





# Comparing Workers' Compensation Claims and OSHA Data Initiative Cases

## Executive Summary

The performance of the Minnesota OSHA (MNOSHA) compliance inspection program depends on targeting establishments that will most benefit from inspections. MNOSHA uses the information collected by the OSHA Data Initiative (ODI) as its primary source to identify establishments for compliance inspections. This information is supplemented by a list produced from the state's workers' compensation indemnity claims (WC claims) database. The completeness of injury and illness reporting in the ODI has been a perennial question and this project compared the data available from the two data sources to help MNOSHA management make decisions regarding whether to continue using both sources and how to improve inspection targeting.

Employers' ODI responses for calendar 2003 injuries and illnesses were compared with their workers' compensation claims. The following are the report's major findings:

- Of the 1,701 employers in the ODI, only 44 percent matched to an employer with 2003 WC claims. Among the employers not matching to WC claims, 42 percent had no cases with days away from work and 14 percent had DAFW cases with an average of two or fewer days away from work and hence were less likely to have WC claims. Only 25 percent of employers were unmatched or did not have obvious reasons for not matching.
- Many of the match failures among employers with DAFW cases were found to be due either to misidentification or to differences in reporting deadlines in the OSHA and workers' compensation programs.

Even for many of the employers with records in both systems, the number of cases was often very different. An in-depth analysis of three samples of employers was carried out to identify the reasons for discrepancies in the number of cases. For these employers, the full OSHA log (Form 300) was sent to the department to enable comparisons of individual injury and illness cases.

- For employers found to have more WC claims than the number of ODI cases with days away from work (DAFW cases), the main reasons for the discrepancy were found to be: 1) the OSHA log was not amended when a case's status changed; 2) disputed WC cases were omitted or misreported in the log; 3) log reporting was incorrect; or 4) the WC database was not establishment-specific.
- For employers found to have fewer WC claims than DAFW cases, the main reasons for discrepancy were found to be: 1) log entries did not meet the indemnity threshold to appear in the WC claims database; and 2) mismatches from differences in identifying employers and cases in the two databases.

Most employers initially found to have an equal number of WC claims and DAFW cases were confirmed to have accounted properly in both programs. None of the employers participating in the detailed analysis were found to have intentionally falsified their OSHA log. Most

discrepancies between the OSHA logs and the WC claims were a result of technical differences between the two programs or common OSHA recordkeeping errors.

- The WC claims and ODI databases contain similar information. For individual work establishments, however, there are often enough differences between the data sources that both sources are needed to develop a complete picture of the workplace safety and health conditions. The analysis supports the current MNOSHA practice of using both databases for targeting establishments for compliance inspections.

## Introduction

Minnesota OSHA (MNOSHA) compliance inspections depend on the information collected through the OSHA Data Initiative (ODI, also known as the “OSHA Log Data Survey” or simply as the “OSHA survey”) to identify establishments for compliance inspections. The ODI is a federal OSHA program to collect OSHA log summaries from employers in specified industries. MNOSHA supplements its ODI information with an employer list produced from the state’s workers’ compensation indemnity claims<sup>1</sup> (WC claims) database. This project compares the data from these two sources to clarify whether it makes sense to continue using both sources and to see if anything can be learned to improve MNOSHA targeting strategies.

The completeness of injury and illness reporting in the ODI has been a perennial question. Employers have an incentive to under-report in order to reduce the likelihood of inspection. This project investigates the extent of under-reporting by comparing injury and illness data from the Minnesota ODI to similar data from the WC claims database. This report investigates the reasons for data discrepancies and discusses whether alternative methods are needed for inspection targeting.

The survey staff in the Research and Statistics unit of the Minnesota Department of Labor and Industry (DLI) collect and edit the ODI responses. They also collect and edit the OSHA log summaries and case characteristics data for the Annual Survey of Occupational Injuries and Illnesses. It has been their experience that many employers have a less-than-authoritative grasp of OSHA recordkeeping requirements, how to maintain an OSHA log, and how to summarize the data for the ODI and the annual survey. While the staff spend a considerable amount of time editing and correcting the data, some errors do get through, and internally consistent, yet incorrect, information enters the ODI database.

