Calculating Injury and Illness Incidence Rates

The North American Industry Classification System (NAICS) publishes industry-specific statistical data. NAICS establishes a code for each industry based on the primary activity performed. 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 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[1] code, calculate your worksite's injury and illness incidence rates, and search for published industry averages.

North American Industry Classification System logo

STEP 1: IDENTIFY A NAICS CODE

Review your organization's mission and determine the primary activity performed, involving the greatest number of employees. Use key words representing your primary activity and conduct a NAICS search on the NAICS Association website. **Choose <u>only one</u> 6-digit NAICS code best representing the primary work activity for your entire organization.** Review 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 Occupational Safety and Health Administration (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:

CALENDAR YEAR	MAN-HOURS WORKED BY ALL EMPLOYEES [2]	# OF OSHA-RECORDABLE INJURY AND ILLNESS CASES	# OF OSHA-RECORDABLE INJURIES AND ILLNESSES RESULTING IN DAYS AWAY FROM WORK, RESTRICTED DUTY, AND JOB TRANSFER
2020	353,524	2	1
	OSHA FORM 300A	OSHA FORM 300; TOTALS FROM COLUMNS H, I, AND J COMBINED	OSHA FORM 300; TOTALS FROM COLUMNS H AND I COMBINED

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[1] Your OSHA Regional Voluntary Protection Programs (VPP) Manager 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 workplace 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:

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

$$\frac{(2)}{353,524} \times 200,000 = 1.13\ total\ OSHA\ recordable\ injuries\ per\ 100\ employees$$

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

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

STEP 4: LOOK UP PUBLISHED INDUSTRY INCIDENCE RATES

1. Visit the United States BLS website.

2. Scroll your mouse over the "*Subjects*" tab to open the drop-down list.

3. Find and click on "*Workplace Injuries*".

4. Scroll over "*National Data*" on the left bar and then click "*Nonfatal Injuries and Illnesses Data.*"

5. Choose "*Historical Data,*" then "*Historical data for occupational injuries and illnesses by industry.*"

6. Look at "Industry Injury and Illness Data" for the most current year posted.

7. Scroll down to "*Summary Tables*".

8. Open the table titled "*Incidence rates – detailed industry level – YEAR*".

9. Scroll down until you find the 6-digit NAICS code: 621210. Since the BLS does not list 621210 this year (or 5-digit 62121), use 6212.[5]

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[3] Note—some SMSs, like OSHA VPP, require you to calculate a 3-year average for your industry comparison.
[4] 200,000 represents the number of work hours for 100 employees working 40 hours per week, 50 weeks per year; 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 the number.

10. View the TCIR and DART for your selected industry.

TABLE 1. Incidence rates[1]**of nonfatal occupational injuries and illnesses by industry and case types, 2019**

| Industry[2] | NAICS code[3] | Total recordable cases | Cases with days away from work, job restriction, or transfer | | | Other recordable cases |
			Total	Cases with days away from work[4]	Cases with days of job transfer or restriction	
Health care and social assistance	62	3.8	1.7	1.0	0.7	2.1
Ambulatory health care services	621	2.3	0.8	0.5	0.2	1.5
Offices of physicians	6211	1.6	0.4	0.3	0.1	1.3
Offices of physicians	62111	1.6	0.4	0.3	0.1	1.3
Offices of physicians (except mental health specialists)	621111	1.6	0.4	0.2	0.1	1.3
Offices of physicians, mental health specialists	621112	1.2	0.6	0.5	0.1	0.6
Offices of dentists	6212	2.0	0.1	0.1	0.0	1.9
Offices of other health practitioners	6213	1.2	0.6	0.4	0.2	0.6
Outpatient care centers	6214	3.9	1.3	0.8	0.5	2.6
Medical and diagnostic laboratories	6215	2.0	0.5	0.3	0.2	–

(TCIR is the "Total recordable cases" column; DART is the "Total" of the days away/restriction/transfer column.)

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

1. Compare the rates.

NAICS Code:	621210	
	TCIR	**DART**
Your Rates (202)	**1.13**	**0.57**
BLS Rates (2019)	2.0	0.1
	Your TCIR is <u>below</u> the industry average for 2019	Your DART rate is <u>above</u> the industry average for 2019

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

$$\frac{Calculated\ TCIR\ -\ BLS\ TCIR}{BLS\ TCIR} \times 100 = \%\ difference$$

$$\frac{1.13 - 2.0}{2.0} \times 100 = \textit{43.5\% below the BLS TCIR}$$

$$\frac{Calculated\ DART\ rate\ -\ BLS\ DART\ rate}{BLS\ DART\ rate} \times 100 = \%\ difference$$

$$\frac{0.57 - 0.1}{0.1} \times 100 = \textit{470\% over the BLS DART rate}$$
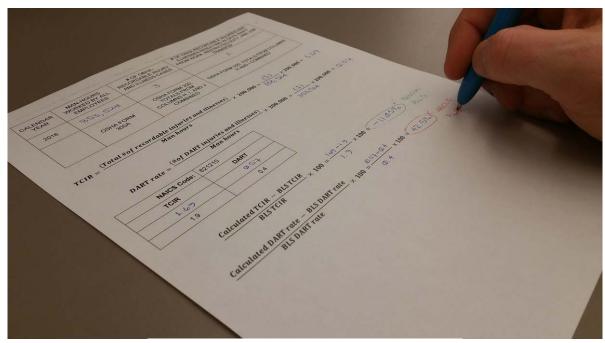
3. Check your calculations at the [United States BLS Incidence Rate Calculator and Comparison Tool](#).

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[5] Try to match the entire 6-digit NAICS code for your industry. If you cannot match all 6 digits, match 5. If you cannot match 5, match 4, and so on. The published numbers vary each year.

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 and objectives to improve your SMS, and to indirectly maintain, or reduce, your incidence rates.

Calculating TCIR and DART Incidence Rates
Image courtesy of Concurrent Technologies Corporation

For NAICS code 621210, the TCIR was below the industry average, while the DART was above, meaning compared to other organizations in your line of work, you have few overall incidents, but more of your recorded injuries and illnesses involve 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 related to incidence rate reduction, or moving forward with implementing an SMS.

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