



# Workplace injury, illness and fatality statistics

Provincial summary 2020

Labour and Immigration, Government of Alberta

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## Overview

Alberta Labour and Immigration supports healthy and safe workplaces through evidence-informed prevention, education and enforcement. As part of this mission, Labour and Immigration prepares an annual report on Alberta's workplace injury, illness and fatality statistics. The data in this report gives a picture of specific provincial workplace injury, illness and fatality patterns, which the department uses to help evaluate and improve evidence-informed prevention measures and compliance actions.

## Background

The COVID-19 pandemic forced all industry sectors to quickly respond and rethink client and customer services under the immense task of implementing health and safety restrictions. The year 2020 pivoted business models, changed the nature of work and led to variations in workforce demographics. The risks for workplace injuries, illnesses and fatalities did not wane during the pandemic despite many workers not working from their traditional work sites. Workplace injuries, illnesses and fatalities continue to have a significant financial burden on the Alberta economy and a societal impact on Albertans as a whole.

The Alberta Workers' Compensation Board (WCB) reports that from 2016 to 2019, annual claims spending averaged \$626 million. In 2020, provincial occupational injury and illness claims totalled almost \$311 million. This cost will further increase, as some claims had yet to be fully processed. In addition to WCB costs, lost productivity from injured workers, along with the cost of hiring and training replacement staff, places a further burden on businesses that are already dealing with the economic and societal impact of the pandemic.

Workplace injuries, illnesses and fatalities significantly affect workers, as well as their families and communities. An injured worker's family members experience more fractures, sprains and other musculoskeletal disorders in the three months following a workplace injury.<sup>1</sup> Spouses and children are at higher risk for injuries and increased use of health care services when caring for their injured relative or taking on additional chores. The added stress of lost wages and the effect on a worker's self-esteem can also contribute to emotional strain on the household and increase the need for mental health care services. Such realities are likely further compounded by the burden of navigating the global COVID-19 pandemic.

Safe, fair and healthy workplaces have a positive impact on workers, their families and employers. Labour and Immigration's prevention efforts and proactive programs focus on evidence-based understandings of workplace injuries, illnesses and fatalities. This work includes aligning actions and education aimed at industries and employers that are at higher risk for having injuries and illnesses. Labour and Immigration uses such data to inform program planning and to work with occupational health and safety (OHS) system partners toward the goal of safer workplaces.

## Key findings

The following are some highlights of the 2020 annual illness, injury and fatality report.

### Alberta's labour force

- Alberta's labour market was hit by record job losses due to the COVID-19 pandemic and collapse in oil prices, leading to the largest annual employment decline since 1976 (6.6 per cent).
- In Alberta, industries in the services-producing sectors are the main employers, with the health care and social assistance industries employing the majority of workers (18 per cent).
- Despite job losses, sales and trades occupations accounted for the highest employment among all occupational groups.
- Alberta's participation rate in the labour force was the highest among all provinces, despite the pandemic-led economic shutdown.
- In 2020, there were fewer workers under the age of 25 than there were 10 years ago because of the loss of full-time and part-time jobs during the pandemic.

### Work-related COVID-19 claims

- There were 5,634 disabling injury claims (13 per cent of all disabling injury claims) and two workplace-related fatalities from exposure to COVID-19.
- In 2020, two peaks of COVID-19 claims occurred, coinciding with the first two waves of the pandemic in Alberta.
  - Eighty-one per cent of claims in April (the peak of the first COVID-19 wave) were made by the meat processing industry.

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<sup>1</sup> Asfaw, Abay & Pana-Cryan, Regina & Bushnell, Paul & Sauter, Steven. (2015). Musculoskeletal disorders and associated health care costs among family members of injured workers. *American Journal of Industrial Medicine*. 58. 10.1002/ajim.22500.

- Sixty-seven per cent of all COVID-19 claims were made during the second COVID-19 wave, which began in October.
- Continuing care facilities, health care services and seniors' supportive living/lodges had the most disabling injury claims in the second wave (32 per cent, 12 per cent and seven per cent, respectively).
- The provincial and municipal government, education and health services sector had the highest disabling injury rate (0.92 per 100 person-years), followed by the manufacturing, processing and packaging sector (0.82 per 100 person-years).
- Twenty-three per cent of claims involved assisting occupations in support of health services.

## Non-COVID-19 WCB claims

- From 2019 to 2020, injury claim rates and person-years declined. Claim rates decreased on average by 15 per cent (range: 13 to 17 per cent).

### Industry sectors

- In 2020, disabling injury claim rates decreased across all sectors.
- In 2020, over half of the industry sectors surpassed the provincial average claim rates.
- The top three industry sectors with the highest disabling injury rates were:
  - provincial and municipal, government, education and health services (3.00 per 100 person-years);
  - agriculture and forestry (2.9 per 100 person-years); and
  - manufacturing, processing and packaging (2.76 per 100 person-years).
- In 2020, the manufacturing, processing and packaging sector modified-work claim rate was the highest among all sectors.
- The provincial and municipal government, education and health services sector had the smallest decrease in person-years (the same as the mining and petroleum sector). As this sector had the highest number of essential workers, the pandemic may have had a lesser impact on job losses.

### Age and gender

- Male workers had higher adjusted disabling injury claim rates overall, across all age groups.
- Youth (aged 15-24) had the highest adjusted disabling injury claim rate (2.61 per 100 person-years).
  - Claims occurred most often in the restaurant and catering (eight per cent), food and convenience stores (eight per cent), and department and general stores industries (three per cent).
- Male youth (aged 15-24) had the highest adjusted disabling injury claim rates among all males (3.27 per 100 person-years).
  - The most common injuries were overexertion (20 per cent) and being struck by an object (19 per cent).
- Females aged 55-64 had the highest adjusted disabling injury claim rates among all females (2.16 per 100 person-years).
  - The most common injury was from falls to the floor, walkway or other surfaces (22 per cent).
- Males had higher adjusted disabling injury claim rates compared to female workers across all types of injuries except for assaults and violent acts.

### Workplace incident characteristics

- The most common workplace incident types were:
  - bodily reaction or exertion injuries (47 per cent);
  - contact with objects or equipment (21 per cent); and
  - falls (18 per cent).
- Fall-related injuries occurred mostly to the floor, walkway or other surface (57 per cent), and affected transport truck drivers (eight per cent) the most.
- Fall incidents increased from age 25 up to age 64.
- Structures and surfaces were the leading sources of injuries in older workers (34 per cent).
- The most common traumatic workplace injuries were:
  - sprains and strains (57 per cent);
  - wounds (open and superficial) (18 per cent); and
  - other traumatic injuries and disorders (16 per cent).
- Males had higher disabling injury rates for all injury types except for multiple trauma injuries.

- The most common workplace illnesses were:
  - intracranial injuries (29 per cent);
  - mental diseases (22 per cent); and
  - inflammation of joints and muscles (18 per cent).
- Ear and hearing conditions claims were three times higher in males compared to females.
- The lower back is the most cited trunk injury (45 per cent).
- Finger injuries were almost three times higher among males compared to females.
- Injuries to eyes, feet and hands decreased with age, while injuries to ears, body trunk and multiple body parts increased with age.

## Occupational fatalities accepted by WCB

- In 2020, there were 130 workplace fatalities.
- Occupational adjusted fatality rates have increased over the past three-year period (they are the highest in the last 10 years).
- Asbestosis and mesothelioma continue to lead occupational illness fatalities, and made up 42 per cent of fatality claims.
- Thirty-three per cent of workplace incident fatalities were from falls.

## Age

- In 2020, fatalities in workers aged 35-44 decreased the most (33 per cent from 2019). In workers under 35 years old, the adjusted fatality rate increased, mostly in the construction and construction trade services sector (60 per cent).

## Industry sector and occupation

- In 2020, the highest adjusted fatality rate was in the agriculture and forestry sector.
- From 2019 to 2020, the largest adjusted fatality rate increase occurred in the agriculture and forestry sector, with over half relating to motor vehicle incidents (57 per cent).
- Between 2016 to 2020, the business, personal and professional services sector had the lowest adjusted fatality rates.
  - This sector is also the only industry sector to have a continuous decrease in its adjusted fatality rate from 2018 to 2020.
- The adjusted fatality rate for the provincial and municipal government, education and health sector was lower than the provincial adjusted fatality rate, even though the sector had the highest disabling injury claim rate and lost-time injury claim rate among all sectors.
- In 2020, transport truck drivers (13 per cent) and firefighters (10 per cent) had the highest proportion of fatalities. This is a consistent trend since 2017.
- The provincial, municipal government, education and health sector had the lowest adjusted fatality rate despite having the highest disabling injury and lost-time claim rate across all sectors.
- The agriculture and forestry sector had the highest increase in adjusted fatality rate along with the second leading disabling injury and lost-time claim rates.
- The mining and petroleum development sector had the lowest injury claim rates across all sectors despite an increase in adjusted fatality rate.

## Prevention initiative priority areas

- Musculoskeletal injury (MSI) accounted for 24 per cent of all injury claims, and remains one of the most common occupational injuries and illnesses for Alberta workers in all sectors.
- Injuries related to slips, trips and falls account for 22 per cent of injuries, with 83 per cent related to falling. Of these falling injuries, nearly 57 per cent were falls to a floor, walkway or other surfaces.
- Psychosocial hazards accounted for four per cent of injuries.
  - Female workers, as well as workers between 25 and 34 years of age, experienced the highest percentage of these injuries (62 per cent and 30 per cent, respectively).

# Measuring workplace injury, illness and fatality

Measures such as lost-time claims and disabling injury claim rates can help assess how well OHS processes, policies and procedures are working. They are lagging indicators<sup>2</sup> that over time can give insight into health and safety performance trends.

The 2020 injury, illness and fatality data<sup>3</sup> in this report refers to incidents that occurred in the 2020 calendar year and were accepted as a WCB claim. Supplemental data can be found in Appendix C.

## Overview of Measures

The following measures are used when reporting workplace injury, illness and fatality trends among Alberta workers.

### Claim counts:

**Disabling injury claim** is a work-related injury or illness WCB claim in which the worker lost-time from the job and/or returned to modified work duties. This measure covers a wider range of injuries or illnesses than the lost-time claim rate, since it includes less severe claims that are appropriate for modified work.

**Fatality claim** is a work-related incident or exposure that leads to the death of a worker and is accepted by WCB for compensation.

**Modified-work claim** is a work-related injury or illness WCB claim where workers had their regular work duties changed to enable them to return to work. This also includes workers that have modified work duties after lost time due to a work-related injury or illness.

**Lost-time claim** is a work-related injury or illness WCB claim that results in the worker missing work beyond the day they were injured. Lost-time claims can be used as an indicator of severity. The injury may be more severe if a worker cannot perform their pre-injury or modified tasks.

**Person-years** measure the length of workers' exposure within a workplace within a year. This is not the same as the number of workers: for instance, a person-year of one can represent one full-time worker or several part-time workers. This measure is used as a proxy to estimate the employed workforce, and is often used as a denominator to calculate rates. It is also an indicator of risk; when person-years increase over time, more workers are at risk for workplace incidents.

### Claim rates:

**Adjusted injury claim rates** are injury claim rates calculated using a different methodology and different information than lost-time, disabling injury, and fatality claim rates. The population of interest is adjusted to reflect the proportions of a reference population. The adjustments are made to account for the varying population sizes within specific groups (for example, age groups or gender).

**Adjusted fatality rates** adjusts for delays in reporting and claim processing. The number of accepted fatalities is limited to fatalities processed within the same calendar year as the fatality. This rate assesses a worker's risk of a fatality if they worked during a one-year period.

**Injury claim rates** assess a worker's risk of an injury or illness if they worked during a one-year period. Examples are lost-time injury claim rates, modified work injury claim rates and disability injury claim rates. A comparison of injury claim rates over time or across industries can identify if the risk has increased, decreased or remained stable over time. Increased rates can indicate unaddressed risk factors or new trends, or may signal the need for further assessments of health and safety systems. In general, the lower the rate, the better.

## Measure considerations

Several factors can contribute to changes in lost-time, modified work and disabling injury claims rates. These include but are not limited to:

- Changes in workplace health and safety culture.

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<sup>2</sup> Lagging indicators measure the end result of OHS processes, policies and procedures. They are a record of things that have already happened. Since they record things after the fact, they inform a reactive health and safety culture.

<sup>3</sup> Data is current as of April 13, 2021.



- Enhanced regulatory compliance.
- Improved support for modified-work arrangements.
- Industry-led initiatives to improve workers' health and safety.

With improved workplace health and safety measures, there would be anticipated decreases in lost-time, modified work and disabling injury and fatality claims rates.

## Findings

### Alberta's labour force

In 2020, Canada's Labour Force Survey results show there were 2,129,800 workers employed in Alberta. In the Spring, Alberta's labour market was hit by record job losses because of the pandemic and the collapse in oil prices. This led to the largest annual employment decline (6.6 per cent) since data collection began in 1976 (Table 1).<sup>4</sup> Compared to 2019, full-time and part-time jobs declined (by 6.6 per cent and 6.2 per cent, respectively). All industry sectors decreased, with the exception of three industry sectors:

- forestry, logging, and supportive activities for forestry;
- finance, insurance, real estate, rental and leasing; and
- health care and social assistance.

TABLE 1: CHANGE IN EMPLOYMENT BY INDUSTRY SECTORS, ALBERTA, 2019-2020

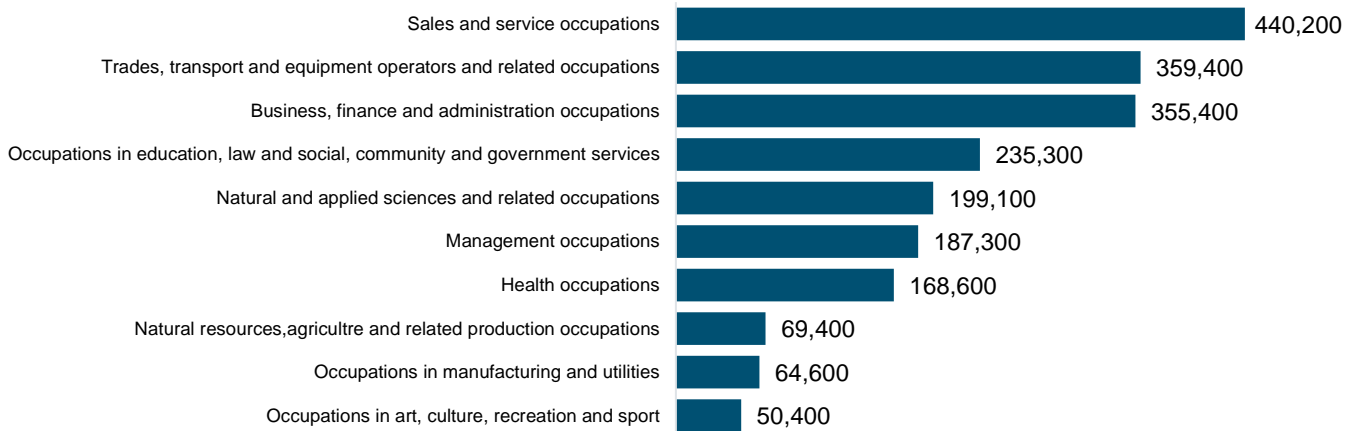
Industry	2019	2020	Per cent change
<b>Total, all industries</b>	<b>2,279,300</b>	<b>2,129,800</b>	<b>6.6↓</b>
<b>Goods-producing sector</b>	580,900	535,600	7.8↓
Agriculture	49,000	42,500	13.3↓
Forestry and logging and support activities for forestry	3,700	5,100	37.8↑
Mining, quarrying, and oil and gas extraction	138,000	125,200	9.3↓
Utilities	23,700	22,900	3.4↓
Construction	231,100	214,000	7.4↓
Manufacturing	135,400	125,800	7.1↓
<b>Services-producing sector</b>	<b>1,698,400</b>	<b>1,594,200</b>	<b>6.1↓</b>
Wholesale trade	84,500	82,000	3.0↓
Retail trade	245,700	224,800	8.5↓
Transportation and warehousing	134,000	120,200	10.3↓
Finance, insurance, real estate, rental and leasing	98,400	104,100	5.8↑
Professional, scientific and technical services	177,900	172,700	2.9↓
Business, building and other support services	80,600	70,400	12.7↓
Educational services	152,900	147,400	3.6↓
Health care and social assistance	285,300	289,100	1.3↑
Information, culture and recreation	74,200	71,200	4.0↓
Accommodation and food services	143,600	113,000	21.3↓
Other services (except public administration)	109,900	97,200	11.6↓
Public administration	111,400	102,100	8.3↓

Source: Alberta's Labour Market Highlights 2020. Alberta Labour and Immigration (Statistics Canada, Labour Force Survey, Table; 14-10-0023-01 (formerly CANSIM 282-0008))

<sup>4</sup> Alberta's Labour Market Highlights 2020. Labour and Immigration. Government of Alberta. <https://open.alberta.ca/dataset/e4a3abd1-fd0c-442f-b239-dfc5f9c8b3e6/resource/e9fa5ed0-41e6-40cf-8543-9833150e7a21/download/lbr-alberta-labour-market-highlights-2020.pdf>

In Alberta, industries in the services-producing sector are the main employers, with the health care and social assistance industry employing the majority of workers (18 per cent) (Table 1).

