (Q46di)

Table set 3 addresses the hypothesis that incentives to record injuries will vary by establishment characteristics. Tables for each of the listed questions are tabulated by size and industry (for private-ownership establishments only), days-away-from-work (DAFW) rate above or below industry average, days away, restricted or transferred (DART) rate above or below industry average, applies for contracts that ask for injury rates (Q8), workers' compensation insurance type (Q9), and use of a TPA for workers' compensation claims (Q10). The size and industry tables are weighted to represent all Minnesota establishments, and the remainder of the tables are weighted to represent proportions of all Minnesota employees.

- Use of safety incentives (Q42)
- Safety performance measured as hazard mitigation (Q42b)
- Safety performance used in respondent performance evaluation (Q43a)
- Safety performance used in frontline supervisor performance evaluation (Q43b)
- Safety performance used to compare worksites (Q43c)
- Discipline for unsafe practices (Q44)
- Drug testing following incidents (Q45)
- Recommends treatment facility (Q12)

Table set 4 addresses the hypothesis that reliance on workers' compensation records will vary by establishment characteristics and state workers' compensation characteristics (to be tested on combined state datasets). . Tables for each of the listed questions are tabulated by size and industry (for private-ownership establishments only), DAFW rate above or below industry average, and use of a TPA for workers' compensation claims (Q10). The size and industry tables are weighted to represent all Minnesota establishments, and the remainder of the tables are weighted to represent proportions of all Minnesota employees.

- Use of safety incentives (Q42)
- All cases on OSHA log are WC claims (Q30a)
- Takes WC denied cases off log (Q30b)
- Accepted WC claims all on log (Q30c)
- Gets log info from workers' compensation insurer, TPA, workers' compensation forms (Q26)

Results summary

Table set 1

Table set 1 shows the distributions by size and industry. Due to the small number of respondents in some of the size by industry cells, definitive statements about between industry differences and size differences within industries are difficult to make and the data and results will need to be combined with those from the other states in order to have more confidence in the findings.

- Only construction establishments with more than 10 workers consistently use injury rates in their contract bids.

- Only 2 percent of establishments have onsite medical staff, and these are concentrated in the largest size category.
- Most SOII respondents are involved with workers' compensation claims, especially in small establishments. In larger establishments, there is either more differentiation between the duties or the respondents remarked "don't know." There may have been misunderstanding of what was meant to "complete or assist with workers' compensation claims," whether it referred to filling out forms, tracking cases or making claims determinations.
- The proportion of SOII respondents with recordkeeping training increases with establishment size. There is a wide variation by size and industry.
- Use of specialized software increases with size, but it is only used by 11 percent of establishments.
- Except for establishments with 250 or more employees, most respondents have not added cases to a previous year's log. Among large establishments, the highest rate was in manufacturing (92 percent) and the lowest was in retail trade (17 percent).
- Except for establishments with 250 or more employees, most respondents have not updated days on a previous year's log.
- Few respondents used state OSHA, federal OSHA or BLS contacts for recordkeeping assistance. Use of the OSHA recordkeeping website increased with establishment size.
- Ninety percent of respondents have not received notice of a recordable case too late to include on their SOII submission.
- Few respondents report using temporary help agency workers. The percentage of respondents recording workers from temporary help agencies on the OSHA log and the SOII increases with establishment size. The overall percentage recording temporary workers on the log was 42 percent, and the percentage including them on the SOII was 35 percent.
- Very few respondents indicated that they used leased employees and the majority of respondents in all size classes would not include them on the OSHA log or a SOII submission.

All of the comparisons for table sets 2, 3 and 4 show significant differences, but for some questions the "don't know" category showed the largest differences from the other categories and from the expected proportions. The bullet points describe the size trends and differences of more than a few percentage points among responses other than "don't know."

Table set 2

Following OSHA criteria to include injuries on the log was more common among

- Larger-sized establishments;
- Multi-location establishments, overall and within each size category;
- Unionized establishments;
- Establishments that do not regularly maintain an OSHA log;
- Establishments insured through the assigned risk plan (and lowest among privately-insured establishments);
- Establishments with a workers' compensation TPA;
- Respondents with OSHA recordkeeping training.

Using the OSHA log as the source for the SOII response was more common among

- Larger-sized establishments;
- Multi-location establishments, overall and within each size category;
- Non-unionized establishments;
- Establishments that regularly maintain an OSHA log;
- privately-insured establishments (and lowest among establishments insured through the assigned risk plan);

Recording cases on the log within seven days was more common among

- smaller-sized establishments;
- single-location establishments;
- Establishments that regularly maintain an OSHA log.

Using calendar days (not work shift days) to count days away from work on the log was more common among

- Larger-sized establishments;
- Multi-location establishments, overall and within each size category;
- Unionized establishments;
- Establishments that regularly maintain an OSHA log;
- Establishments that are individually self-insured (and lowest among privately-insured establishments);
- Establishments with a workers' compensation TPA;
- Respondents with OSHA recordkeeping training.