Despite instructions to the contrary, employers sometimes ignore OSHA recordkeeping requirements and use workers’ compensation rules to decide how to record their workplace injuries and illnesses. For example, although cases of work-related mental stress are supposed to be recorded on the log, mental stress cases are rarely reported because they are not compensable in the Minnesota workers’ compensation system. As a result, this report also provides insight into common mistakes and misunderstandings in log reporting.

## Methodology

The basic methodology used in this research is to compare the number of cases with days away from work (DAFW cases) reported by an employer on the ODI to the number of indemnity claims reported to DLI and recorded in the WC claims database. While the ODI data is collected

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<sup>1</sup> Indemnity claims are workers’ compensation claims that include the payment of indemnity benefits. Indemnity benefits compensate the injured or ill worker (or dependents) for wage loss, permanent functional impairment or death. Indemnity benefits include temporary total disability, temporary partial disability, permanent partial disability and permanent total disability benefits, supplementary benefits, death benefits, and, in insurance industry accounting, vocational rehabilitation costs. Most indemnity claims involve more than three days of total or partial disability, since this is the threshold for qualifying for the temporary disability benefits. In this report, all references to workers’ compensation claims refer to indemnity claims.

annually from employers, the WC claims data are reported separately for each injury and illness case, and are sent to DLI within a few weeks of the incident. There are different rules and requirements for reporting cases in each system. However, nearly all WC claims should have corresponding entries on their employer's OSHA log. Cases in the 2003 ODI were compared against indemnity claims in the WC database that had a date of injury in 2003, and were against employers in the industry and size classes targeted in the ODI.

Employers<sup>2</sup> in the ODI database are selected by industry and size. MNOSHA forwards to the federal OSHA office the list of industries that it wishes to target for future compliance inspections. Furthermore, the ODI is limited to establishments with 40 or more workers. Because employers are selected based on their industry and size rather than their injury or illness history, the prior expectation is that many employers—especially smaller ones—will report only minor workplace injuries on the ODI and will not have claims reported in the WC claims database.

The initial step in the matching process required preparation of a workers' compensation file identifying the employer (and worksite) and the number of WC claims for that worksite. The initial step was to create a file of 2003 WC claims matching the industries participating in the 2003 ODI. The claims were then aggregated into totals for each employer and work establishment. The WC claims database is organized to facilitate the proper identification of injured workers and the insurer responsible for paying benefits; identification of the employer and place of work is a lower priority. Information from the Department of Employment and Economic Development (DEED) unemployment insurance (UI) database—including UI number, employer name and address, industry codes and employer size—was used to improve employer identification in the WC database.

Proper identification of the employer and work establishment for the WC claims involved a complex process of comparing the information available from DLI and DEED data sources. Many WC claims do not include a UI number that can identify the employer. For these cases, it was necessary to match on the employer name and address fields. Even claims with a UI number may not have a reporting unit code, so employers with more than one work establishment might have WC claims totals representing multiple locations. When possible, WC claims documents were inspected for information about work location. Employers with 30 or more workers, identified using DEED information, were retained in the database.

The resulting employer file based on WC claims was then matched with the ODI database. Due to the lack of a common employer identifier between the two databases, matching employers in the ODI database with employers in the WC database had to be done by employer name and address. Differences in conventions for entering the name and address meant that some matches had to be performed manually.

## Matching results

Of the 1,701 employers in the original ODI database, only 44 percent matched an employer in the WC database (see Figure 1). However, 42 percent of the unmatched employers (for a total of 395) had no DAFW cases and hence were *appropriately* without a WC database match. Another 14 percent had DAFW cases with an average of three days or fewer away from work,<sup>3</sup> and were

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<sup>2</sup> In this report, employer may also refer to a particular work establishment.