In 2020, the goods-producing sector was challenged with a greater job loss compared to the services-producing sector because of fewer business investments (7.8 per cent and 6.1 per cent, respectively). Despite job losses in 2020, sales and trades occupations accounted for the highest employment compared to all occupational groups (Figure 1).



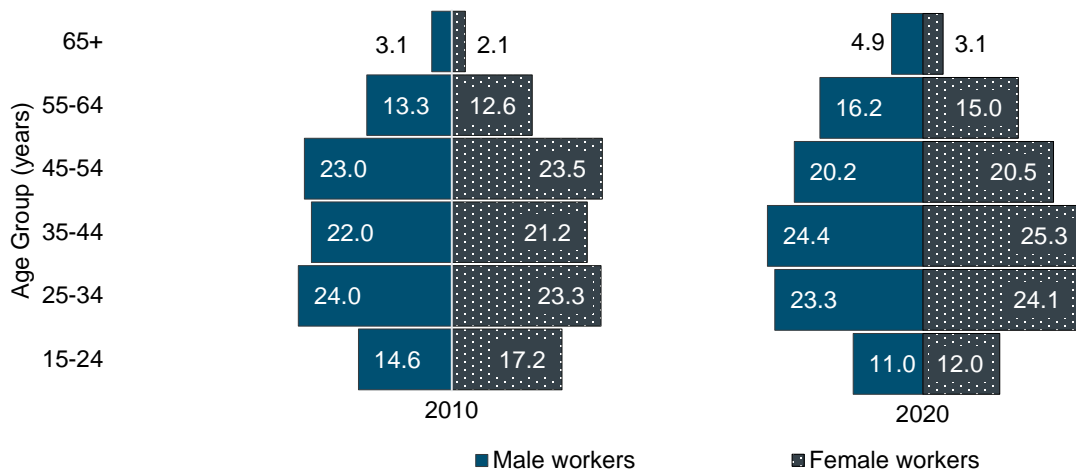
**Figure 1: Employment by occupation, Alberta, 2020**

Source: Alberta’s Labour Market Highlights 2020. Labour and Immigration (Statistics Canada, Labour Force Survey, Table; 14-10-0389-01)

Alberta’s participation rate in the labour force was the highest among all provinces despite the pandemic-led economic slowdown. With some workers leaving the workforce, the labour force participation rate fell slightly to 68.6 per cent. This number is just below the average rate, which has been consistently over 70 per cent since 1980.<sup>5</sup>

Over the past 10 years, Alberta’s labour force increased and shifted between age groups (Figure 2); however:

- there are fewer workers under the age of 25 years;
- the loss of both full-time and part-time jobs during the pandemic has hampered the participation of younger workers; and
- there are more workers aged 35-44 years and 55 years and older.



**Figure 2: Alberta workforce populations by age group and gender, 2010 and 2020.**

Source: Statistics Canada’s Labour Force Survey (2020 Historical Review), prepared by Labour and Immigration

<sup>5</sup> Alberta’s Labour Market Highlights 2020. (April 2021) Labour and Immigration. Government of Alberta. <https://open.alberta.ca/dataset/e4a3abd1-fd0c-442f-b239-dfc5f9c8b3e6/resource/e9fa5ed0-41e6-40cf-8543-9833150e7a21/download/lbr-alberta-labour-market-highlights-2020.pdf>

## Work-related COVID-19 claims

Workers who contract COVID-19 as a result of their regular job duties are entitled to workers' compensation coverage if:

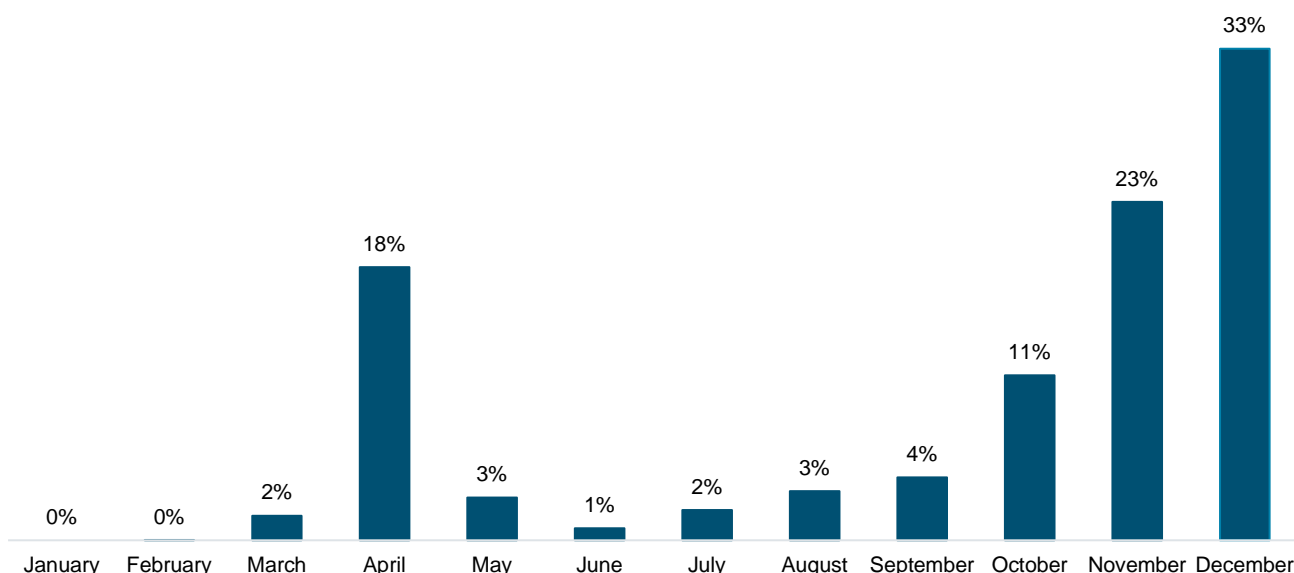
- exposure to COVID-19 arose out of the course of employment; and
- the nature of the employment was shown to be the cause of the condition or the nature of employment puts the worker at a greater risk of exposure.<sup>6</sup>

Some occupations and industries have a greater risk of exposure to COVID-19, including those which provide direct care to COVID-19 patients and those which provide direct services to the public. This section will highlight characteristics of workers and industries based on injury claim data involving COVID-19 illness.

There were 5,634 disabling injury claims, and two workplace-related fatalities, resulting from exposure to COVID-19.<sup>7</sup>

In Alberta, COVID-19 first peaked in April 2020, with 81 per cent of these COVID-19 claims occurring in the meat processing industry (Figure 3).

The second wave began in October 2020, with the highest peak in December (33 per cent). Continuing care facilities, health care services and seniors' supportive living/lodges had the most COVID-19 disabling injury claims in the second COVID-19 wave (32 per cent, 12 per cent and seven per cent, respectively).



**Figure 3: Distribution of COVID-19 disabling injury claims, by month of the incident, Alberta, 2020**

Source: WCB data, prepared by Labour and Immigration

## Sector and industries affected by COVID-19

Of all COVID-19 related claims, the provincial and municipal government, education and health services sector had the highest disabling and lost-time claim rates (0.92 per 100 person-years) (Figure 4). Of these claims:

- continuing care facilities had the highest disabling claim rate (6.95 per 100 person-years), followed by seniors' supportive living/lodges (2.14 per 100 person-years); and
- the occupation group with the most COVID-19 claims involved nurse aides and orderlies (37 per cent).

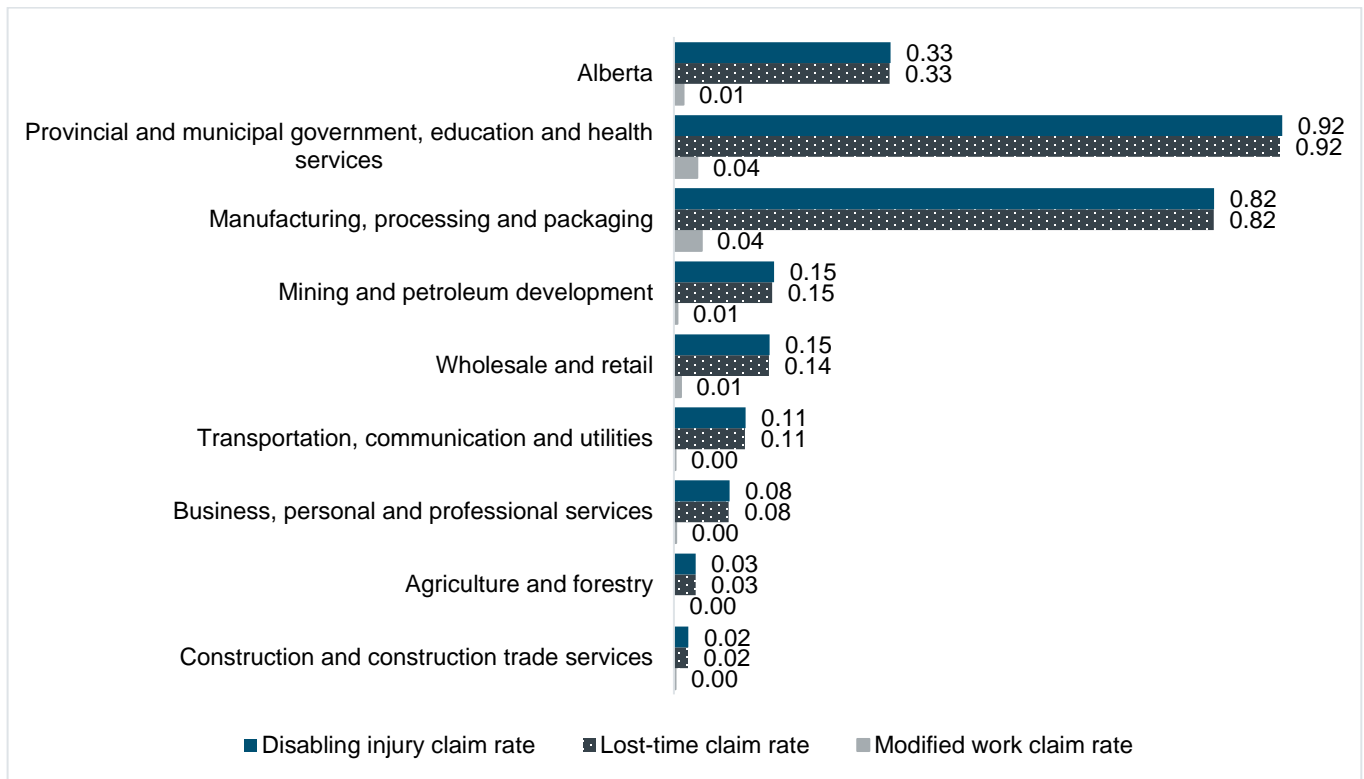
The manufacturing, processing and packaging sector had the second-highest COVID-19 disabling injury claim rate (0.82 per 100 person-years) (Figure 4). Of these claims:

<sup>6</sup> COVID-19 fact sheet for workers. Workers' Compensation Board-Alberta. (January 14, 2022) WCB-595. [www.wcb.ab.ca/about-wcb/whats-new/COVID-19.html](http://www.wcb.ab.ca/about-wcb/whats-new/COVID-19.html).

<sup>7</sup> Due to the small number of workplace fatality claims, the total number of COVID-19 related fatalities is not published to protect the privacy of the worker and employer.

- Meat processing plants reported the highest disabling injury claim rate, followed by rendering plants (7.53 per 100 person-years and 2.45 per 100 person-years, respectively).
- Over one-third of claims involved industrial meat cutting jobs (38 per cent).

Both sectors surpassed the provincial claims rates (see Figure 4).



**Figure 4: WCB COVID-19 claim rates (per 100 person-years) by industry sector, Alberta, 2020**

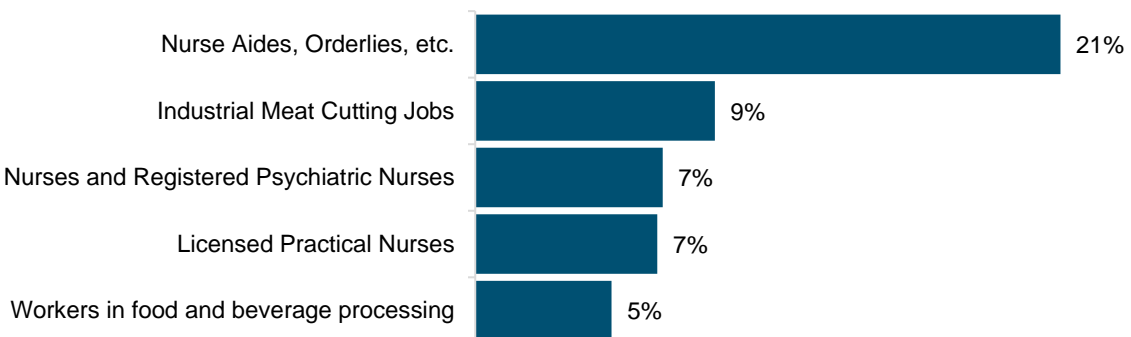
Source: WCB data, prepared by Labour and Immigration

### COVID-19 WCB claimants

Twenty-one per cent of claims involved nurse aides and orderlies (Figure 5).

Almost one-third of COVID-19 disabling injury claims represented workers in the 35-44 age group (31 per cent). Of these workers, 27 per cent were in the continuing care facility industry, followed by 22 per cent in the meat processing industry.

Male workers had more COVID-19 disabling injury claims (69 per cent) in the pandemic's first wave (peaking in April 2020), while female workers had more claims (66 per cent) in the second wave (peaking in December 2020).



**Figure 5: Top five occupations by percentage of WCB COVID-19 claims, Alberta, 2020 (n=5,634)**

Source: WCB data, prepared by Labour and Immigration

## Female workers

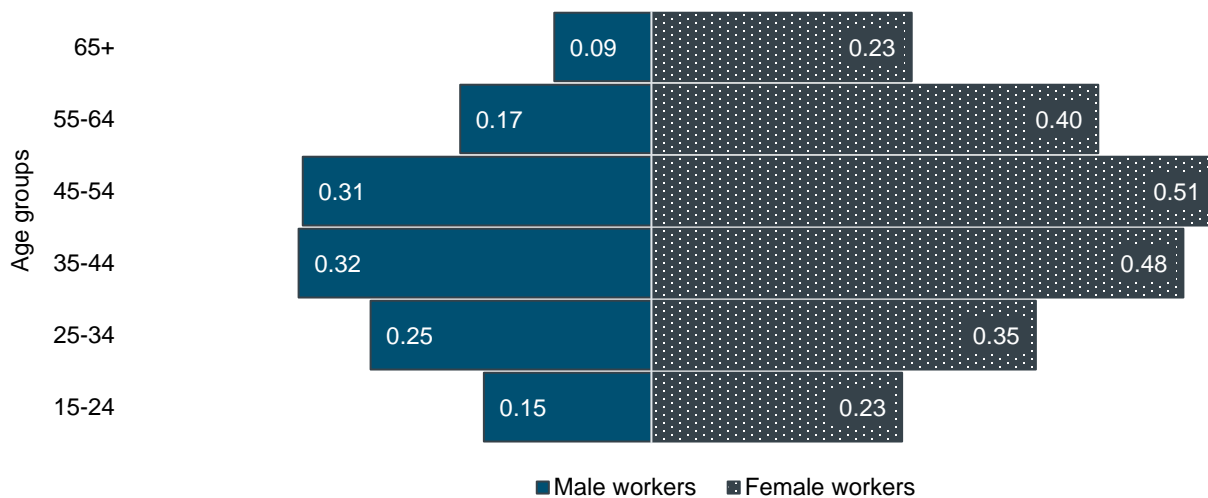
Female workers had more COVID-19 disabling injury claims compared to male workers (57 per cent and 43 per cent, respectively) (Figure 6). Female workers were disproportionately affected by COVID-19, as the majority of workers in the health care industry tend to be female.

