

Analyzing Injury Data and Direct Injury Costs

This tool provides an overview of how to use workplace injury and cost data when developing a business case for safety initiatives such as Work Place Violence (WPV)

Analyzing Injury data and trends using:

1. OSHA 300, Health Care Assault (HCA) logs and workers compensation 801 reports
2. Incident rates to prioritize, evaluate, and benchmark WPV initiatives
3. Workers compensation data and calculating injury costs
4. Calculating replacement costs for workers who are away from work or on temporary or modified duty as a result of a workplace injury
5. Profit margin analysis to illustrate the effect of workplace injuries on an organization's profit margin

OSHA 300, Health Care Assault (HCA) logs and workers compensation 801 reports

To be able to examine and predict injury and other data trends, review at least 3 years of data from OSHA 300, Health Care Assault (HCA) logs and workers compensation 801 reports. For privacy considerations data provided should not include worker identifiers such as, name and date of birth or information that is considered confidential under the Health Insurance Portability and Accountability Act (HIPPA).

The OSHA 300, HCA logs and 801 reports are used primarily to identify:

- When and where injuries related to WPV occurred
- The job titles or categories of the injured workers
- The employee's department or unit assignment
- The nature of injuries (sprains, strains, etc.)
- The part(s) of body injured
- Who and what directly caused the injuries
- A possible cause of the incident

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- If weapons were involved
- The number of people present
- The response taken by the employee and others when the incident occurred
- If injuries involve days away from and/or transfer from normal work activities or restricted duty, and the number of days lost or restricted

It is important to note that OSHA allows the number of days of restricted work activity or days away from work to be capped at 180 once the total of either or the combination of both is reached per recordable incident. Thus, when determining all days lost and/or restricted per injury it is necessary to review additional sources of data such as internal injury tracking reports or worker compensation loss run reports.

To learn more about the OSHA 300 log and what work-related injuries and illnesses are classified as recordable go to the following:

- **OSHA Forms for Recording Work-Related Injuries and Illnesses**

<http://osha.oregon.gov/OSHAPubs/3353.pdf>

- **OSHA 300 Recordkeeping workshop** <http://osha.oregon.gov/OSHAedu/recordkeeping-reporting/1-125w.pdf>
- **The OSHA 300 log** can be found at <http://osha.oregon.gov/>
- **FACT SHEET Recording and posting workplace injuries and illnesses** <http://osha.oregon.gov/OSHAPubs/factsheets/fs24a.pdf>
- **The Health Care Assault Log** and Instructions for completing the HCA log can be found at <http://osha.oregon.gov/>

When reviewing data from HCA logs remember that if an employee is injured and requires medical treatment then the incident should also be recorded on the OSHA 300 log if the response or treatment needed by the employee it meets the definition of 'Recordable'. So, don't count the incident as 2 separate events

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New OSHA Reporting Requirements:

As of December 1, 2017, establishments including hospitals and *ambulatory healthcare services* with 20 to 249 employees must submit injury and illness summary (Form 300A) data to Oregon OSHA electronically (to Federal OSHA if no state OSHA exists). All employers with 250 or more employees must electronically submit information from OSHA Forms 300 (Log of Work-Related Injuries and Illnesses), and 300A (Summary of Work-Related Injuries and Illnesses). For more information go to <https://www.osha.gov/recordkeeping/finalrule/index.html>

Tool 2a, Tracking and analyzing incident and injury data spreadsheet, allows a health care facility to capture all data required for the OSHA 300 and HCA log and other useful data for managing a workplace safety and health program on one master spreadsheet vs. having to document on multiple forms. Data can then be pulled from the sheet to reproduce the OSHA 300, and HCA logs and any other injury related report that is needed.

Incident rates to prioritize, evaluate, and benchmark WPV initiatives

Incident rates describe the number or severity of OSHA recordable injuries and illnesses per 100 full-time equivalent employees that an organization or facility has experienced in any given time frame such as a 1-year period. This ‘normalizes’ injury data to allow comparison of incident rates between units or departments regardless of number of staff working on a unit; between health care facilities within an organization; and to *benchmark* a facility’s injury experience with that of other similar health care facilities in the US.

The Bureau of Labor Statistics (BLS) is a Federal agency that performs statistical analysis for the government, including OSHA. The BLS conducts a survey of occupational injuries and illnesses each year and publishes incidence rate data by various classifications (e.g., by industry, by employer size, etc.) that can be used for **benchmarking purposes** by employers and is used by OSHA to trend safety performance and determine where industries may need additional program assistance (<http://www.bls.gov/iif/oshsum.htm>).