<sup>3</sup> Days away from work in the OSHA log do not include the initial day of the injury or illness. However, the Minnesota workers' compensation system includes the initial day when counting days of disability for

much less likely to have a corresponding WC claim. Thus only 45 percent of the unmatched employers (and 25 percent of all ODI employers) were unmatched without explanation.

**Figure 1 Employer matches between ODI and workers' compensation files**

Employers with:	Employers not matched to WC claims		Employers matched to WC claims		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
No DAFW cases	395	88.8%	50	11.2%	445	26.2%
DAFW cases average 3 days or less <sup>1</sup>	129	72.9%	48	27.1%	177	10.4%
DAFW cases average more than 3 days <sup>1</sup>	424	39.3%	655	60.7%	1,079	63.4%
<b>Total</b>	<b>948</b>	<b>55.7%</b>	<b>753</b>	<b>44.3%</b>	<b>1,701</b>	<b>100.0%</b>

<sup>1</sup> Days includes the initial day of injury or illness.

For the remainder of this paper, matches where an employer had both WC claims and DAFW cases are called “pure” matches. Matches that includes the pure matches, employers who had no DAFW cases, and employers with DAFW cases averaging three days or fewer are called the “adjusted” matches. As shown in Figure 1, even some employers with no DAFW cases or with average days away from work below the indemnity threshold match to the WC claims database.

Figure 2 shows the results of the database match by employer size. The matching rate improves with size when considering only pure matches, but the reverse is true when adjusted matches are considered. This is because many of the small employers (with less than 100 workers) had no DAFW cases or their DAFW cases averaged less than three days away from work. Only 48 percent of the small employers had DAFW cases with an average of more than three days away from work, compared to 82 percent of the medium-sized employers (100 to 249 workers) and 92 percent of the large-sized employers (250 or more workers).

**Figure 2 Employer matches by employer size**

Number of employees	Number of employers	Pure matches <sup>1</sup>	Adjusted matches <sup>2</sup>
Less than 100	988	33.3%	78.5%
100 to 249	514	58.0%	70.6%
250 or more	199	63.3%	69.3%
<b>Total</b>	<b>1,701</b>	<b>44.3%</b>	<b>75.1%</b>

<sup>1</sup> Matches to workers' compensation indemnity claims.

<sup>2</sup> Pure matches and employers with no DAFW cases or cases averaging less than three days.

Figure 3 shows the results of the database match by industry. The pure matches varied from 16 percent among retail employers to 53 percent in the health care industry. The adjusted matches

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benefit eligibility. For this report, the initial day of injury or illness is included. Thus a DAFW case with two days away from work on the log is reported as a case with three days away from work in this paper.

varied from 48 percent in retail trade to 85 percent in metals manufacturing. Most industries had adjusted match rates between 70 percent and 80 percent.

**Figure 3 Employer matches by industry**

Industry group	Number of employers	Pure matches <sup>1</sup>	Adjusted matches <sup>2</sup>
Food and beverage mfg.	180	45.8%	72.8%
Wood products mfg.	79	42.8%	70.9%
Plastics and rubber mfg.	125	44.3%	79.2%
Metals mfg.	262	44.0%	85.1%
Machinery mfg.	77	43.5%	81.8%
Transportation equipment mfg.	57	50.9%	73.7%
Furniture mfg.	56	39.3%	73.2%
Wholesale trade	176	40.9%	72.7%
Retail trade	50	16.0%	48.0%
Transportation and warehousing	98	37.8%	67.3%
Health care	397	53.1%	72.5%
Other	144	45.8%	80.6%
<b>Total</b>	<b>1,701</b>	<b>44.3%</b>	<b>75.1%</b>

<sup>1</sup> Matches to workers' compensation indemnity claims.

<sup>2</sup> Pure matches and employers with no DAFW cases or cases averaging less than three days.