- COVID-19 disabling injury claims among female workers occurred most often in continuing care facilities, health care services and meat processing industries (38 per cent, 22 per cent and nine per cent, respectively).
- Over half of COVID-19 claims were in nursing and nursing-related occupations (54 per cent).

## Male workers

COVID-19 disabling claims among male workers were highest in the manufacturing, processing and packaging sector (40 per cent).

- COVID-19 disabling claims among males occurred most often in the meat processing, continuing care facilities, and oil sands operations industries (33 per cent, nine per cent and five per cent, respectively).
- Almost one-sixth of COVID-19 claims were in industrial meat cutting jobs (16 per cent).



**Figure 6: Adjusted disabling injury claim rates (per 100 person-years) for COVID-19 WCB claims, by age group and gender, Alberta, 2020**

Source: WCB data, Statistics Canada's Labour Force Survey (2020 Historical Review), prepared by Labour and Immigration

## Injury and illness

The following sections highlight trends and findings from non-COVID-19 WCB claims.

Before 2020, Alberta's labour force was trending upwards (Table 2). In 2020, as the Alberta workforce shifted due to the impacts of the pandemic, non-COVID-19 workplace injuries and illnesses decreased. This was also observed in other Canadian jurisdictions.<sup>8,9</sup> WCB accepted 38,941 nonfatal workplace injuries in 2020, down from 50,527 in 2019 (a decrease of 23 per cent). Claim rates and person-years also declined from 2019 to 2020. Claim rates decreased on average by 23 per cent (range: 21.5 to 24.5 per cent).

Lost-time claim rates steadily increased until 2020. From 2018 to 2020, modified-work claim rates trended downwards. Modified work is dependent on the suitability and availability of alternative work for an injured or ill worker. The pandemic impact may have made modified working arrangements more challenging. For instance, work from home measures and temporary workplace closures may have prevented injured workers from returning to modified work duties.

<sup>8</sup> COVID-19. Injury facts National Safety Council. (2022) <https://injuryfacts.nsc.org/work/safety-topics/covid-19/>

<sup>9</sup> Baek, E.-M.; Kim, W.-Y.; Kwon, Y.-J. The Impact of COVID-19 Pandemic on Workplace Accidents in Korea. *Int. J. Environ. Res. Public Health* 2021, 18, 8407. <https://doi.org/10.3390/ijerph18168407>

**TABLE 2: ALBERTA LABOUR FORCE, INJURY CLAIMS, RATES (PER 100 PERSON-YEARS) AND PERSON-YEARS, 2016-2020**

	2016	2017	Year		2020		Yearly per cent change	
			2018	2019	Non-COVID-19	COVID-19	2018-2019	2019-2020 Non-COVID-19
Person-years	1,836,560	1,846,168	1,877,341	1,885,902	1,710,729	1,710,729	0.5↑	9.3↓
Labour force (employed)	2,195,700	2,220,800	2,263,800	2,279,100	2,129,800		0.7↑	6.6↓
Lost-time claims	24,561	26,590	28,361	29,119	22,859	5,606	2.7↑	21.5↓
Lost-time injury claim rate	1.34	1.44	1.51	1.54	1.34	0.33	2.0↑	13.0↓
Modified-work claims	36199	39702	41043	37799	28525	252	7.9↓	24.5↓
Modified-work claims injury claim rate	1.97	2.15	2.19	2.00	1.67	0.01	8.7↓	16.5↓
Disabling injury claims	45,187	49,560	51,757	50,527	38,941	5,634	3.3↓	22.9↓
Disabling injury claim rate	2.46	2.68	2.76	2.68	2.28	0.33	3.0↓	14.9↓

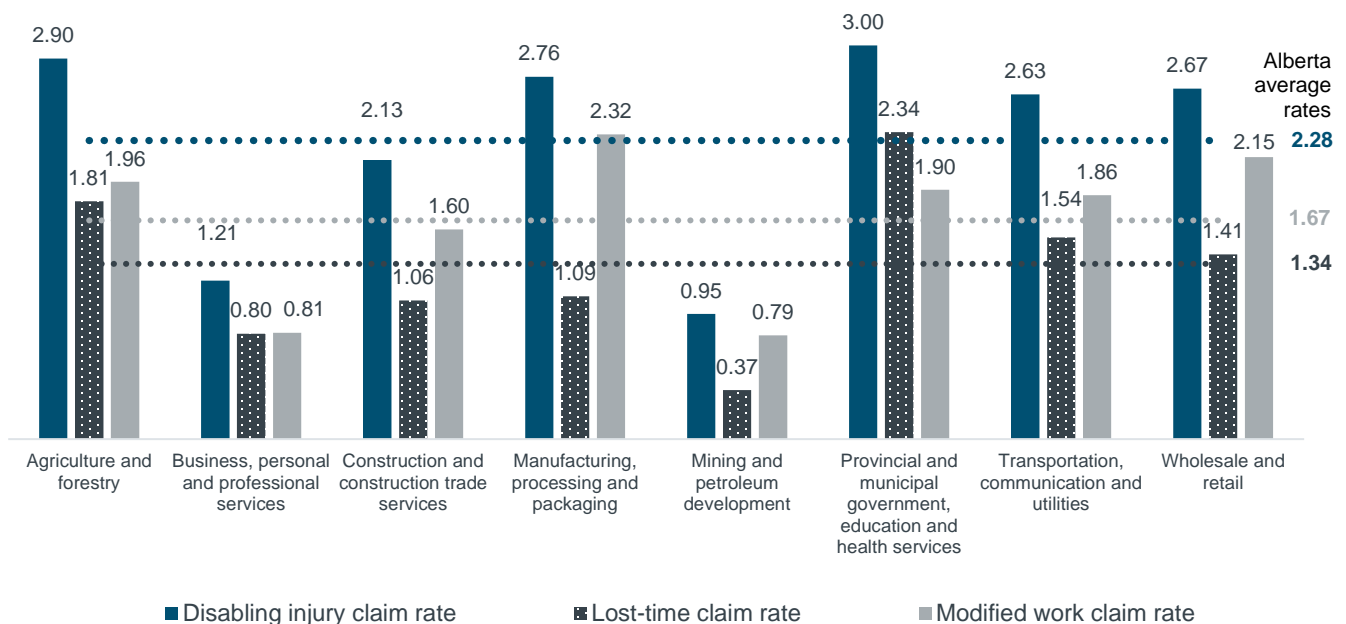
Source: WCB data, Statistics Canada's Labour Force Survey (2020 Historical Review), prepared by Labour and Immigration

### Injuries and illnesses by industry sectors

Examining claims at the industry level gives insight into the risks workers face across the various industries. As worker traits, job duties, the physical environment and workplace culture differ across industries and employers, the risks for injury and illness vary. This section identifies injury and illness risks for each industry sector.

From 2019, disabling injury claim rates decreased across all sectors (Appendix C – Figure C1).

In 2020, over half of the industry sectors surpassed the provincial average claim rates (Figure 7 and Appendix C – Table C1).



**Figure 7: WCB injury claim rates (per 100 person-years) by industry sector (excluding COVID-19 related claims), Alberta, 2020**

Source: WCB data, prepared by Labour and Immigration

The top three industry sectors with the highest disabling injury rates were:

- provincial and municipal government, education and health services (3.00 per 100 person-years);
- agriculture and forestry (2.90 per 100 person-years); and
- manufacturing, processing and packaging (2.76 per 100 person-years).

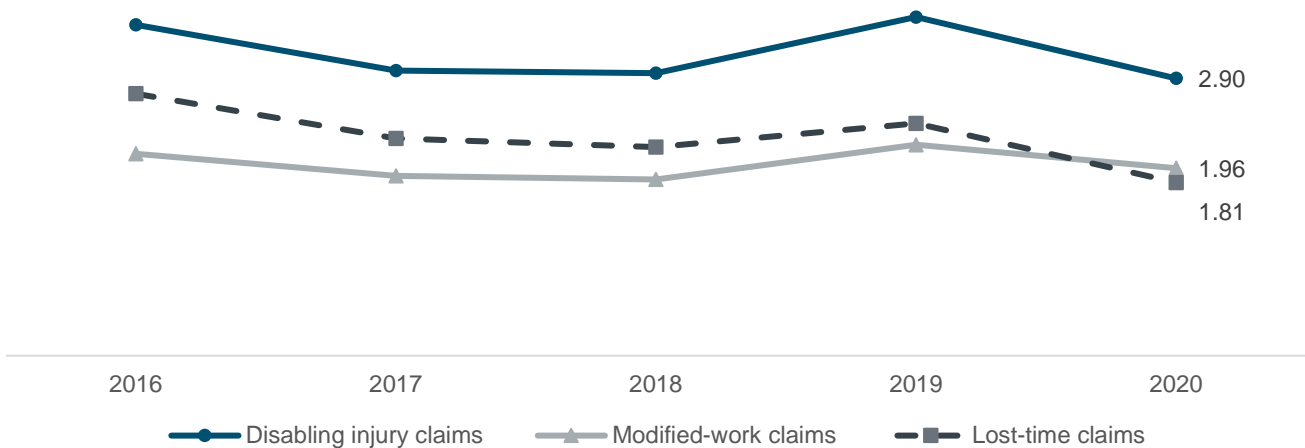
Unique to the manufacturing, processing and packaging sector, the disability and modified-work claims exceeded Alberta's average, while the lost-time claims fell below the average. Some workers are more likely to return with modified work duties than take time off work from an injury.

### Agriculture and forestry<sup>10</sup>

In 2020, the agriculture and forestry sector reported 706 workplace injuries, with a disabling injury claim rate of 2.90 per 100 person-years – higher than the Alberta average (Appendix C – Table C1). This sector had the second-highest disabling injury claim rate and lost time-claim rates.<sup>11</sup> The gap between lost-time and modified-work claim rates narrowed since 2018, with the modified-work claim rate slightly higher in 2020 (Figure 8). This sector was the only sector to experience an increase in person-years (2.9 per cent rise since 2019), which may reflect job growth (Figure 8 and Appendix C –Table C1).

Of disabling injury claims in 2020:

- Over one in four (26 per cent) were in the greenhouses and market gardens industry.
- General farm workers had the most claims (32 per cent).
- Forty-one per cent were related to falls (17 per cent), overexertion (13 per cent) or bodily reaction (11 per cent).
- Fourteen per cent were related to back injuries.



**Figure 8: Injury claim rates (per 100 person-years) in the agriculture and forestry sector (excluding COVID-19 related claims), Alberta, 2016-2020**

Source: WCB data, prepared by Labour and Immigration

### Business, personal and professional services

The business, personal and professional services sector reported 3,657 workplace injuries in 2020, with a disabling injury claim rate of 1.21 per 100 person-years – lower than the Alberta average (Appendix C – Table C1). This sector's claim rates also remain lower than other sectors. The gap between lost-time and modified-work claim rates narrowed since 2018, with both rates being similar in 2020 (Figure 9). The decrease in person-years (16.3 per cent decline since 2019) may reflect job losses incurred within this sector.

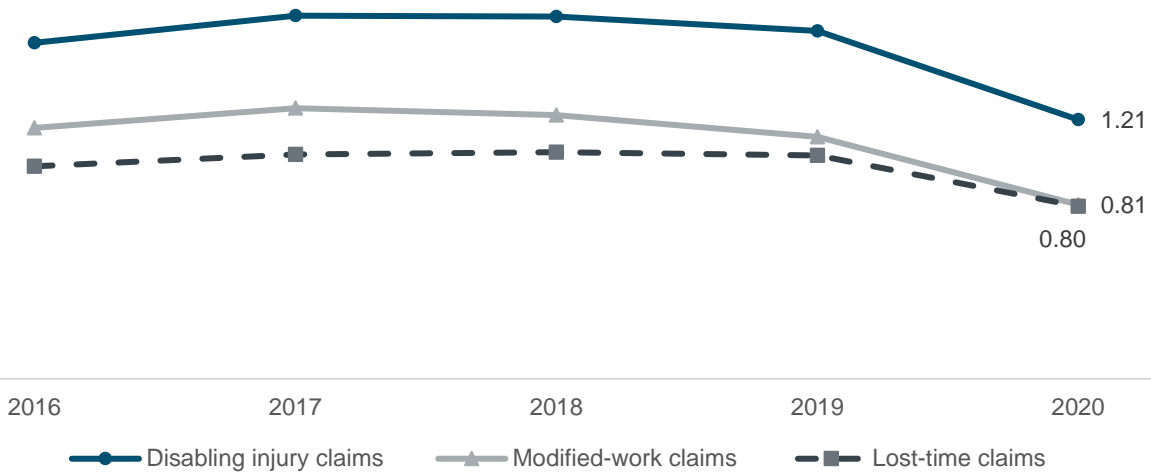
Of disabling injury claims in 2020:

- Almost one-third (30 per cent) were in the restaurants and catering industry, followed by 11 per cent in hotels and convention centres.

<sup>10</sup> After January 1, 2016, employers in farming and ranching industries with waged, non-family member workers were required to have WCB coverage. This was no longer required as of January 31, 2020.

<sup>11</sup> In 2019, agriculture and forestry has the highest disabling injury claim rate.

- Attendants, helpers, janitors and caretakers had 18 per cent of claims.
- Over half (53 per cent) were related to falls (22 per cent), overexertion (16 per cent) or bodily reaction (15 per cent).
- Twenty-two per cent were related to back injuries.



**Figure 9: Injury claim rates (per 100 person-years) in the business, personal and professional services sector (excluding COVID-19 related claims), Alberta, 2016-2020**

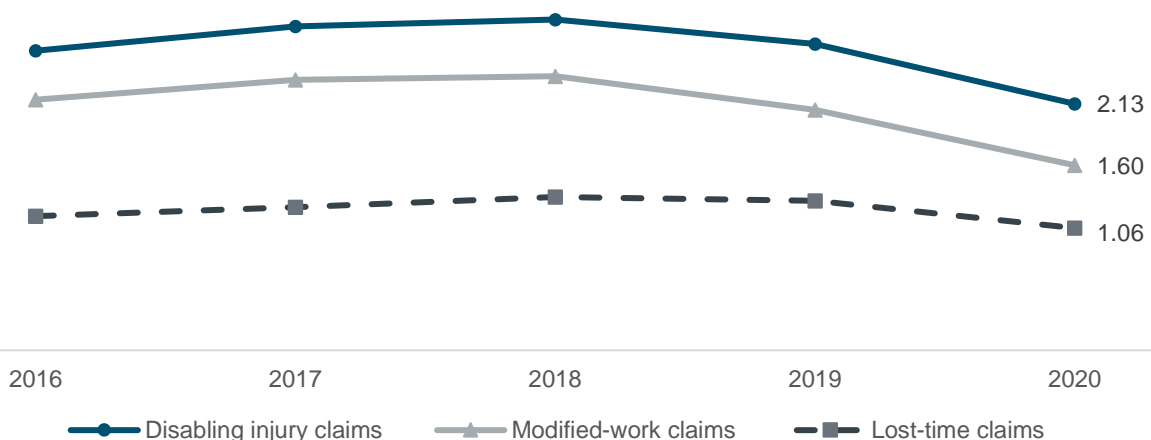
Source: WCB data, prepared by Labour and Immigration

### Construction and construction trade services

The construction and construction trade services sector reported 6,299 workplace injuries in 2020, with a disabling injury claim rate of 2.13 per 100 person-years (Appendix C – Table C1). All rates are lower than the Alberta averages. The gap between lost-time and modified-work claim rates has continued to narrow since 2018 (Figure 10). The decrease in person-years (a 6.4 per cent decline since 2019) may reflect job losses incurred within this sector.