Industries are classified using the North American Industry Classification System (NAICS) for example *hospitals* (NAICS 622), *ambulatory healthcare services* (NAICS 621) and *nursing and residential care facilities* (NAICS 623). Each of these industry classifications is further divided by health care specialty for example, Outpatient Care Centers: NAICS 6214 and Home Health Care Services: NAICS 6216 are subsectors of *Ambulatory Healthcare Services*. More information about incident rates that are collected by BLS can be found on the OSHA 300 log at <http://osha.gov/recordkeeping/index.html>. Similar reports are available describing injury statistics for industries such as health care by state at <http://www.bls.gov/iif/oshstate.htm>.

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Calculating Incident Rates

The following are the most commonly calculated workplace injury rates.

1. **The OSHA Recordable Incident Rate** that is, all work-related deaths, injuries and illnesses cases that are defined as OSHA Recordable.

The recordable incident rate is calculated as follows:

Total number of injuries and illnesses x 200,000 ÷ Number of hours worked by all employees

The 200,000 figure in the formula represents the number of hours that 100 employees working 40 hours per week, 50 weeks per year would work, and provides the standard base for calculating incidence rates.

Example:

There are 25 OSHA recordable injuries/illnesses in a population of 500 hospital workers for the calendar year 2015.

The Recordable Incident Rate = $25 \times 200,000 / 1,000,000 = 5.0$

The number of hours worked by employees in a facility can usually be obtained from the Accounting or Payroll department. Ensure that vacation, holiday and personal leave (nonproductive) hours are not included in the data set provided. When requesting this data ask for a report that lists 'productive' hours for a facility and by unit or department by calendar year or by calendar quarter to expedite matching hours worked to injury data from the OSHA log. Having this data provided in a spreadsheet format such as MS Excel will facilitate calculation of incident rates.

Note the total number of productive hours worker for a facility must be recorded on the OSHA 300A summary report.

2. **The “Lost Workday (or days away from work or Lost Time) Case Rate” (LWDCR)** that is, recordable occupational injury or illness cases which results in an employee being unable to work a full assigned work shift.
3. **The “Days Away/Restricted or Transfer Rate” (DART)** incidence rate that is recordable cases involving days away from work, and days of restricted work activity or job transfer.
4. **The Lost Workday Rate (LWDR)** that is, the number of lost work days for all recordable lost workday cases. This rate indicates the severity of Lost Workday Cases.

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The rates in (2-4) are calculated using the same formula as shown in '1' above. Rates for Restricted Duty Cases and days of Restricted Duty can be calculated in the same manner.

Using the OSHA Recordable Incident Rate to benchmark or compare to Federal and State incident rates

The BLS reported total recordable rate in 2015 for *hospitals* (NAICS 622) was 6.0 and in Oregon 7.6. (Refer to Table 1) Thus, the hospital rate of 5.0 in this example is lower than the national and state recordable injury rate for hospitals in 2015.

Table 1. Federal and Oregon State incidence rates of non-fatal occupational injuries and illnesses by case type and health care industry 2015

	Federal http://www.bls.gov/news.release/osh.t01.htm		Oregon http://www.oregon.gov/DCBS/reports/Pages/boli-statistics.aspx	
Private Industry/ NAICS code	Total recordable cases 2015 <i>Rate per 100 FTE*</i>	Cases with days away from work & restricted 2015 <i>Rate per 100 FTE*</i>	Total recordable cases 2015 <i>Rate per 100 FTE*</i>	Cases with days away from work & restricted 2015 <i>Rate per 100 FTE*</i>
Health care and social assistance – All 62	4.3	2.0	5.6	2.8
Ambulatory health care services - 621	2.4	0.9	3.2	1.2
Hospitals – 622	6.0	2.4	7.6	3.4
Nursing & residential care facilities - 623	6.8	4.2	8.4	5.3
Social assistance – 624	2.9	1.5	4.1	2.2

*FTE= Full Time Equivalent Employees Injuries

Note that federal and state workplace incident rate data is reported 2 years behind the current calendar year.

The rates described above are typically calculated to include all OSHA Recordable Incidents for a facility however, the same method can be used to calculate rates per unit/department or cost center within a facility.

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Rates can also be calculated in the same way for a facility and/or unit or department **by any specific injury source** such as patient handling, needlestick incidents or WPV. However, there are *no* state or federal incident rate data for WPV that can be used as a benchmark.

When planning a WPV program initiative incident rates will be used to track program outcomes and trends within a facility or organization. When reporting rates to management and staff make sure in to include a brief explanation of what the rate number means as described above.

Incident rates are also a useful tool to observe injury trends but they are only an indication of how many incidents have occurred, or how severe they were. Thus, like injury rates or numbers they are measurements *only* of past performance (lagging indicators) and are not indications of what will happen in the future performance of the organization or facility (leading indicators).