The underlying expectation is that employers will have more DAFW cases than indemnity claims, due to the three-day indemnity threshold. Informal familiarity with workers' compensation claims thus lead to an *a priori* expectation that only 60 to 70 percent of the employers in the ODI database would have matches in the WC database. While the "pure" match rate was only 44 percent, the adjusted rate of 75 percent was thus better than expected.

## Reasons for non-matching

Besides having no DAFW cases with enough days away from work to reach the indemnity threshold, there are three major reasons for non-matching. Non-matches may occur for reason related to 1) recording and reporting the OSHA log data, 2) reporting and data entry of WC claims, and 3) matching the employer data from the two systems.

Many employers have difficulty recording their workplace injuries and illnesses according to the OSHA recordkeeping requirements. In some instances, employers may record a case as a DAFW case when the case does not have any days away from work other than the day of injury or illness. Even if a case is properly identified as a DAFW case, the number of days away from work may not be properly counted. Another potential source for error is transferring the OSHA log data to the log summary sheet and to the ODI reporting sheet.

Data entry of WC claims takes place at DLI, after receipt of paper or electronic forms from the insurer or self-insured employer. Sometimes, inaccurate information is recorded on the First Report of Injury form (FROI), which is used for entry of employer information. Persons filling

out the FROI might provide different versions of the employer name and address on FROIs for different injured workers. Sometimes employers with multiple worksites provide only the address of the central office location on the FROIs of workers injured at different worksites. In some instances, the employer name might be misspelled. Another opportunity for error in the WC claims data occurs during the data entry process, where data entry errors may occur when keying in the information. There are also instances where claims are identified as indemnity claims in error.

The third reason for non-matching is the lack of accurate and uniform employer identifiers. WC claims can be associated to an employer by their workers' compensation database employer number, unemployment insurance account number (UI account), and by the Federal Employer Identification Number (FEIN). The latter two identifiers are obtained from the Minnesota Department of Employment and Economics (DEED). ODI does not use any of these identifiers; it has a number assigned to employers through the Duns and Bradstreet employer database it uses for producing the ODI sample.

The WC database is injury-specific, whereas the OSHA database gives aggregates of injuries by employer. Furthermore, OSHA requires that a different log of injuries be kept at each employer's establishment, whereas the WC database often contains information for all locations of a business, with frequently little or no information as to the location of the injury. Since the only common identifier in the two databases is establishment name and location, matching is tricky, particularly in the case where an establishment can be identified by more than one name and location. Furthermore, since the OSHA log is location-specific, if an establishment matched by name but not by location, it was considered a non-match.

Because some employers have more than one name and establishment, this method is highly inefficient and time consuming, and insignificant differences such as misspelling cause a non-match. For a few very large, multi-establishment employers, the problems presented when trying to match establishment-level DAFW cases and WC claims were too great to make correct matches and these employers were considered non-matched.

## Reasons for discrepancies

After matching, the number of WC claims was compared to the number of DAFW cases in the ODI database for each matched employer. When these two numbers were not roughly equal, a "discrepancy" was said to exist. Some discrepancy in the two numbers was expected.

First, the indemnity threshold for reporting WC claims and DAFW threshold for classifying a recordable log as a DAFW case are different. In most instances, an injured worker needs to be totally or partially disabled for more than three days<sup>4</sup> in order to receive indemnity benefits (and appear in the WC database). Workers with shorter durations may receive medical benefits, but such claims are not reported to DLI. On the OSHA form 300 (log), however, an injury or illness must be recorded as a DAFW case if there are *any* days away from work after the day of injury or start of the illness.

WC claims include some claims that do not have more than three days away from work. Eligibility for indemnity benefits includes combinations of both total and partial work disability of more than three days. Any permanent disability is considered to meet the indemnity threshold.

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<sup>4</sup> An exception is when the worker suffers a permanent partial disability but loses no time at work.