Of disabling injury claims in 2020:

- Sixteen per cent were in the mobile equipment operation industry, followed by nine per cent in industrial and commercial construction.
- Construction trades helpers and workers and carpenters had the most claims (22 per cent).
- Over half related to falls (21 per cent), overexertion (18 per cent) or bodily reaction (16 per cent).
- One of out every five (20 per cent) related to back injuries.



**Figure 10: Injury claim rates (per 100 person-years) in the construction and construction trade services sector (excluding COVID-19 related claims), Alberta, 2016-2020**

Source: WCB data, prepared by Labour and Immigration

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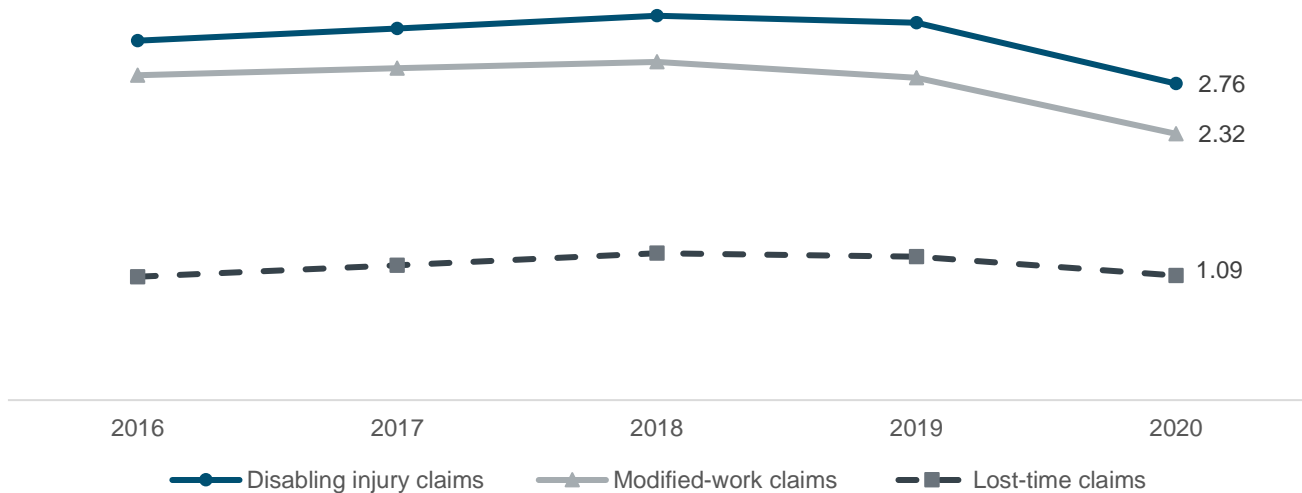
### Manufacturing, processing and packaging

The manufacturing, processing and packaging sector reported 4,331 workplace injuries in 2020, with a disabling injury claim rate of 2.76 per 100 person-years – higher than the Alberta average (Appendix C – Table C1). The manufacturing, processing and packaging sector modified claim rate was the highest among all sectors in 2020.

The gap between lost-time and modified-work claim rates has narrowed slightly since 2018, although the modified work rate was closer to the disabling injury claim rate (Figure 11). Most disabling injury claims involved modified work, allowing workers to return to the labour force more quickly (84 per cent). This sector had the second-largest decrease in person-years (10.4 per cent decline since 2019), which may be a result of factory and plant closures due to COVID-19.

Of disabling injury claims in 2020:

- Almost one in four (22 per cent) were in the meat processing industry, followed by 15 per cent in steel and metal fabrication.
- Workers in food and beverage processing had 11 per cent of the claims.
- Almost half related to overexertion (20 per cent), bodily reaction (14 per cent) or being struck by an object (14 per cent).
- Almost one of every five (19 per cent) were related to back injuries.



**Figure 11: Injury claim rates (per 100 person-years) in the manufacturing, processing and packing sector (excluding COVID-19 related claims), Alberta, 2016-2020**

Source: WCB data, prepared by Labour and Immigration

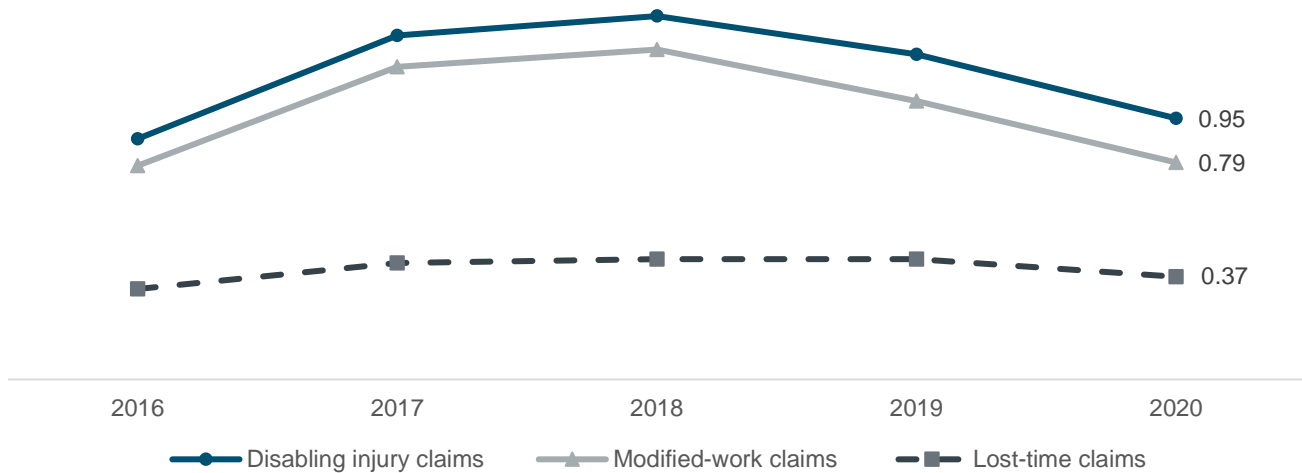
### Mining and petroleum development

The mining and petroleum development sector reported 1,259 workplace injuries in 2020, with a disabling injury claim rate of 0.95 per 100 person-years. This is lower than the Alberta average, and is the lowest injury claim rate among all sectors (Appendix C – Table C1).

The gap between lost-time and modified-work claim rates has narrowed slightly since 2018, although the modified work rate was closer to the disabling injury claim rate (Figure 12). Most of the disabling injury claims involved modified work (second-highest among all sectors), which enabled workers to return to the labour force more quickly (83 per cent). This sector also had the smallest decrease in person-years (6.2 per cent decline since 2019). Although low injury claim rates may be an indicator of successful health and safety systems, the rate of modified work injuries suggests that prevention of minor injuries may require more focused efforts.

Of disabling injury claims in 2020:

- Almost one in three (30 per cent) were in the oil sands operations industry, followed by 14 per cent in oilfield downhole services.
- Sixteen per cent of injuries were to heavy equipment operators.
- Half were related to falls (18 per cent), bodily reaction (17 per cent) or overexertion (15 per cent).
- Nineteen per cent were related to back injuries.



**Figure 12: Injury claim rates (per 100 person-years) in the mining and petroleum development sector (excluding COVID-19 related claims), Alberta, 2016-2020**

Source: WCB data, prepared by Labour and Immigration

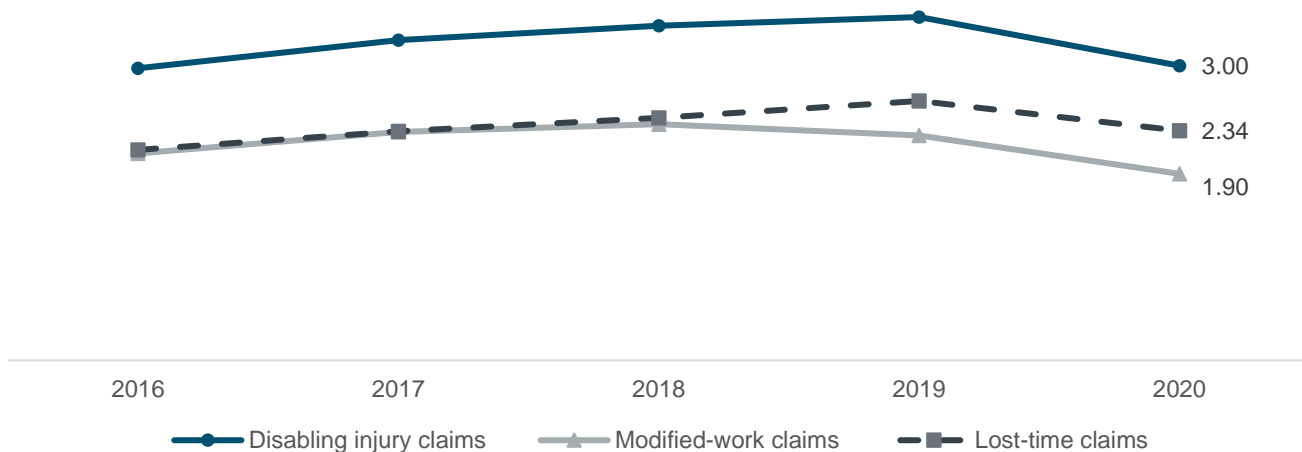
**Provincial and municipal government, education and health services**

The provincial and municipal government, education and health services sector reported 10,416 workplace injuries in 2020, with a disabling injury claim rate of 3.00 per 100 person-years. This was the highest disabling injury claim rate and lost-time injury claim rate among all sectors (Appendix C – Table C1).

Unlike other sectors, the gap between lost-time and modified-work claim rates increased since 2018 (Figure 13). Most disabling injury claims involved lost-time from work, resulting in most workers missing at least one day off work (78 per cent). This sector also had the smallest decrease in person-years (a 6.2 per cent decline since 2019, the same as mining and petroleum). This sector has the most essential workers in the pandemic; as such, the impact of COVID-19 on job losses compared to other sectors was smaller.

Of disabling injury claims in 2020:

- One-third (33 per cent) were in the health care services, followed by 17 per cent in the cities industry.
- Nurse aides, orderlies, registered nurses and social and community service workers had most the claims (35 per cent).
- Almost three out of five claims were related to overexertion (25 per cent), bodily reaction (17 per cent) or falls (17 per cent).
- Twenty-three per cent were related to back injuries.



**Figure 13: Injury claim rates (per 100 person-years) in the provincial and municipal government, education and health services sector (excluding COVID-19 related claims), Alberta, 2016-2020**

Source: WCB data, prepared by Labour and Immigration

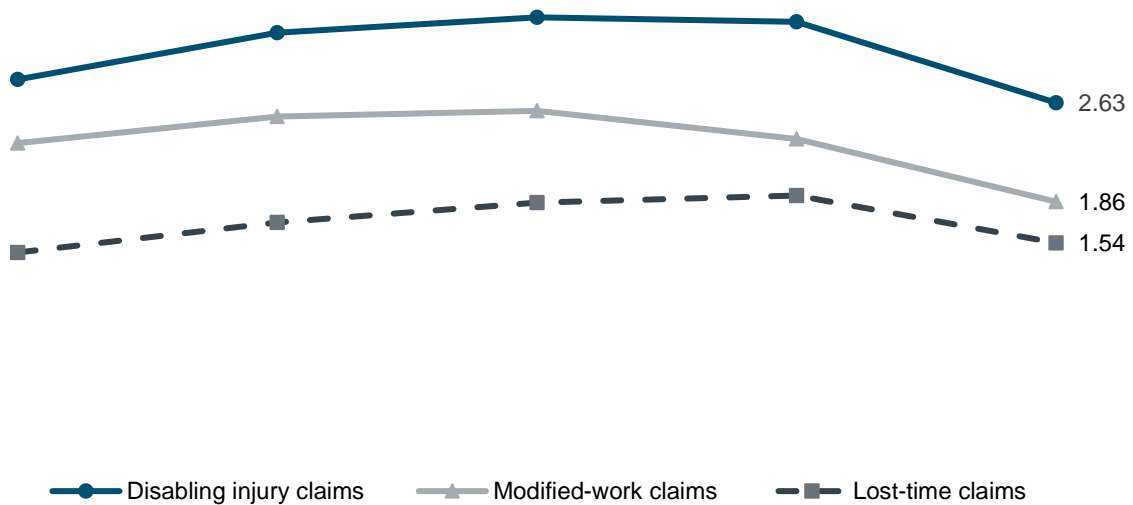
### Transportation, communication and utilities

The transportation, communication and utilities sector reported 3,453 workplace injuries in 2020, with a disabling injury claim rate of 2.63 per 100 person-years (Appendix C – Table C1). All rates are higher than the Alberta average.

The gap between lost-time and modified-work claim rates narrowed slightly since 2018 although the modified work rate remains closer to the disabling injury claim rate (Figure 14). Most of the disabling injury claims involved modified work, enabling workers to return to the labour force more quickly (71 per cent). Person-years decreased by 7.8 per cent since 2019.

Of disabling injury claims in 2020:

- Over half (53 per cent) were in the general trucking industry, followed by 11 per cent in public warehousing.
- Transport truck drivers had one-third of claims (34 per cent).
- Over half were related to falls (22 per cent), overexertion (21 per cent) or bodily reaction (15 per cent).
- Twenty-two per cent were related to back injuries.



**Figure 14: Injury claim rates (per 100 person-years) in the transportation, communication and utilities sector (excluding COVID-19 related claims), Alberta, 2016-2020**

Source: WCB data, prepared by Labour and Immigration

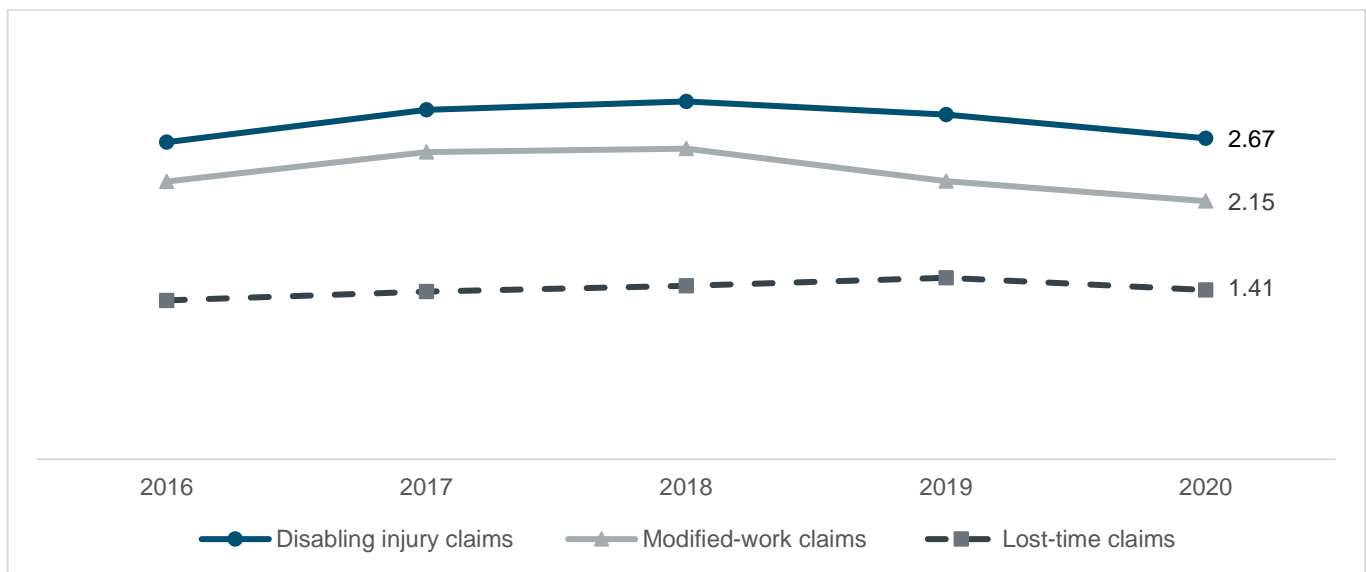
### Wholesale and retail

The wholesale and retail sector reported 8,568 workplace injuries in 2020, with a disabling injury claim rate of 2.67 per 100 person-years (Appendix C – Table C1). All rates are higher than the Alberta average.