Not recording a case on the log with only diagnostic procedures and not medical care was more common among

- Larger-sized establishments (highest among 50-249 employee establishments);
- Multi-location establishments;
- Unionized establishments;
- Establishments that regularly maintain an OSHA log;
- Establishments that are individually self-insured;
- Establishments with a workers' compensation TPA;
- Respondents with OSHA recordkeeping training.

Recording a case on the log a Friday injury where the worker was given two days of disability for non-work days was more common among

- Larger-sized establishments;
- Multi-location establishments;
- Unionized establishments;
- Establishments that regularly maintain an OSHA log;
- Establishments that are individually self-insured;
- Respondents with OSHA recordkeeping training.

Among respondents recording the Friday injury, recording DAFW for the case was more common among

- The largest-sized establishments;
- Unionized establishments;
- Establishments that regularly maintain an OSHA log;
- Establishments that are individually self-insured;
- Establishments with a workers' compensation TPA;
- Respondents with OSHA recordkeeping training.

Recording an injury resulting from horseplay was more common among

- Larger-sized establishments;
- Multi-location establishments;
- Establishments that regularly maintain an OSHA log;
- Establishments that are individually self-insured;
- Respondents with OSHA recordkeeping training.

Recording an injury with stitches but no lost time was more common among

- Larger-sized establishments;
- Multi-location establishments;
- Unionized establishments;
- Establishments that regularly maintain an OSHA log;
- Establishments that are individually self-insured;
- Establishments with a workers' compensation TPA;
- Respondents with OSHA recordkeeping training.

Recording an injury with stitches but no lost time was more common among

- Larger-sized establishments;
- Multi-location establishments;
- Unionized establishments;
- Establishments that regularly maintain an OSHA log;
- Establishments that are individually self-insured;
- Establishments with a workers' compensation TPA;
- Respondents with OSHA recordkeeping training.

Updating the log if the worker with stitches later gets an infection and requires days away from work was more common among

- Larger-sized establishments;
- Multi-location establishments;
- Unionized establishments;
- Establishments that regularly maintain an OSHA log;
- Establishments that are individually self-insured;
- Establishments with a workers' compensation TPA;
- Respondents with OSHA recordkeeping training.

Table set 3

Using safety incentive programs was more common among

- Larger-sized establishments;
- Establishments with DAFW rates above their industry average;
- Establishments with DART rates above their industry average;
- Establishments that use injury rates in contract bids;
- Establishments that are individually self-insured;
- Establishments with a workers' compensation TPA.

Using hazard identification/mitigation as a safety performance measure was more common among

- Establishments with DAFW rates below their industry average;
- Establishments with DART rates below their industry average;
- Establishments that do not use injury rates in contract bids;
- Establishments that are group self-insured.

Using safety performance in respondent performance evaluation was more common among

- Larger-sized establishments;
- Establishments that use injury rates in contract bids;
- Establishments with a workers' compensation TPA.

Using safety performance in frontline supervisor performance evaluation was more common among

- Larger-sized establishments;
- Establishments that use injury rates in contract bids;
- Establishments that are group self-insured.

Among multi-site companies, using safety incentive programs was more common among

- Larger-sized establishments;
- Establishments with DAFW rates above their industry average;
- Establishments with DART rates above their industry average;
- Establishments that use injury rates in contract bids;
- Establishments that are individually self-insured;
- Establishments with a workers' compensation TPA.

Establishments with policies to discipline workers for unsafe practices were more common among

- Establishments with more than 10 employees;
- Establishments with DAFW rates above their industry average;
- Establishments with DART rates above their industry average;
- Establishments that use injury rates in contract bids;
- Establishments that are individually self-insured;
- Establishments with a workers' compensation TPA.

Establishments with policies to test injured workers for alcohol/drugs were more common among

- Larger-sized establishments;
- Establishments with DAFW rates above their industry average;
- Establishments with DART rates above their industry average;
- Establishments that use injury rates in contract bids;
- Establishments that are group self-insured;
- Establishments with a workers' compensation TPA.

Establishments that recommend treatment facilities to injured workers were more common among

- Larger-sized establishments;
- Establishments with DAFW rates above their industry average;
- Establishments with DART rates above their industry average;
- Establishments that use injury rates in contract bids;
- Establishments that are individually self-insured;
- Establishments with a workers' compensation TPA.

Table set 4

Respondents who had all log cases that were also workers' compensation claims were more common among

- Establishments with 250 or more workers;
- Establishments with DAFW rates above their industry average;

- Establishments with a workers' compensation TPA.

Respondents who cases denied workers' compensation claims on their log were more common among

- Establishments with 250 or more workers;
- Establishments without a workers' compensation TPA.

Respondents who had workers' compensation claims that were not included on their OSHA log were more common among

- Establishments with 250 or more workers;
- Establishments with DAFW rates above their industry average;
- Establishments with a workers' compensation TPA.

Respondents who get information to complete the SOII from workers' compensation sources were more common among

- (unclear, but lowest among the establishments with 250 or more workers);
- Establishments with DAFW rates above their industry average;
- Establishments with a workers' compensation TPA.