Some WC claims do not include any days of total disability or only one or two days and the remaining disability days are days of partial disability. The workers' compensation insurer reports a day of partial disability when an injured worker receives work restrictions or works at a modified job and is paid less for that day's work. Thus, some WC claims may not include enough days away from work to be classified as a DAFW case on the OSHA log.

Another source of expected discrepancy lies in the timing of recording and reporting. Some workplace injury and illness cases remain active for a long period of time. OSHA logs are summarized by February 1 of the following year for posting in the workplace. The ODI data is collected between June and September of the following year. Even though employers are instructed to update their logs if new information is received, such as additional days away from work, the employer may forget to update the log. If the new information is received between the posting of the summary and reporting the log data in the ODI, the updated log information might not be included if the "old" summary sheet is used to fill out the ODI survey form. In contrast, the workers' compensation data is constantly being updated. The WC claims used in this analysis were downloaded from the database in May 2005. Thus, it is possible for an employer with no reported DAFW cases or very short-duration cases to have matching WC claims.

"Willful" discrepancies may also exist. An employer may intentionally fail to log cases at all (e.g., to avoid possible inspection) or fail to file a First Report of Injury when an employee is injured (e.g., to avoid possible impact on insurance rates). It is also possible for an employer to willfully misreport the log cases on the ODI form.

## Comparing WC claims and ODI cases

The discrepancies described in the previous section lead to a wide variation in the amount of discrepancy for individual employers, with some having more DAFW cases than indemnity claims, and others having the opposite. Among employers with at least three DAFW cases and pure matches to WC claims (459 employers), the ratio of WC claims to DAFW cases varied from 7 percent to 355 percent. The overall average for the employers' ratios was 67 percent, indicating that there were two WC claims for every three DAFW cases.

An alternative measure of the coverage of the workers' compensation and ODI systems is to compute the overall ratio of WC claims and DAFW cases, combining across employers. This measure provides an indication of the overall coverage of the respective programs, and gives equal weight to each claim or case, rather than to each employer. Using the sums of WC claims and DAFW cases in the computation produces a ratio of 76 percent, indicating that among matched employers there were three WC claims for every four DAFW cases.

The matched employers can be classified according to the direction of the discrepancy:

- Group A: Employers with much fewer WC claims than DAFW cases (WC/DAFW ratio of less than 70 percent). This group accounted for 62 percent of the employers.
- Group B: Employers with roughly equal WC claims and DAFW cases (WC/DAFW ratio between 70 percent and 100 percent). This group accounted for 27 percent of the employers.
- Group C: Employers with more WC claims than DAFW cases (WC/DAFW ratio greater than 1). This group accounted for 11 percent of the employers.

Figures 4 and 5 provide descriptive statistics on the 459 employers with three or more DAFW cases and pure matches with WC claims. The results are more or less uniform across size and industry groups and support the hypothesis that the number of DAFW cases on average exceeds (or equals) the number of indemnity claims. The tables include the average ratio of WC claims to DAFW cases for an employer in each industry and size category and the ratio for that industry or size, obtained by combining the WC claims and DAFW cases across employers in that group and then computing the ratio.

**Figure 4 WC to DAFW case ratio groups by employer size**

Number of employees	Group A: More DAFW (ratio less than 70%)	Group B: Nearly equal (ratio 70% to 100%)	Group C: More work comp (ratio over 100%)	Average WC/DAFW ratio by employer	Average WC/DAFW ratio by case
Less than 100	63.9%	30.0%	6.2%	63.6%	60.0%
100 to 249	64.5%	27.2%	8.3%	63.5%	58.6%
250 or more	54.4%	25.0%	20.5%	77.9%	95.7%
Total	61.9%	27.5%	10.7%	67.0%	76.0%