The gap between lost-time and modified-work claim rates has narrowed slightly since 2018, although the modified work rate was closer to the disabling injury claim rate (Figure 15). This sector also had the second-highest modified work rate (Figure 7 and Table C1). Person-years decreased by 10 per cent, which was the third-largest decrease among all sectors since 2019.

Of disabling injury claims in 2020:

- Almost one in four (24 per cent) were in the food and convenience stores industry, followed by 12 per cent in the department and general stores.
- Retail sales, stockers, clerks and order fillers represent one-third of claims (33 per cent).
- Three out of five claims were related to overexertion (28 per cent), bodily reaction (16 per cent) or falls (16 per cent).
- Twenty-three per cent were related to back injuries.



**Figure 15: Injury claim rates (per 100 person-years) in the wholesale and retail sector (excluding COVID-19 related claims), Alberta, 2016-2020**

Source: WCB data, prepared by Labour and Immigration

### Characteristics of workplace injuries and illnesses

The following section provides details on age, gender, and injury traits (i.e. the types, causes, and nature of injuries, as well as the body parts that were injured).

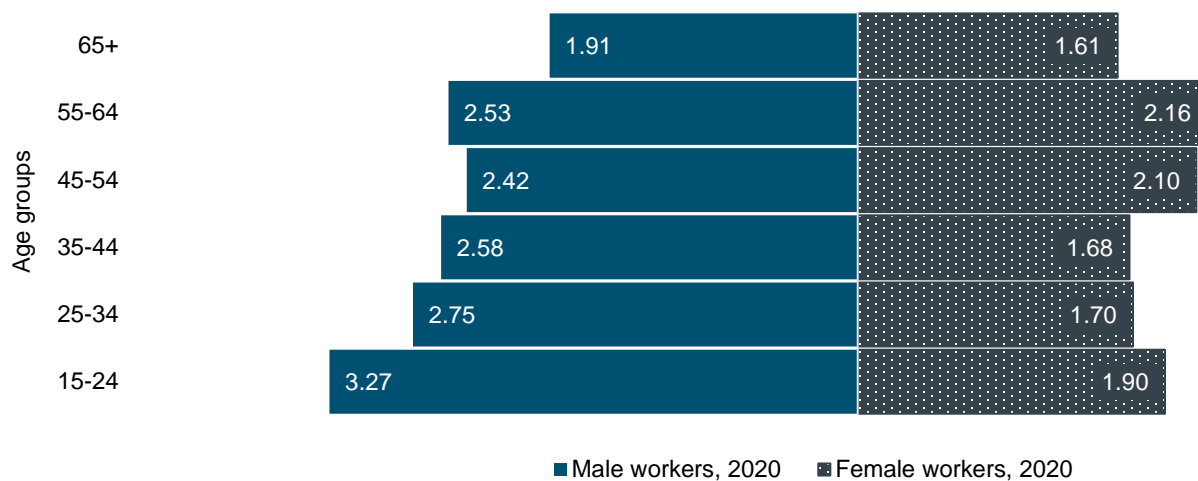
#### Injured workers: age and gender differences

Exploring the characteristics of injured workers can provide insight when developing injury prevention measures. Workplace injuries and illnesses vary across age groups and genders (Figures 16 and 17). Studies have shown that injuries which lead to disability affect more older workers, while injuries to younger workers are more common.<sup>12</sup>

Gender differences in workplace injuries are also prevalent, as some occupations remain more prevalent among specific genders. Even within the same gender, workers of different age groups may face different levels of risk for injury (Figure 16 and 17 and Appendix C –Tables C3 and C4, as well as Figures C2 and C3). For instance, female workers aged 15-24 are affected by different injuries compared to female workers over the age of 65. In 2020, the WCB disabling injury claims findings show:

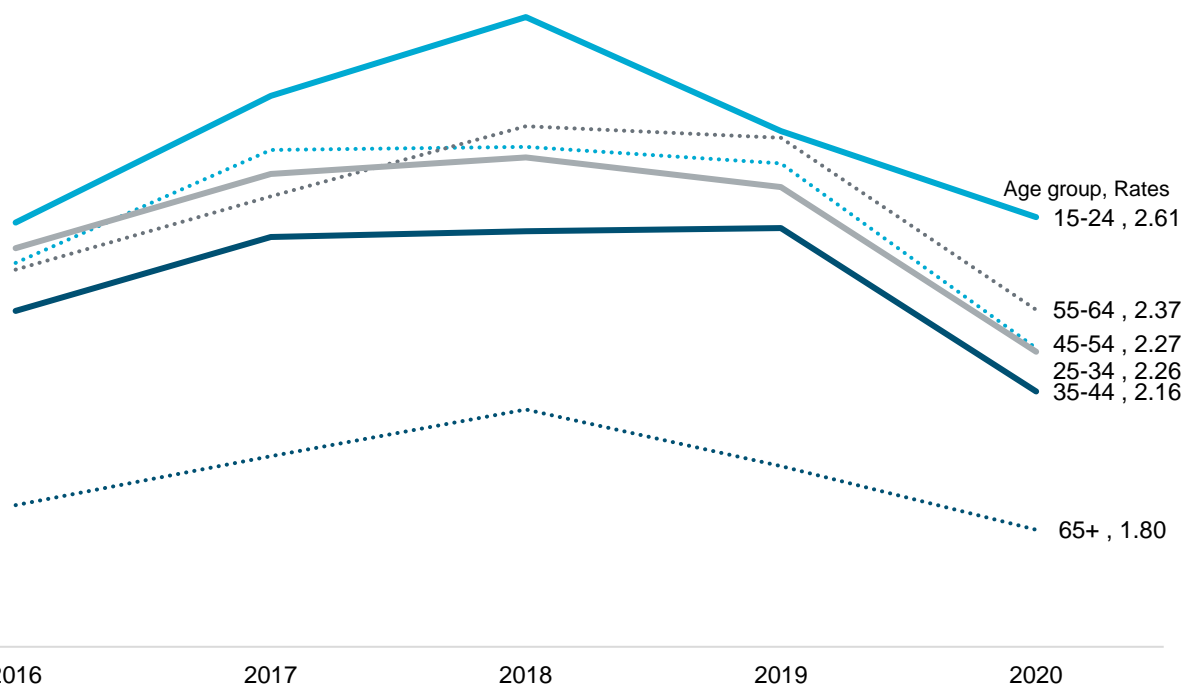
- Male workers had higher injury rates across all age groups and for all injury types except for multiple trauma injuries.
- Young male workers (aged 15-24 years) had the highest adjusted disabling injury rates among all males (3.27 per 100 person-years), with the most common injuries being overexertion (20 per cent) and being struck by an object (19 per cent).
- Females aged 55-64 had the highest adjusted disabling injury rates among all females (2.16 per 100 person-years). Of these:
  - The highest number (21 per cent) worked in health care services, followed by 11 per cent in food/convenience stores.
  - Nearly 15 per cent were nurse aides and orderlies, while nine per cent were retail workers.
  - The most common injury was falls to the floor, walkway or other surfaces (22 per cent).

<sup>12</sup> A. Farrow, F. Reynolds, Health and safety of the older worker, *Occupational Medicine*, Volume 62, Issue 1, January 2012, Pages 4–11, <https://doi.org/10.1093/occmed/kgr148>



**Figure 16: Adjusted disabling claim injury rates (per 100 person-years) for non-COVID claims by age group and gender, Alberta, 2020**

Source: WCB data, prepared by Labour and Immigration



**Figure 17: Adjusted disabling injury claim rates (per 100 person-years) for non-COVID claims by age group, Alberta, 2020**

Source: WCB data, prepared by Labour and Immigration

### Youth

Youth (15-24 years old) are at risk for workplace injuries for several reasons, including inexperience, lack of adequate training and increased exposure to dangerous jobs.<sup>13</sup> In Alberta, youth represent 12 per cent of the labour force.

WCB claims from youth had the following characteristics: (Figure 16 and 17 and Appendix C – Figures C4 and C5).

<sup>13</sup> Pratt, B., Cheesman, J., Breslin, C., & Do, M. T. (2016). Occupational injuries in Canadian youth: an analysis of 22 years of surveillance data collected from the Canadian Hospitals Injury Reporting and Prevention Program. *Health promotion and chronic illness prevention in Canada: research, policy and practice*, 36(5), 89–98. <https://doi.org/10.24095/hpcdp.36.5.01>

- The highest adjusted disabling injury claim rate among all age groups (2.61 per 100 person-years).
- Claims occurred most often in the restaurant and catering, food and convenience stores, and department and general stores industries (eight per cent, eight per cent and three per cent, respectively).
- Slightly more than half of all injuries and illnesses are caused by overexertion, being struck by an object or falls (20 per cent, 17 per cent and 14 per cent, respectively).
- The majority of claims were related to sprains and strains (45 per cent) and wounds (22 per cent).
- Male youth had the highest overall adjusted disabling injury claim rate (3.27 per 100 person-years), which is consistent with other findings.<sup>14</sup>

### Types of workplace incidents

“Type of workplace incident” describes the different events that directly resulted in the injury or illness being approved by WCB as work-related. In 2020, the top three types of workplace incidents were (Table 3, Appendix C – Table C5):

- bodily reaction or exertion injuries (47 per cent),
- contact with objects or equipment (21 per cent), and
- falls (18 per cent).

**TABLE 3: LEADING TYPE OF WORKPLACE INCIDENTS, ALBERTA, 2020**

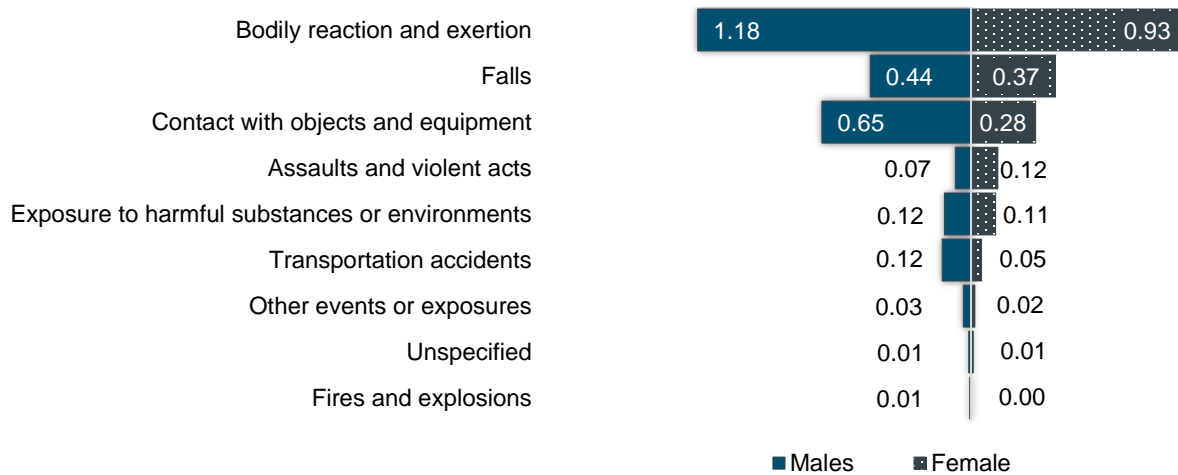
Type of workplace incident	Bodily reaction or exertion	Contact with objects or equipment	Falls
Leading industry sector	Health care services (11%)	Food and convenience stores (6%)	General trucking (7%)
Leading occupation	Retail sales (5%) Nurse aides, orderlies, etc. (5%)	Construction trades helpers and workers (5%)	Transport truck drivers (7%)
Leading gender	Males (63%)	Males (79%)	Males (58%)
Leading age group	35-44 (26%)	25-34 (27%)	55-64 (23%)
Leading part of body	Lower back (27%)	Finger (53%)	Knee (12%)
Leading nature of injury	Sprain, strain or tear (82%)	Cut or laceration (36%)	Sprain, strain or tear (41%)
Leading source	Bodily motion - injured or ill worker (69%)	Part or material (4%)	Floor, walkway or ground surface (35%)

Source: WCB data, prepared by Labour and Immigration

Since 2019, the OHS prevention initiative has identified slips, trips and falls as one of three priority areas for Alberta’s OHS system ([alberta.ca/occupational-health-and-safety-prevention-initiative.aspx](https://alberta.ca/occupational-health-and-safety-prevention-initiative.aspx)). OHS system partners are collaborating to look for opportunities to reduce injuries related to these hazards. This topic will be further explored later in the report.

Males have higher adjusted disabling injury claim rates compared to female workers across all types of incidents except for assaults and violent acts (Figure 18). Incidents involving contact with objects and equipment had the largest gender difference, with males having almost five times more claims.

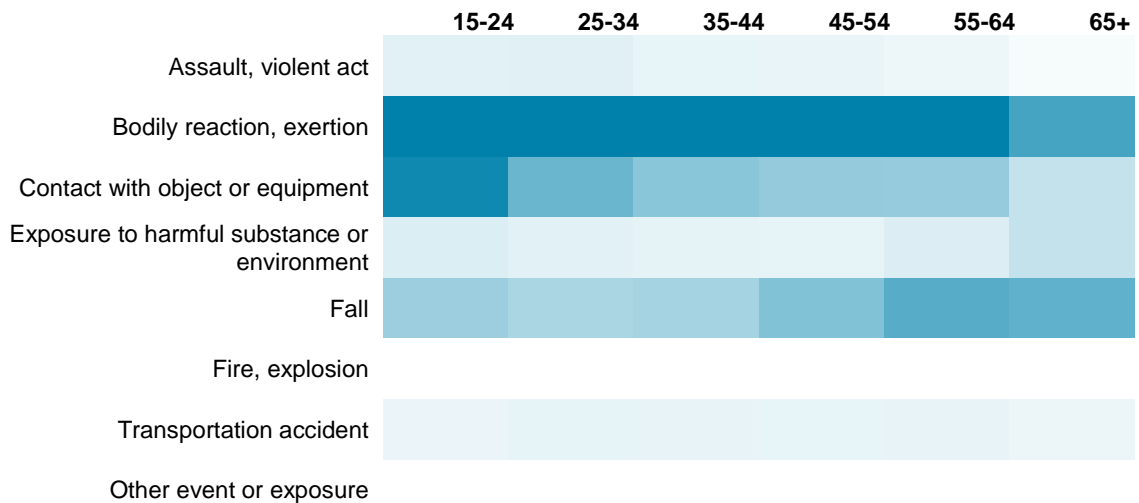
<sup>14</sup> Pratt, B., Cheesman, J., Breslin, C., & Do, M. T. (2016). Occupational injuries in Canadian youth: an analysis of 22 years of surveillance data collected from the Canadian Hospitals Injury Reporting and Prevention Program. *Health promotion and chronic illness prevention in Canada: research, policy and practice*, 36(5), 89–98. <https://doi.org/10.24095/hpcdp.36.5.01>



**Figure 18: Adjusted disabling injury claim rates (per 100 person-years) for non-COVID claims by type of injury and gender, Alberta, 2020**

Source: WCB data, prepared by Labour and Immigration

Bodily reaction and exertion related claims are the most frequent claims among all age groups. Several types of workplace incidents are more frequent among particular age groups (Figure 19). Contact with objects and equipment and assaults and violent act incidents decreased with age. Fall incidents increased from age 25 up to age 64 (Figure 19).



**Figure 19: Adjusted disabling injury claim rates (per 100 person-years) for non-COVID claims by type of injury and age group, Alberta, 2020 (darker colours indicate higher rates)**

Source: WCB data, prepared by Labour and Immigration

### Source of a workplace incident

The source of a workplace incident identifies the primary objects, substances, exposure or bodily motion that directly inflicts the injury or illness<sup>15</sup>. In 2020 and consistent with previous years, the three most cited sources for workplace incidents (Appendix C – Table C6) were:

- Persons, plants, animals and minerals (31 per cent), which includes:
  - bodily motion – injured or ill worker (63 per cent);
  - health care patient or resident of health care facility (18 per cent); and
  - person – not injured or ill worker (five per cent).