Workers compensation data and calculating injury costs

In tandem with review of the OSHA 300 and HCA logs, 801 reports, and other incident logs such as Code Grey reports, workers compensation data or loss run reports should be reviewed to determine injury costs and more about the nature of the injuries recorded on the OSHA 300 log.

Note that not all incidents recorded on the OSHA 300 log will necessarily be recorded as claims on a worker's compensation report. Workers compensation laws related to what type of occupational incident is reported to an insurance carrier vary widely from state to state.

Workers compensation reports also known as *Loss Run* reports usually include the following:

- Whether the claim is medical only or indemnity, that is, involves loss time;
- A description of the injury claim
- Time loss days
- The amount paid or incurred for the claim and the amount of money in reserve to pay for future costs (for open claims) to date at the time of the report
- Claim status (Closed, open, denied)
- Other incident related demographic data

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Larger health care organizations are often self-insured and pay for injuries directly therefore, injury cost data can be obtained from the organization's third-party insurance administrator or directly from a facility's accounting department. If the organization is a member of a state workers compensation insurance fund or participates in a group insurance program, the actual cost of the injury is not paid directly, rather, insurance premiums increase as injury claims and their severity (costs) increases. The insurance carrier can provide information about reducing premium costs related to a reduction in the number and severity of WPV related claims when a WPV program is implemented.

For more information about worker's compensation in Oregon go to the Workers Compensation Division <http://wcd.oregon.gov/Pages/index.aspx> or contact your worker's compensation insurance carrier.

Reviewing injury data prior to starting a WPV program also provides an opportunity to improve and standardize coding and classification of WPV injuries that will enhance accuracy of future data tracking activities.

Using the data gathered from the sources described above, the following can be determined for WPV related incidents for an entire facility and then by unit or department as needed:

- The types of injuries occurring (nature and body part(s) affected)
- The location of occurrences and likely or overall cause e.g. patients with mental or substance health issues
- The severity (lost time and restricted) of injuries and associated costs
- The percentage of and average number of injuries that are related to WPV per year
- The percentage of and average number of lost time cases (& days lost) and restricted duty cases (& restricted days) related to WPV per year
- The percentage of and average costs attributed to WPV related injuries per year

Note that claim costs reported on workers compensation data will change over time until a claim is closed, thus these changes should be incorporated into injury tracking processes. In addition, data and terminology presented in a loss run report may vary by workers compensation carrier so have your carrier or administrator can provide more information about how to understand and use the data.

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An estimate of future injury rates and associated costs can also be calculated to determine what it will cost a facility if they do nothing to address MSDs and other injuries associated with WPV

Refer to the **Tool 2a. Tracking and analyzing incident and injury data**, that illustrates how to calculate the data above, and to **Tool 2b. Sample injury data summary report**, that shows how this data can be presented in a report to leadership and other employees.

Calculating replacement costs for workers who are away from work or on temporary or modified duty as a result of a workplace injury

An example of an indirect cost that can be calculated is the cost of temporarily replacing the employee who is losing time from work or is on restricted duty and cannot perform regular work duties.

This cost can be calculated as follows:

Example 1

Number of Days Away from Work = 10

Hours work per day/shift = 12

Hourly Wage + Benefit Burden (30%)* = \$32.00 + \$9.60 = \$41.60

Total Paid to Temporarily Replace Injured Worker = 10 x 12 x \$41.60 = \$5028.00

*The benefit burden represents the benefits and taxes that a company must or chooses to pay on their payroll such as health care insurance costs, payroll taxes etc.

Replacement costs will be dependent on what staffing measures are used to temporarily replace the injured worker e.g. overtime for existing staff or use of traveling or agency staff.

Profit margin analysis to illustrate the effect of workplace injuries on an organization's profit margin

This example demonstrates to health care leadership the impact of occupational injuries on an organizations' operating or profit margin.

The consequence of not giving equal priority to employee safety programs can be costly for health care organizations. For example, worker injuries related to WPV at one hospital for a 2-

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year period cost \$80,000 for workers compensation and medical treatment. By dividing this amount by the profit or operating margin of a hospital e.g. 4% the amount of *reimbursement revenue* needed to offset the cost of these injuries can be calculated, i.e., $\$80,000/0.04 = \underline{\$2,000,000}$. Thus, prevention of these injuries has a significant impact on an organization's financial bottom line.

Replacement costs and indirect injury costs if calculated, can also be added to workers compensation costs when analyzing the impact of injuries on profit margin.

Financial data such as a facility's profit margin for state licensed nonprofit health care institutions can be retrieved from state health care licensing entities if not available from a facility's financial department. Profit margin impact can be calculated using federal OSHA's "Safety Pays" online calculator at

http://www.osha.gov/SLTC/etools/safetyhealth/mod1_estimating_costs.html