**Figure 5 WC to DAFW case ratio groups by industry**

Industry group	Group A: More DAFW (ratio less than 70%)	Group B: Nearly equal (ratio 70% to 100%)	Group C: More work comp (ratio over 100%)	Average WC/DAFW ratio by employer	Average WC/DAFW ratio by case
Food and beverage mfg.	68.0%	16.0%	16.0%	70.7%	70.9%
Wood products mfg.	40.9%	40.9%	18.2%	78.8%	81.3%
Plastics and rubber mfg.	65.5%	27.6%	6.9%	66.2%	63.3%
Metals mfg.	52.4%	30.2%	17.5%	78.6%	72.0%
Machinery mfg.	54.5%	36.4%	9.1%	61.5%	63.4%
Transportation equipment mfg.	70.0%	25.0%	5.0%	57.2%	50.5%
Furniture mfg.	60.0%	40.0%	0.0%	65.3%	62.2%
Wholesale trade	66.7%	23.1%	10.3%	60.1%	55.6%
Retail trade	66.7%	33.3%	0.0%	50.2%	50.0%
Transportation and warehousing	39.1%	39.1%	21.7%	96.4%	180.3%
Health care	66.7%	25.9%	7.5%	59.8%	55.8%
Other	67.6%	27.0%	5.4%	62.9%	63.6%
Total	61.9%	27.5%	10.7%	67.0%	76.0%

## Inspection of OSHA logs

### Employer survey

To better understand the nature of the discrepancies, a sample of employers was pulled from each of the three groups and actual OSHA logs were inspected and compared to the WC claims for that employer. A total of 89 employers, distributed among the three case ratio groups, were contacted to request their 2003 OSHA log 300, and 49 employers (55 percent) provided their OSHA log in time for analysis. Employers were sent letters asking for a copy of their 2003 OSHA log to be returned, by mail or fax, within two weeks. Figure 6 shows the response frequencies by case ratio group. The response rates did not vary significantly by ratio group. The sampled employers in Group A, where there were many more DAFW cases than WC claims, also included employers who did not match to any WC claims. This “extreme” discrepancy group was selected in order to analyze why a database match did not occur.

**Figure 6 Log request response by case ratio group**

WC claim/DAFW case ratio groups	Employers in sample	Employers returning log	Percentage returning log
Group A: more DAFW (ratio less than 70%)	39	21	53.3%
Group B: nearly equal (ratio 70% to 100%)	31	17	54.8%
Group C: more work comp (ratio over 100%)	19	11	57.9%
Total	89	49	55.1%

Figures 7 and 8 show the distribution of sampled employers by size and industry. There was no appreciable difference in response rate by employer size. Health care industry employers, which comprised the largest industry group in the sample, had a low response rate. Even with the low response rate, health care was the second most common industry among employers returning their 2003 OSHA log. The other industries with response rates below 50 percent had much fewer employers in the sample.

**Figure 7 Log request response by employer size**

Number of employees	Employers in sample	Employers returning log	Percentage returning log
Less than 100	26	14	53.8%
100 to 249	29	15	51.7%
250 or more	34	20	58.8%
Total	89	49	55.1%

**Figure 8 Log request response by industry**

Industry group	Employers in sample	Employers returning log	Percentage returning log
Food and beverage mfg.	9	6	66.7%
Wood products mfg.	3	1	33.3%
Plastics and rubber mfg.	4	1	25.0%
Metals mfg.	18	12	66.7%
Machinery mfg.	7	3	42.9%
Transportation equipment mfg.	5	3	60.0%
Furniture mfg.	2	1	50.0%
Wholesale trade	4	2	50.0%
Retail trade	0	0	
Transportation and warehousing	5	2	40.0%
Health care	23	9	39.1%
Other	9	9	100.0%
<b>Total</b>	<b>89</b>	<b>49</b>	<b>55.1%</b>

Compared to the respondents, the nonrespondents averaged more WC claims and fewer DAFW cases, but had similar ratios of WC claims to DAFW cases and similar average to days away from work among their DAFW cases. One very large employer, in Group C, with a high number of WC claims did not respond to the log request. Without that employer, the average number of WC claims among nonrespondent employers was less than the average among respondents. The differences do not show a consistent bias between the groups.