<sup>15</sup> Pratt, B., Cheesman, J., Breslin, C., & Do, M. T. (2016). Occupational injuries in Canadian youth: an analysis of 22 years of surveillance data collected from the Canadian Hospitals Injury Reporting and Prevention Program. *Health promotion and chronic illness prevention*

- Structures and surfaces (18 per cent), which includes:
  - floor, walkway or ground surface (34 per cent);
  - ground (20 per cent); and
  - floor of building (10 per cent).
- Containers (10 per cent), which includes:
  - box, crate or carton (41 per cent);
  - bag, sack or tote (11 per cent); and
  - skid or pallet (nine per cent).

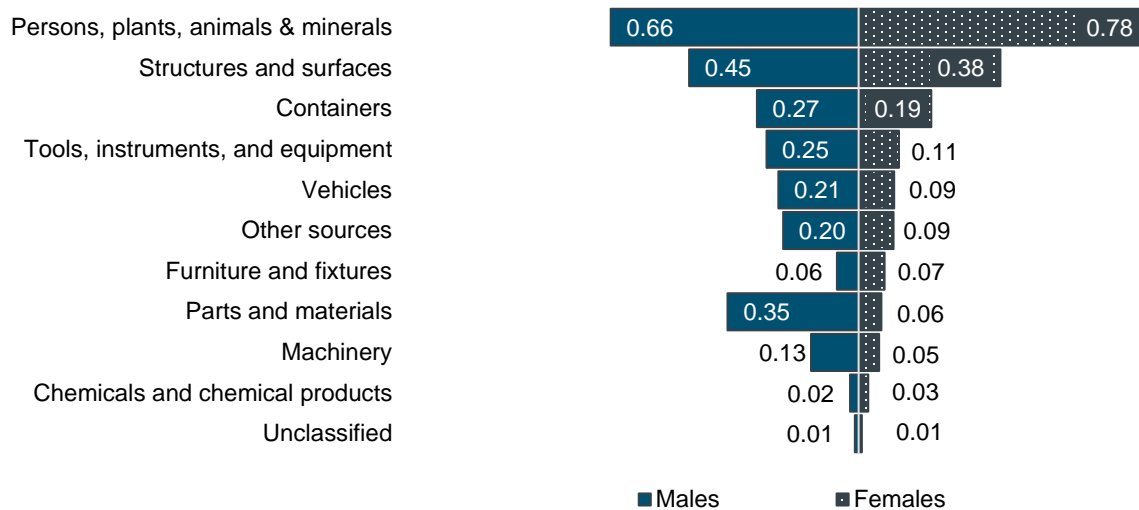
Table 4 shows the breakdown of each leading source within the primary category.

**TABLE 4: LEADING SOURCE OF INJURY CHARACTERISTICS, ALBERTA, 2020**

Top source of injury category	Bodily motion – injured or ill worker	Floor, walkway or ground surface	Box, crate or carton
Leading industry sector	Health care services (8%)	General trucking (8%)	Food and convenience stores (21%)
Leading occupation	Retail sales (5%)	Transport truck drivers (9%)	Stockers, clerks and order fillers (16%)
Leading gender	Male (61%)	Male (66%)	Male (59%)
Leading age group	35-44 (25%)	45-54 (23%)	35-44 (24%)
Leading part of the body	Lower back (21%)	Knee (13%)	Lower back (37%)
Leading type of injury	Bodily reaction (24%)	Fall to floor, walkway or other surface (61%)	Overexertion in lifting (43%)
Leading nature of the injury	Sprain, strain or tear (7%)	Sprain, strain or tear (44%)	Sprain, strain or tear (76%)

Source: WCB data, prepared by Labour and Immigration

Males had higher disabling injury rates for all sources of injuries except within two categories: persons, plants, animals and minerals; and furniture and fixtures and chemicals (Figure 20). Incidents involving parts and materials had the largest gender difference, with males having almost six times more claims.

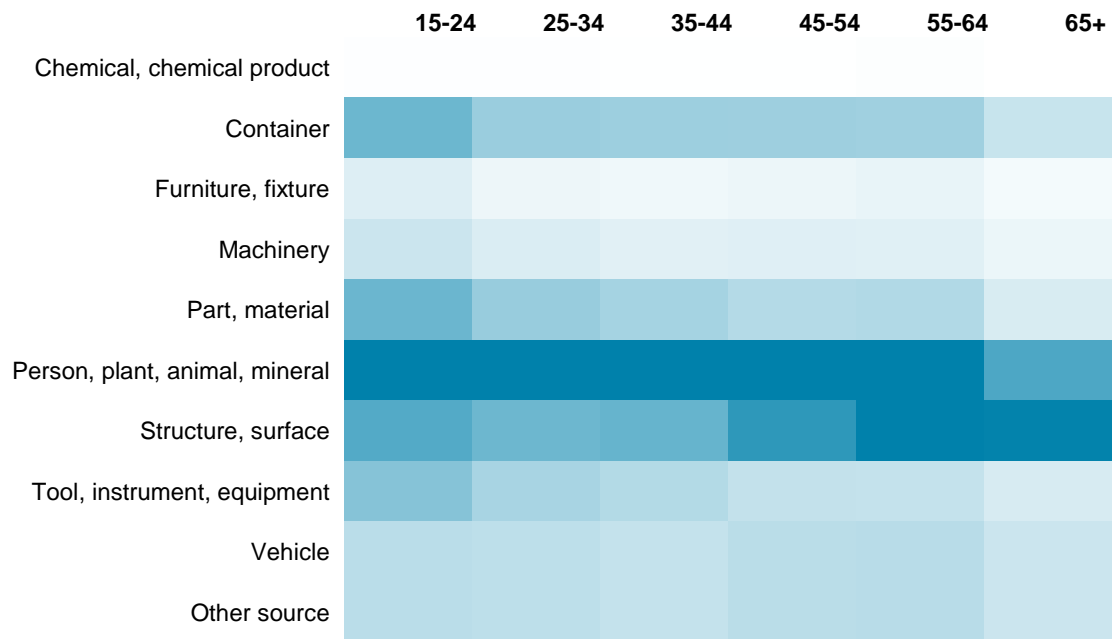


**Figure 20: Adjusted disabling injury claim rates (per 100 person-years) for non-COVID claims by the source of injury and gender, Alberta, 2020**

Source: WCB data, prepared by Labour and Immigration

For most age groups, the source with the highest adjusted disabling injury rate of claims involved persons, plants, animals and mineral, with the exception among the oldest workers (ages 65 and older) (Figure 21). Structures and surfaces were the leading sources of injuries in older workers (Figure 21). Claims involving tools, instruments, equipment, machinery and containers decreased with workers' age.





**Figure 21: Adjusted disabling injury claim rates (per 100 person-years) for non-COVID claims by the source of injury and age group, Alberta, 2020**

Source: WCB data, prepared by Labour and Immigration

### Nature of workplace injury or illness

WCB claims classify injuries and illnesses based on the main physical or psychological harm that resulted from the workplace incident.

#### Workplace injuries

A work injury results from any work-related event or exposure to a harmful substance.<sup>16</sup>

In 2020, traumatic injuries and disorders were the leading disabling workplace injuries and illnesses (92 per cent), which is consistent with the previous year. The three most common traumatic injuries and disorders (Table 5, Figure 22 and Appendix C – Table C7) were:

- sprains and strains (57 per cent);
- wounds (open and superficial) (18 per cent); and
- other traumatic injuries and disorders (16 per cent).

Table 5 shows a detailed breakdown of each leading primary source category. From 2019 to 2020, claims for multiple traumatic injuries remained at one per cent of total claims.

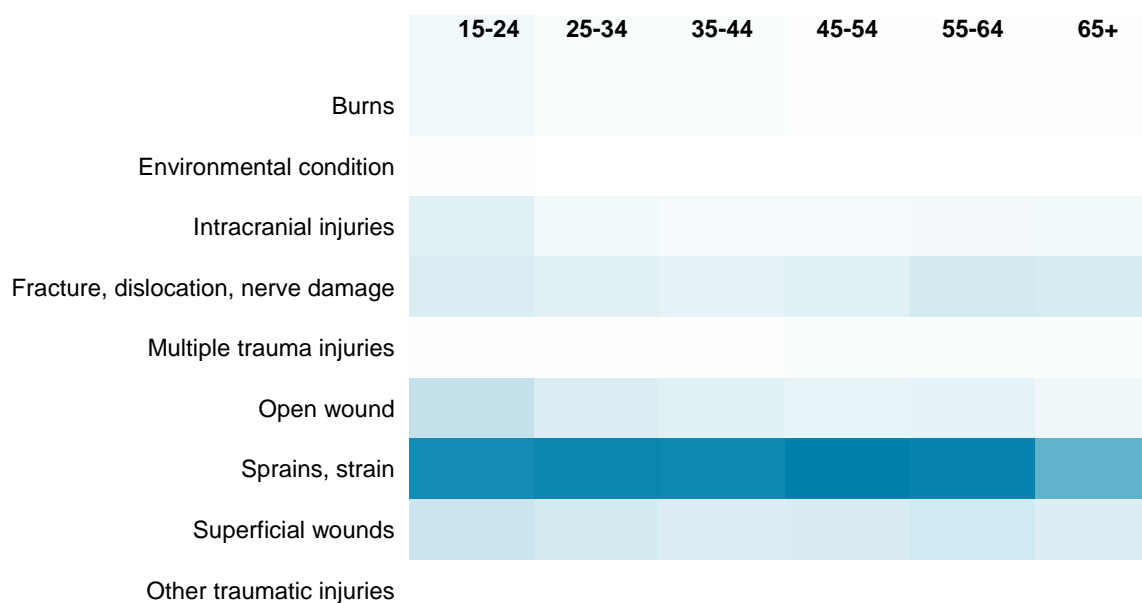
<sup>16</sup> National work injury/disease statistics program (NWISP) definitions. Association of workers' compensation boards of Canada. (2022) <https://awcbc.org/en/statistics/national-work-injurydisease-statistic-program-definitions/>

**TABLE 5: LEADING NATURE OF INJURY CHARACTERISTICS, ALBERTA, 2020**

Nature of injury	Sprains and strains	Wounds – open and superficial	Other traumatic injuries
Leading industry sector	Health care services (11%)	Food and convenience stores (7%)	Cities (7%)
Leading occupation	Nurse aides, orderlies, etc. (8%)	Retail sales (5%)	Retail sales (6%)
Leading gender	Male (59%)	Male (69%)	Male (64%)
Leading age group	35-44 (25%)	25-34 (25%)	35-44 (22%)
Leading part of body	Lower back (27%)	Hand - except fingers (13%)	Brain (20%)
Leading type of injury	Overexertion (19%)	Struck by object (13%)	Fall to floor, walkway or other surface (12%)
Leading source	Bodily motion - injured or ill worker (29%)	Knife (8%)	Bodily motion - injured or ill worker (12%)

Source: WCB data, prepared by Labour and Immigration

Sprains and strain was the leading injury across all age groups (Figure 22). Injuries from burns decreased with age.



**Figure 22: Adjusted disabling injury claim rates (per 100 person-years) for non-COVID claims by nature of injury and age group, Alberta, 2020**

Source: WCB data, prepared by Labour and Immigration

### Workplace illnesses

An occupational disease is a health condition that results from exposure to a physical, chemical or biological agent in the workplace to the extent that normal physiological mechanisms are affected and the health of the worker is impaired. <sup>17,18</sup>

The most common workplace illnesses (Table 6, Figure 23 and Appendix C – Table C8) were:

- mental diseases (31 per cent);
- inflammations of joints and muscles (22 per cent); and
- other system diseases (11 per cent).

<sup>17</sup> Occupational health hazards and illnesses. Government of Ontario. Ministry of Labour, Training and Skills Development. (2020)

<sup>18</sup> National work injury/disease statistics program (NWISP) definitions. Association of workers' compensation boards of Canada. (2022) <https://awcbc.org/en/statistics/national-work-injury-disease-statistic-program-definitions/>

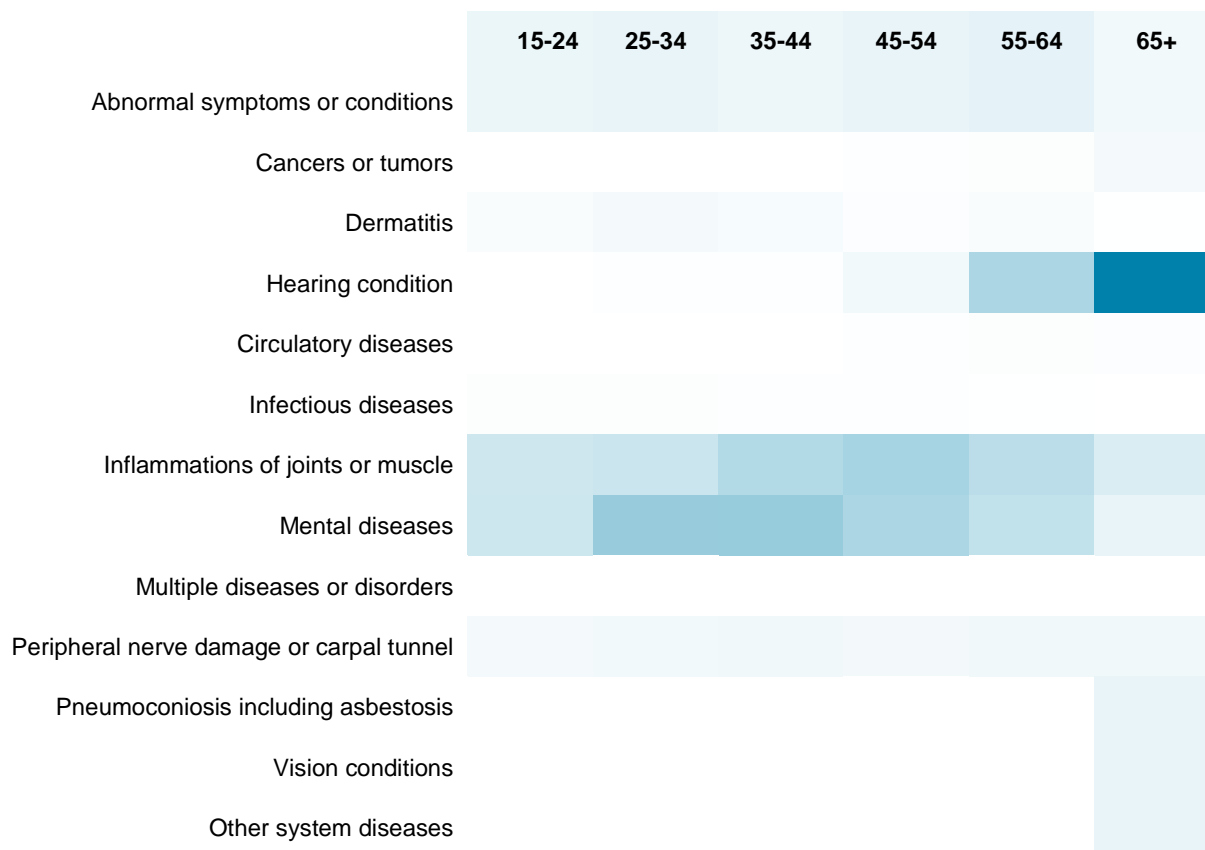
**TABLE 6: LEADING NATURE OF ILLNESS CHARACTERISTICS, ALBERTA, 2020**

Nature of illness	Mental diseases	Inflammations of joints and muscles	Other system diseases
Leading industry sector	Health care services (30%)	Meat processing (8%)	Health care services (24%)
Leading occupation	Ambulance or paramedical jobs (18%)	Nurse aides, orderlies, etc. (5%)	Nurse aides, orderlies, etc. (16%)
Leading gender	Male (53%)	Male (53%)	Male (57%)
Leading age group	35-44 (31%)	35-44 (29%)	35-44 (27%)
Leading part of body	Nervous system (91%)	Elbow (27%)	Groin (24%)
Leading type of injury	Exposure to traumatic or stressful event (34%)	Repetitive motion (54%)	Exposure to caustic, noxious or allergenic substances (31%)
Leading source	Bodily condition – injured or ill worker (55%)	Bodily motion – injured or ill worker (68%)	Virus (26%)

Source: WCB data, prepared by Labour and Immigration

Workplace illness claims are mostly similar between genders. There were two exceptions: ear and hearing conditions were three times higher in males, while abnormal symptoms/conditions were twice as likely in females.

