Calculating Injury and Illness Incidence Rates

The North American Industry Classification System (NAICS) publishes industry-specific statistical data. The NAICS organizes industries, based on the primary activity performed, and associates a code with each industry. The United States Bureau of Labor Statistics (BLS) analyzes reported injury and illness incidence rates within a NAICS code to identify industry averages, which many organizations use as a benchmark during annual safety management system (SMS) evaluations.

Calculating incidence rates allows you to compare your organization’s work-related injuries and illnesses against your industry as a whole. While it is a lagging indicator, you can still use incidence rates to identify and confirm long-term trends within your SMS.

The steps outlined in this handout will help you to select a NAICS code, calculate your worksite’s injury and illness incidence rates, and search for published industry averages.

**STEP 1: IDENTIFY A NAICS CODE.**

Review your organization’s mission and determine the primary activity involving the greatest number of employees. Use key words representing your primary activity and conduct a NAICS search at the United States Census Bureau website. Choose only one 6-digit NAICS code best representing the primary work activity for your entire organization. Searching for your chosen code will result with the NAICS industry title and a short description of work activities falling under this code.

For the example in this handout, we are going to choose NAICS code 621210: Office of Dentists.

**STEP 2: GATHER INJURY AND ILLNESS DATA.**

Reach out to your OSHA recordkeeper. Review copies of the OSHA Form 300: Log of Work-Related Injuries and Illnesses and OSHA Form 300A: Summary of Work-Related Injuries and Illnesses for the last calendar year. Obtain information on:

<table>
<thead>
<tr>
<th>CALENDAR YEAR</th>
<th>MAN-HOURS WORKED BY ALL EMPLOYEES</th>
<th># OF OSHA-RECORDABLE INJURY AND ILLNESS CASES</th>
<th># OF OSHA-RECORDABLE INJURIES AND ILLNESSES resulting in days away from work, restricted duty, and job transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>353,524</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>OSHA FORM 300A</td>
<td>OSHA FORM 300: TOTALS FROM COLUMNS H, I, AND J COMBINED</td>
<td>OSHA FORM 300: TOTALS FROM COLUMNS H AND I COMBINED</td>
<td></td>
</tr>
</tbody>
</table>

1 Your OSHA VPP regional representative must approve your NAICS code if you are formally pursuing OSHA VPP recognition. It is a good idea to reach out to them if you do not have a NAICS code to determine which best aligns with the activities performed at your organization.

2 Follow the Optional Worksheet Instructions to help you calculate your man-hours worked; the worksheet also defines who qualifies as an “employee,” to include in your calculations.
**STEP 3: CALCULATE YOUR INJURY AND ILLNESS INCIDENCE RATES.**

Calculate your incidence rates to determine how your organization compares to other organizations in your industry\(^3\). Use the information from Step 2 to calculate\(^4\) your Total Case Incidence Rate (TCIR) and Days Away, Restricted, and Transferred (DART) rate:

\[
\frac{(Total \ # \ of \ recordable \ injuries \ and \ illnesses)}{Man - \ hours} \times 200,000 = TCIR
\]

\[
\frac{3}{353,524} \times 200,000 = 1.69 \ total \ OSHA \ recordable \ injuries \ per \ 100 \ employees
\]

\[
\frac{(\# \ of \ DART \ injuries \ and \ illnesses)}{Man - \ hours} \times 200,000 = DART \ rate
\]

\[
\frac{1}{353,524} \times 200,000 = 0.57 \ OSHA \ recordable \ injuries \ with \ DART \ per \ 100 \ employees
\]

**STEP 4: LOOK UP PUBLISHED INDUSTRY INCIDENCE RATES.**

1. Visit the United States BLS website.
2. Scroll your mouse over the “Subject Areas” tab to open the drop-down list.
3. Find & click on “Workplace Injuries”.
4. In a green box, you will see “Nonfatal Occupational Injuries and Illnesses”; choose the Charts and Tables link under “By Industry”.
5. Look at “Industry Injury and Illness Data” for the most current year posted.
6. Scroll down to “Summary Tables”.

\[^3\] Know that some SMSs, like OSHA VPP, require you to calculate a 3-year average for your industry comparison.
\[^4\] 200,000 represents the number of hours 100 employees working 40 hours per week, 50 weeks per year would work; this is the standard base for calculating injury and illness incidence rates. If you choose a number other than 200,000, be prepared to justify how and why you chose that number.
7. Open a table titled “Incidence rates – detailed industry level – (YEAR).”
8. Scroll down until you find the 6-digit NAICS code: 621210. Since the BLS does not list 621210 this year, use 6212.5
9. View the TCIR and DART for your selected industry.

<table>
<thead>
<tr>
<th>Industry 2</th>
<th>NAICS code</th>
<th>Total recordable cases</th>
<th>Cases with days away from work, job transfer, or restriction</th>
<th>Other recordable cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offices of dentists</td>
<td>6212</td>
<td>1.9</td>
<td>0.4</td>
<td>0.3</td>
</tr>
</tbody>
</table>

**STEP 5: COMPARE YOUR CALCULATED RATES AGAINST THE PUBLISHED BLS INDUSTRY AVERAGES.**

1. Compare the rates.

<table>
<thead>
<tr>
<th>NAICS Code: 621210</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCIR</td>
</tr>
<tr>
<td>Your Rates (2016)</td>
</tr>
<tr>
<td>BLS Rates (2015)</td>
</tr>
</tbody>
</table>

Your TCIR is below the industry average for 2015
Your DART rate is above the industry average for 2015

2. Calculate the percent difference for your TCIR and DART:

\[
\frac{\text{Calculated TCIR} - \text{BLS TCIR}}{\text{BLS TCIR}} \times 100 = \% \text{ difference}
\]

\[
\frac{1.69 - 1.9}{1.9} \times 100 = 11.05\% \text{ below the BLS TCIR}
\]

\[
\frac{\text{Calculated DART rate} - \text{BLS DART rate}}{\text{BLS DART rate}} \times 100 = \% \text{ difference}
\]

\[
\frac{0.57 - 0.4}{0.4} \times 100 = 42.5\% \text{ over the BLS DART rate}
\]

3. Check your calculations at United States BLS.

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5 Try to match the entire 6-digit NAICS code for your industry. If you can’t match all 6 digits, match 5. If you can’t match 5, match 4, and so on.
STEP 6: SUMMARIZE YOUR DATA.

Always look at the overall picture. Discuss this information with your safety committee and share it with your leaders. You can use this data to help establish safety and health (S&H) goals to improve your SMS, and to indirectly maintain, or reduce, your incidence rates.

For NAICS code 621210, the TCIR was below the industry average, while the DART was above. This means compared to other organizations in your line of work, you have more injuries and illnesses involving days away from work, restricted duty, or job transfers. Any organization concerned with the S&H of its employees should strive to have incidence rates lower than the industry average.

When your incidence rates are over the industry average, consider creating an accident prevention or rate reduction plan, developing a strategic S&H goal relative to incidence rate reduction, or moving forward with implementing a SMS.

For additional information on the SMCX’s services, please visit the SMCX-hosted website at: https://www.smscx.org/.