### **Comparison of injuries and illnesses**

Each responding employer's OSHA log and WC claims were inspected to determine which WC claims were not reported on the OSHA log and which DAFW cases on the log did not have corresponding WC claims. Ideally, all WC claims should have corresponding entries on the employer's OSHA log. For example, a worksite with six WC claims and 10 DAFW cases should have only 10 unique work-related injuries and illnesses; each of the WC claims would have been reported in the OSHA log, and four log cases would not have corresponding WC claims, perhaps because the indemnity threshold was not reached. At the opposite extreme, it is possible that none of the WC claims and DAFW cases would match. A worksite with six WC claims and 10 DAFW cases would have 16 unique work-related injuries and illnesses; the six cases from the WC system and the 10 different cases reported on the OSHA log.

The following sections detail the inspection results for each of the three case ratio groups.

#### **Employers with more DAFW cases than workers' compensation claims (Group A)**

This group mostly includes employers with no WC claims, in an attempt to capture the most extreme end of the spectrum.

### *Theoretical reasons for discrepancies*

- a) Injury/illness cases with more than three days away from work that are recorded on the log but for which a First Report of Injury (FROI) form is not filed. Although employers are required to file a FROI with their insurer regardless of whether insurance benefits are to be paid, some employers may keep injured employees on full payroll while the employee is away from work and omit to send a FROI, in belief that such action is unnecessary or may result in higher insurance premiums. Without a report from the employer, the insurer has no FROI to send to DLI when the indemnity benefit threshold is met. Self-insured employers may fail to send the FROI to DLI themselves, or may not inform their claims administration vendor.
- b) Failure to match a log-recorded injury with a WC claims database injury because either the name of the injured employee, the location of injury, or the date of injury did not match.
- c) Injuries incorrectly reported as DAFW cases on the log. Some employers may record cases as DAFW cases where the only lost time was on the day of injury.

### *Findings*

Among the WC claims, 21 percent did not match to any OSHA log entries. Among the DAFW cases, 45 percent did not match to any WC claim.

1. The main reason for finding fewer WC claims than DAFW cases is that many logged DAFW cases do not meet the indemnity threshold of three days away from work.
2. A second main reason for finding fewer WC claims than DAFW cases is faulty NAICS coding in the WC database. This mistake resulted in our not "finding" the employer's claims in the WC data. Additional checking of the WC claims database sometimes found a corresponding claim, however the industry was misreported or entered incorrectly.

### **Workers' compensation claims similar to the number of DAFW cases (Group B)**

This group was included in the analysis after preliminary study of the other groups of employers indicated that the number of WC claims and DAFW cases that were records of the same actual workplace injury and illness case was relatively low. If some of the employers in the groups with apparent discrepancies resembled the worst-case scenario more than the best-case scenario, how complete are the case matches among employers with the same number of WC claims and DAFW cases?

Almost one-third of the employers in this group were found to have discrepancies in their case counts, mostly because of employer mis-recording of DAFW cases as something else (most often as cases of job transfer or restriction). This mistake was common in all three groups. The majority of the cases were reported in both databases: 24 of the 36 injuries and illnesses that were either WC claims or DAFW cases were reported in both systems. Both systems included six cases that were not reported in the other system. Thus, while the total number of cases reported among the set of employers was the same for both systems, examination of the individual cases showed that only two-thirds of the cases were common to both systems.

### **Employers with more WC claims than DAFW cases (Group C)**

In this group, employers may be failing to record serious workplace injuries and illnesses cases on their OSHA log.