Mental diseases and joint or muscular inflammation had the highest adjusted disabling illness rates across most age groups, except workers aged 65 and over (Figure 23). Workers aged 65 and older had the highest adjusted disabling illness rate of ear and hearing conditions (0.16 per 100 person-years).



**Figure 23: Adjusted disabling illness claim rates (per 100 person-years) for non-COVID claims by nature of illness and age group, Alberta, 2020**

Source: WCB data, prepared by Labour and Immigration

## Parts of body affected

The body parts directly affected by workplace injuries or illnesses can provide information on patterns and gaps within health and safety systems. As was the case with injuries in 2019, the three most commonly injured body parts (Table 7 and Appendix C – Table C9) were:

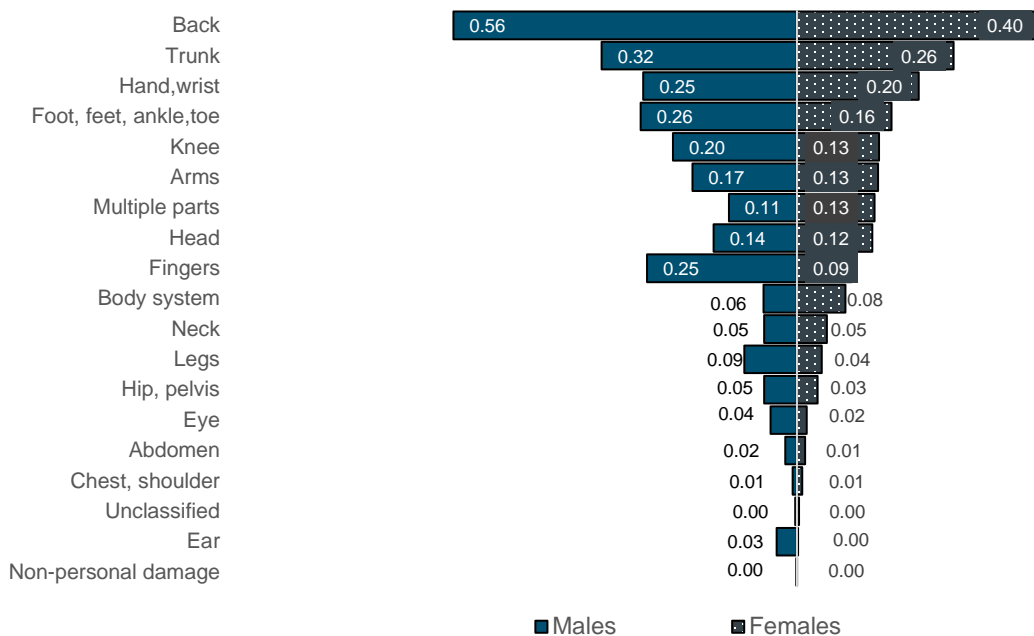
- trunk (37 per cent);
- upper extremity (24 per cent); and
- lower extremity (20 per cent).

**TABLE 7: LEADING INJURED PARTS OF BODY CHARACTERISTICS, ALBERTA, 2020**

Injured part of body	Trunk	Upper extremity	Lower extremity
Leading injured part of body - detailed	Lower back (45%)	Wrist (21%)	Knee (38%)
Leading industry sector	Health care services (11%)	Food and convenience stores (6%)	General trucking (6%)
Leading occupation	Nurse aides, orderlies, etc. (8%)	Retail sales (5%)	Transport truck drivers (5%)
Leading gender	Male (63%)	Male (65%)	Male (50%)
Leading age group	35-44 (24%)	35-44 (24%)	25-34 (24%)
Leading type of injury	Overexertion (22%)	Caught in or compressed by equipment or objects (9%)	Fall to floor, walkway or other surface (14%)
Leading nature of injury	Sprain, strain or tear (76%)	Sprain, strain or tear (31%)	Sprain, strain or tear (59%)
Leading source	Bodily motion – injured or ill worker (21%)	Bodily motion – injured or ill worker (13%)	Bodily motion – injured or ill worker (38%)

Source: WCB data, prepared by Labour and Immigration

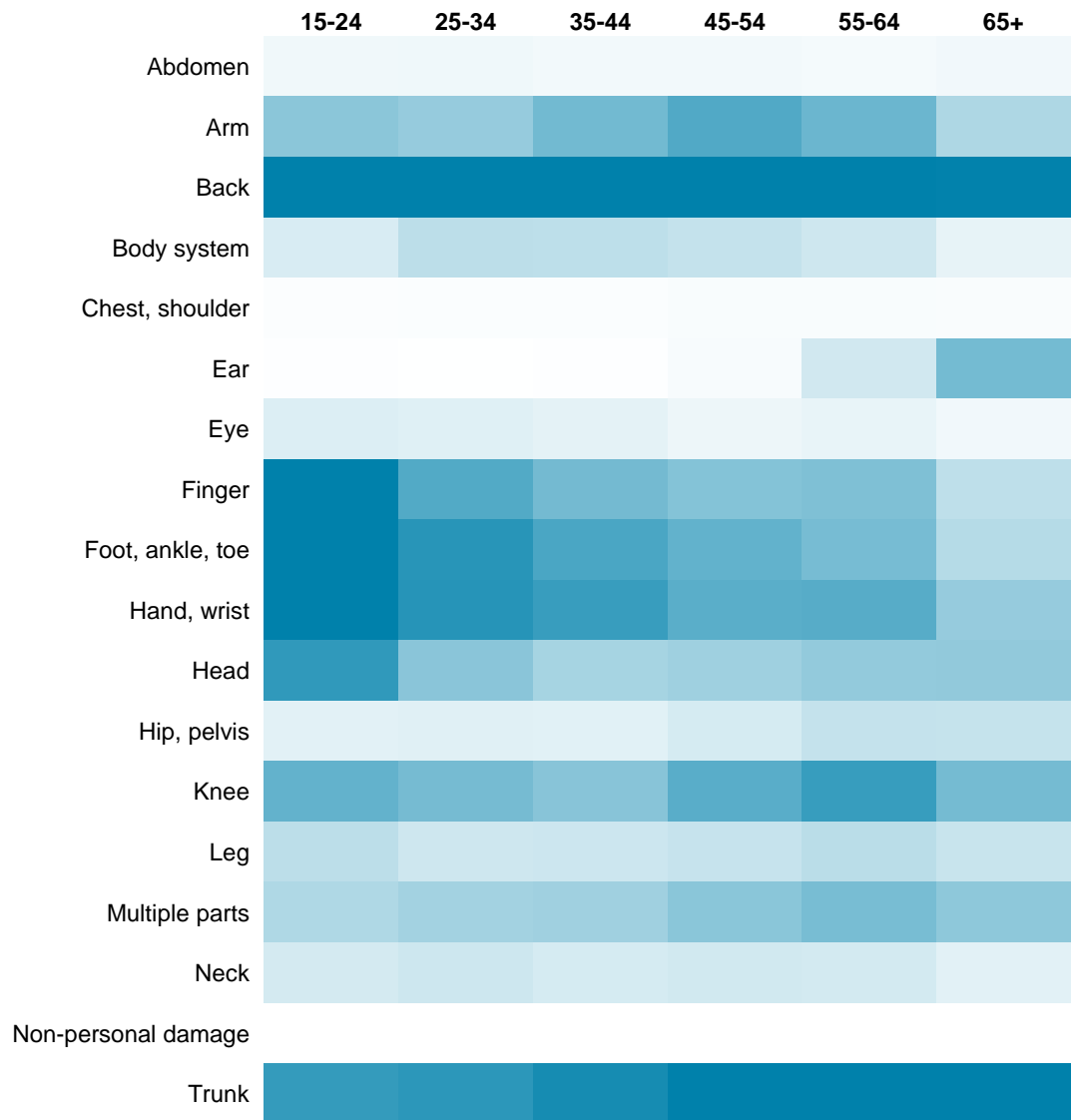
Female workers had more injuries involving body systems (when the functioning of an entire body system was affected without specific injury to any other part of the body) and multiple parts (multiple body parts from two or more divisions) compared to male workers (Figure 24). Injuries to all other body parts were found more often in males compared to female workers. Finger injuries were almost three times higher among males.



**Figure 24: Adjusted disabling injury claim rates (per 100 person-years) for non-COVID claims by injured parts of body and gender, Alberta, 2020**

Source: WCB data, prepared by Labour and Immigration

Injuries to eyes, fingers, feet, and hands decreased with age (Figure 25). Injuries to ears, body trunk and multiple body parts increased with age. Head injuries were also most cited in youth (0.24 per 100 person-years worked).



**Figure 25: Adjusted disabling injury claim rates (per 100 person-years) for non-COVID claims by injured parts of body and age group, Alberta, 2020**

Source: WCB data, prepared by Labour and Immigration

## Occupational fatalities

In 2020, 130 workers were fatally injured from workplace injuries or illnesses. Of these, two workers lost their lives due to COVID-related illness. This section will present fatality highlights based on non-COVID-19 related injuries.

Of fatalities from non-COVID-19 related injuries (Figure 26 and Appendix C – Figure C6 and Tables C10 and C11):

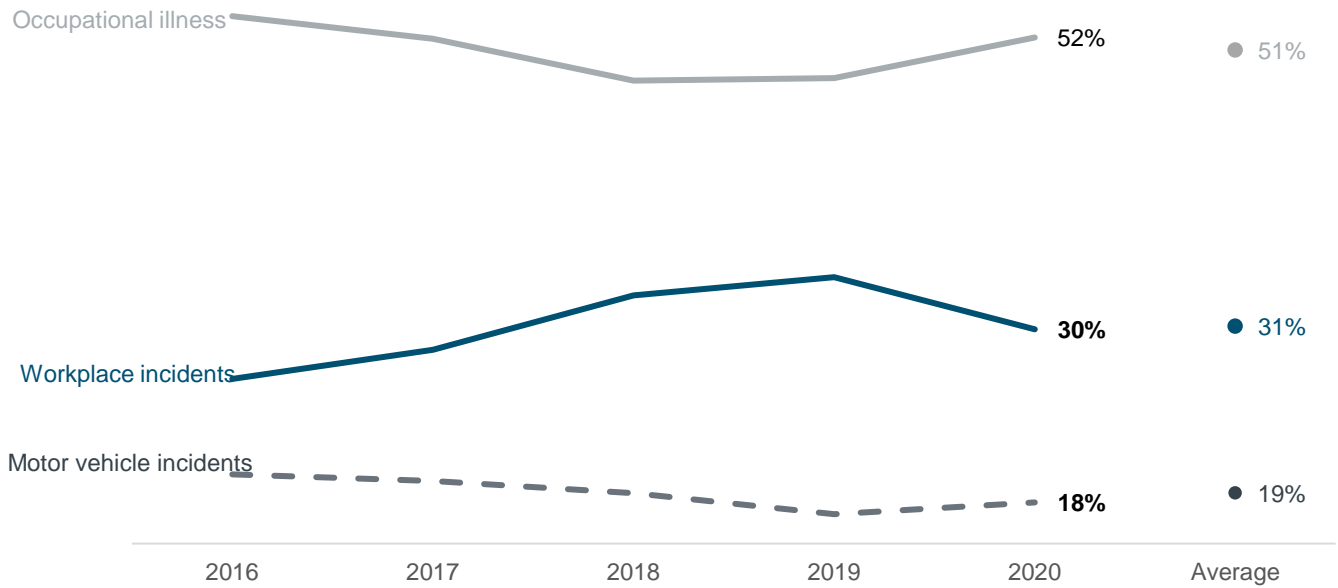
- Fifty-two per cent were from occupation illnesses.
- Thirty per cent were from workplace incidents.<sup>19</sup>
- Eighteen per cent were from motor vehicle incidents.

Occupational adjusted fatality rates have increased over the past three years, with the rate in 2020 being the highest in the last ten years (Figure 27). Although the number of person-years decreased with the smaller workforce in 2020, the number of occupational fatalities was similar to prior years.

<sup>19</sup> Workplace incident is when an injury occurred in a workplace. It doesn't include occupational illnesses or motor vehicle incidents.

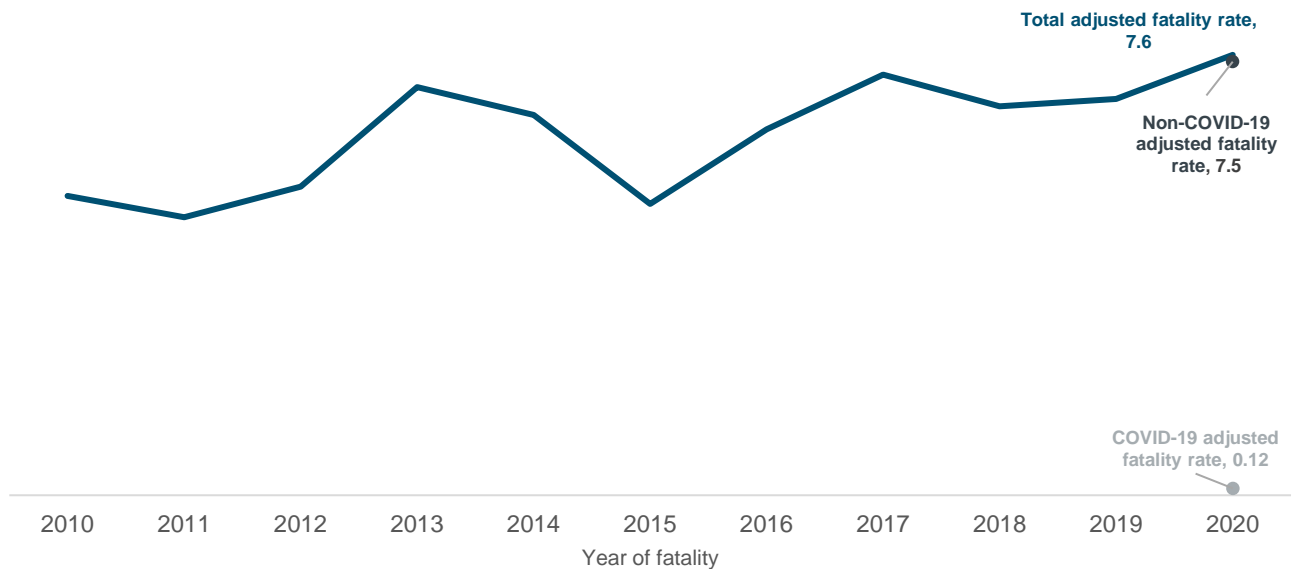
Trends based on the proportion of occupational fatalities from the past five years (Figure 26 and Appendix C – Figure C6 and Tables C10 and C11) show:

- Occupational illnesses continue to be the leading cause of fatalities.
- Injuries at the workplace increased until 2020.
- Motor vehicle incidents decreased until 2020.