#### *Theoretical reasons for discrepancies*

- a) Willful under-recording or under-reporting of DAFW cases, either on the log or in transcription from log to survey.
- b) Over-statement of WC claims because of improper identification of an employer-*establishment* in the WC claims database. This occurs when WC claims data are aggregated for multiple establishments of a larger firm. ODI data comes from the OSHA log of a single employer-establishment.
- c) Cases *without* days away from work that *do* meet the indemnity threshold. One example is a job transfer case where the employee is prevented from working his/her regular job due to an injury, has reduced salary or work hours for one week, and receives supplemental temporary partial disability benefits. In this case, the injury appears in the WC claims database but is not listed on the OSHA log as a DAFW case.
- d) Cases with disputed work-relatedness that receive a court settlement. This occurs when primary liability for an injury is disputed, the case is fought in court, and the employee is ultimately awarded a lump sum payment (known as a stipulation). Since the dispute concerns work-relatedness, the employer likely did not consider the case recordable and did not consider the lost time as related to a workplace injury. In this case, the claim is treated as an indemnity claim and it appears in the WC claims database, but is not listed on the OSHA log as a DAFW case.

#### *Findings*

The majority (63 percent) of the WC claims among these employers did not match to a log entry. However, only 25 percent of the DAFW cases did not match to a WC claim.

1. A large proportion of the discrepancies are due to changes in the status of claims over time. WC claims data is perpetually updated as information is reported to DLI, whereas employers often fail to update their logs as cases develop.
2. Cases reported as “other recordable” in the log are often disputed cases that sometimes end up with a stipulated WC indemnity payment. These cases then show up as indemnity cases in the WC data, but not as DAFW cases in the log.
3. Employers often do not report log cases that have been denied by the WC insurer and cases that they do not think are work-related, even though workers’ compensation benefits are paid.
4. Some of the discrepancies are due to incomplete log entries, for example not checking boxes and thus not correctly classifying injuries. Others are due to misclassification of injuries in the OSHA log. For example, if an employee was off work for one day and then was on job transfer for 20 days, employers often wrongly report the injury as a case of job transfer or restriction rather than as a DAFW case. Since the ODI data is based on a summary of log information and not the log itself, this sort of mistake cannot always be identified.

5. Some of the discrepancies are due to the fact that the "associated" WC data actually covers more than one establishment and therefore shows more injuries than in the location-specific log. This is a particular problem for large employers.

## Conclusions and Recommendations

After comparing and analyzing the two data sources, it is apparent that most employers investigated were not engaged in willful falsification of their logs (although it is possible that those who logged falsely did not respond to our inquiries). Correspondence of WC claims and DAFW cases is often more coincidence than convergence to a common truth. Using both databases is important for a more complete idea of workplace safety and health.

Many of the discrepancies found resulted from the rules governing the two databases and the lack of a common employer or establishment identifier. This calls to the need of a common employer identifier for DLI data, which would enable faster and more efficient matching. (The department's Client Information Project is addressing this issue). A short-term solution for this problem would be the addition of a variable in the WC claims database which would better identify the establishment's location, and to require this information be present on all injury reports.

Many employers need assistance to correctly maintain their OSHA logs. The data matching project highlighted that most employers were not engaged in under-recording, but many need training to fill out and maintain their OSHA log. It is apparent that many employers are not proficient with the log and are therefore engaged in mis-recording rather than under-recording. Employers need to understand the importance of their recordkeeping to their own safety and health efforts and to MNOSHA. This project 1) identified reoccurring mistakes by employers, and 2) identified employers who are probably under-recording. MNOSHA may wish to use this information to "target" routine mistakes and routine mistake-makers for instruction in log keeping. This is especially important given the importance of OSHA log recordkeeping for prioritizing employers for compliance inspections and for gauging the performance of MNOSHA activities

Presently, neither the OSHA log nor the workers' compensation indemnity claims database is a completely accurate tool for counting all workplace injuries and illnesses meeting the requirements of either system. MNOSHA should continue using both data sources to schedule inspections. In the meantime, more study is needed to understand how the set of employers selected for inspection using the ODI differs from the set of employers selected for inspection using the WC claims database.