**Figure 26: Per cent of occupational fatalities (based on year of death) by category, Alberta, 2016-2020**

Source: WCB data, prepared by Labour and Immigration



**Figure 27: Occupational adjusted fatality rates (per 100,000 person-years) by year of death, Alberta, 2010-2020**

Source: WCB data, prepared by Labour and Immigration

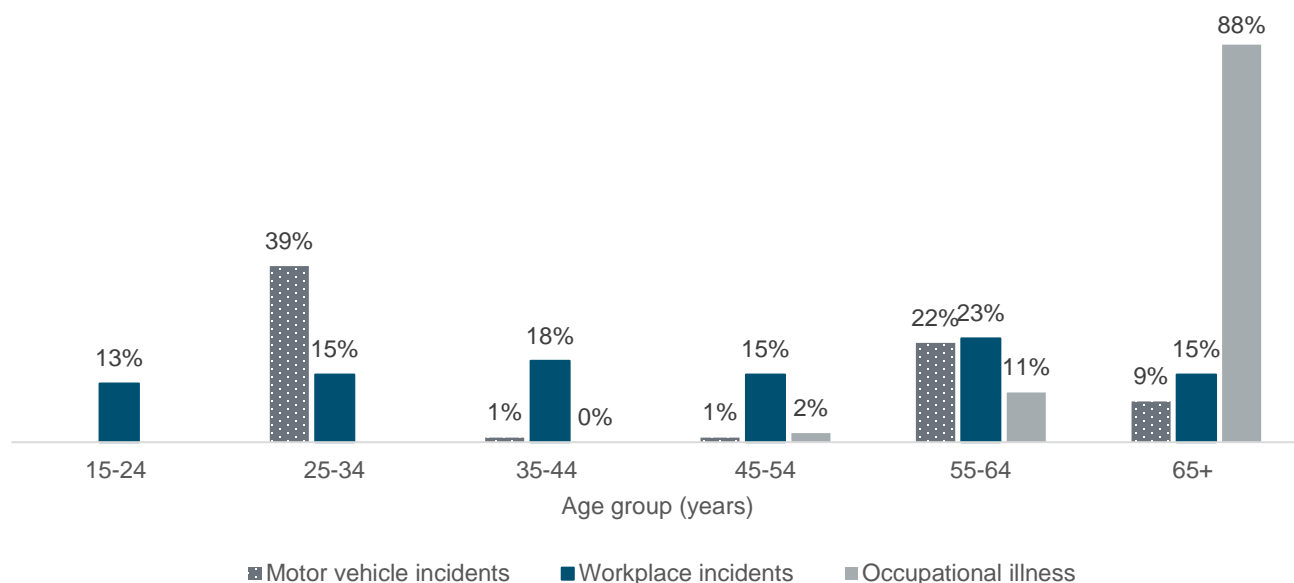
In 2020, asbestosis and mesothelioma were the leading types of occupational illness fatalities and made up 42 per cent of fatality claims, compared to 51 per cent in 2019. Alberta OHS conducts asbestos inspections in response to notification of projects. Industry and commercial construction and petrochemicals manufacturing industries had the most occupational illness fatalities from asbestosis and mesothelioma combined (11 per cent each).

Thirty-three per cent of workplace incident fatalities were from falls. Of these fatalities:

- The majority (62 per cent) fell to a floor, walkway or other surface.
- Almost one in three (31 per cent) involved falls from a ladder.
- Over one in three (38 per cent) were workers in the trades, transport and equipment operator occupations.

### Occupational fatality by age groups

The categories of occupational fatalities varied across age groups. Youth (aged 15-24) were more likely to have occupational fatalities due to workplace incidents, while older workers (aged 65 and older) were more likely to experience fatalities from occupational illness (Figure 28 and Appendix C – Table C12). Due to the nature and long latency of occupational illness, it would be expected to see higher proportions in older workers. Workers aged 25-34 had the highest percentage of motor vehicle incidents; this is consistent with 2019’s findings.



**Figure 28: Per cent of occupational fatalities (based on year of death) within fatality categories by age group, Alberta, 2020**

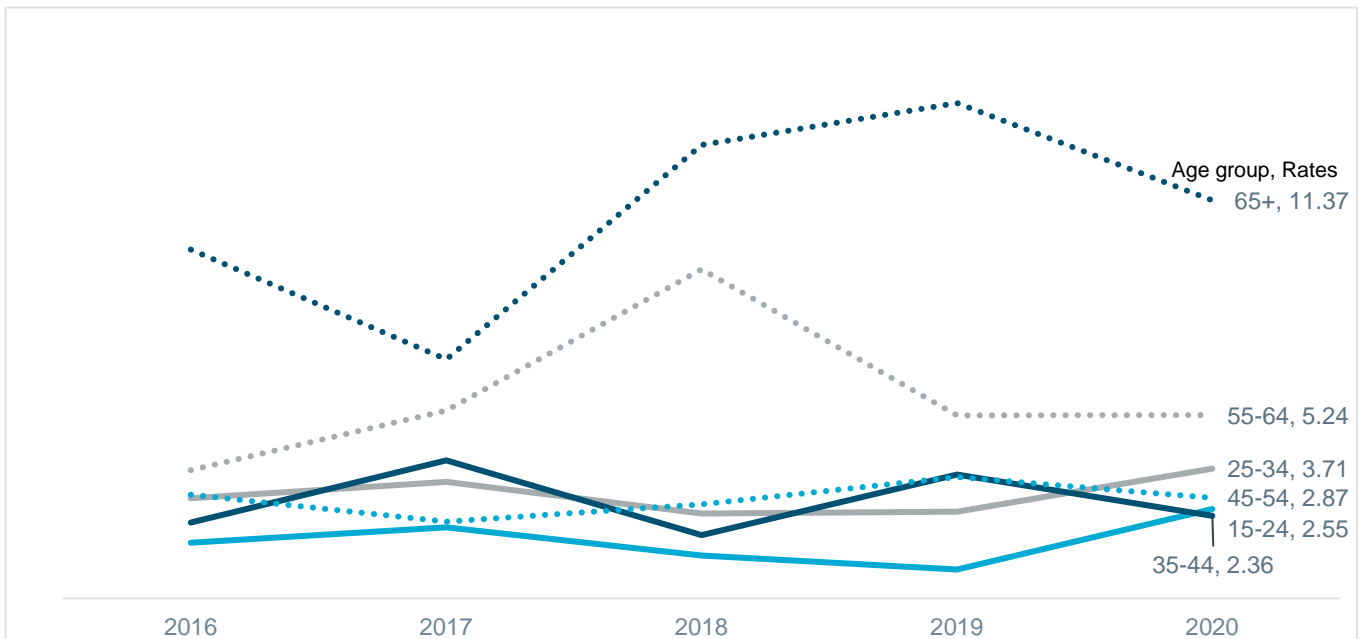
Source: WCB data, prepared by Labour and Immigration

From 2016 to 2020, age differences of occupational fatalities from workplace traumatic incidents or motor vehicle incidents (Figure 29) showed:

- Fatalities in workers aged 35-44 decreased the most in 2020 (33 per cent from 2019).
- Youth were the least affected.
- Adjusted fatality rates increased only in the two youngest age groups in 2020 (aged 15-24 and 25-34).

In workers under 35 years, the increase in the adjusted fatality rate occurred mostly in the construction and construction trade services sector (60 per cent). The majority of work-related fatalities in workers under 35 were from workplace incidents (55 per cent).

Although youth are at lower risk for work-related fatalities than older workers, they are at higher risk for workplace injuries (see the Injured workers: Age and gender differences section).



**Figure 29: Adjusted fatality rate (per 100,000 person-years) due to workplace traumatic incidents or motor vehicle incidents by age group, Alberta, 2016-2020**

To better reflect current workplace hazards, occupational illness fatalities are not represented in Figure 29.

Source: WCB data, Statistics Canada's Labour Force Survey (2020 Historical Review), prepared by Labour and Immigration.

### Occupational fatality rates in industry sectors

As work activities and environments vary among workplace settings, occupational injuries and fatalities also vary. In 2020, the highest adjusted fatality rate was in the agriculture and forestry sector (28.78 per 100,000 workers), with over half relating to motor vehicle incidents (57 per cent). Fatality data across industry sectors (Appendix C – Figure C7 and Table C13) shows:

- The agriculture and forestry and the construction and construction trade services sectors are the only sectors with a continuous increase in adjusted fatality rates since 2018.
- From 2019 to 2020, the largest adjusted fatality rate decrease occurred in the transportation, communications and utilities sector (21 per cent).
- The business, personal and professional services sector had the lowest adjusted fatality rates between 2016 to 2020 and was the only sector with a decreasing trend.

The adjusted fatality rate for the provincial and municipal government, education and health sector was lower than the provincial rate, even though this sector had the highest disabling injury claim rate and lost-time injury claim rate among all sectors.

While the agriculture and forestry sector had the highest increased adjusted fatality rate, this sector also had the second-highest disabling injury and lost-time claim rates.

Although mining and petroleum had an increase in adjusted fatality rate in 2020, the mining and petroleum development sector had the lowest injury claim rates across all sectors.

### Occupational fatalities by occupation

In 2020, transport truck drivers (13 per cent) and firefighters (10 per cent) had the highest proportion of fatalities. This trend is consistent since 2017.



## Prevention initiative

Since 2019, Alberta OHS introduced a prevention initiative that outlines priorities for the OHS system. Initiatives are more likely to succeed when resources are focused on specific issues, and collaborating with system partners is a key. The purpose of the initiative is to raise awareness of illness and injury areas where workers are most at risk or mostly affected. Based on evidence and consultation, the priorities are:

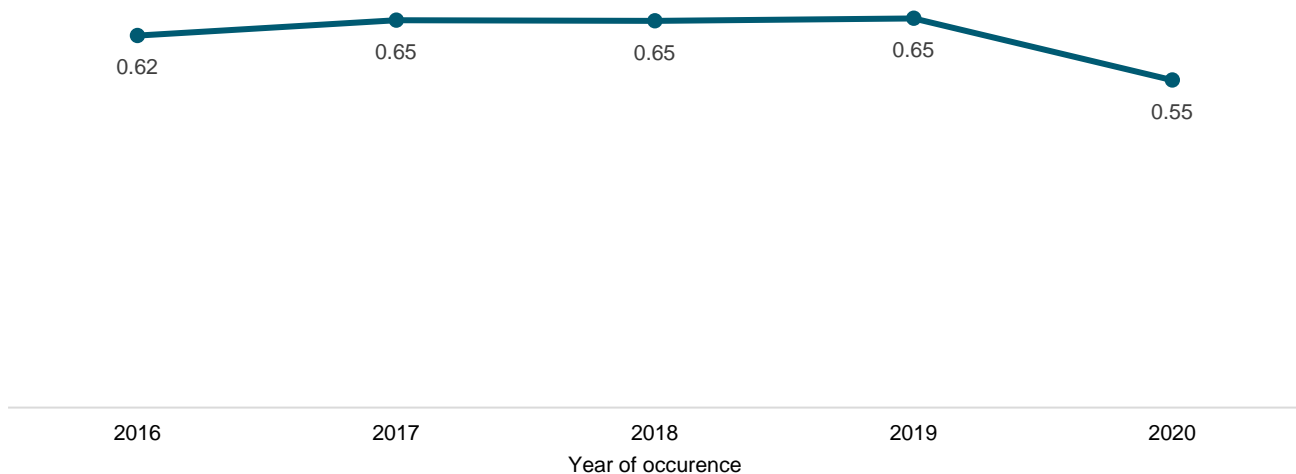
- musculoskeletal disorders due to repetitive use, overexertion and heavy lifting;
- slips, trips and falls; and
- psychosocial hazards (e.g., workplace violence, harassment and mental health).

## Musculoskeletal injuries

MSIs remain one of the most common occupational injuries and illnesses for Alberta workers in all sectors. In 2020, these injuries accounted for 24 per cent of total provincial injury claims.

From 2016 to 2020, of disabling injury and lost-time claims related to MSI (Figure 30):

- The rate remained stable between 2017 and 2019 and then declined in 2020.
- The provincial and municipal government, education and health services sector has the highest disabling injury claim rate of MSIs based on a five-year average.
- The provincial and municipal government, education and health services sector had the highest lost-time claim rate.
- Nurse aides and orderlies had the most MSI claims (eight per cent).
- Overexertion was the most common (83 per cent) cause of injury, followed by repetitive motion injury.



**Figure 30: Musculoskeletal disabling injury claim rate, Alberta, 2016-2020**

Source: WCB data, prepared by Labour and Immigration

## Slips, trips and falls

In 2020, injuries related to slips, trips and falls account for 22 per cent of injuries. Of disabling injuries related to slips, trips and falls injuries from 2016 to 2020:

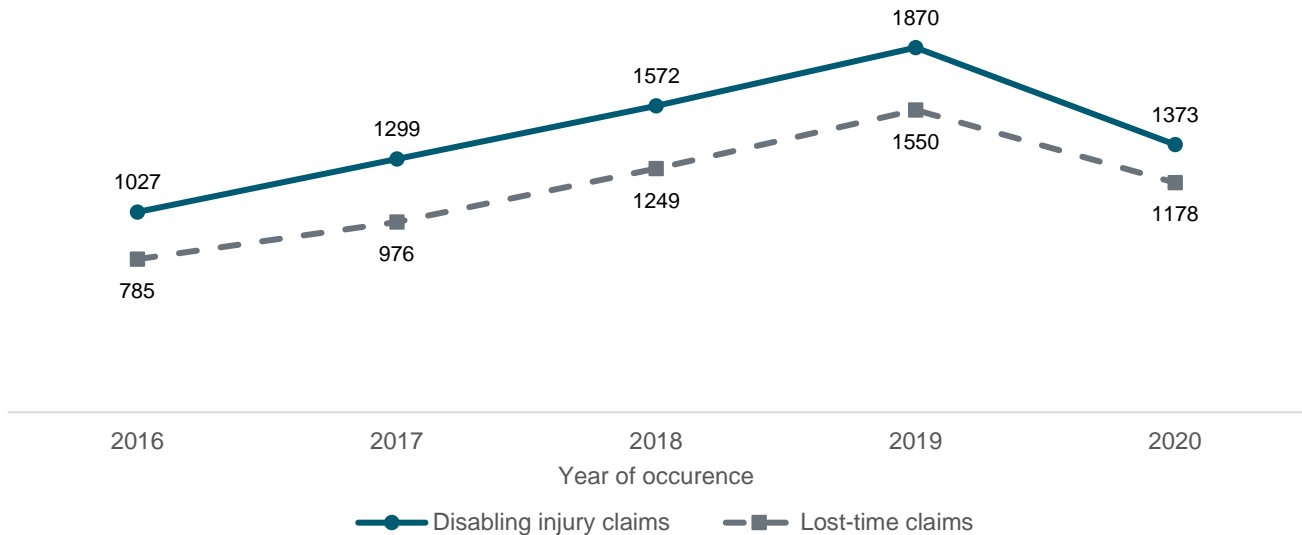
- The majority were due to workers falling (83 per cent), with nearly 57 per cent of falls occurring to a floor, walkway or other surface.
- Twenty-three per cent occurred in the provincial and municipal government, education and health services sector, followed by another 20 per cent in the construction and construction trade services sector.
- Transport truck drivers (eight per cent) had the most slips, trips and falls injury claims.

## Psychosocial hazards

Psychosocial hazards are any hazards that affect the mental well-being or mental health of a worker and may lead to physical effects by overwhelming the individual's coping mechanisms.<sup>20</sup> These hazards can result in physical and/or psychological illness and injury outcomes.<sup>21</sup> In 2020, workplace violence and harassment accounted for four per cent of all injury claims.

Of workplace violence and harassment related injury claims from 2016 to 2020 (Figure 31):

- There was an 82 per cent increase from 2016 to 2019, followed by a 27 per cent decline in 2020.
- The majority occurred in the provincial and municipal government, education and health services sector (78 per cent).
- Nurse aides and orderlies had the most injury claims (17 per cent).
- Female workers and those 25 to 34 years of age experienced the highest percentage of these injuries (62 per cent and 30 per cent, respectively).



**Figure 31: Number of workplace violence and harassment claims, Alberta, 2016-2020**

Source: WCB data, prepared by Labour and Immigration

## Government Strategic Direction

Some industries, occupations and age groups have consistently higher illness, injury and fatality rates. Given the recent decline in the working population and the impact of the COVID-19 pandemic, these high injury claim rates can have a more noticeable influence on the economy, businesses and families. Knowledge gained from exploring these trends can lead to strategies aimed at enhancing health and safety systems, as well as prevention measures to reduce worker injuries and fatalities – even in changing work environments.

Proactive OHS inspection initiatives have been in place within various sectors among different types of employers and vulnerable worker populations. These initiatives have resulted in workplace inspections for dangerous conditions to monitor compliance with OHS legislative requirements and promote awareness of the importance of the employers' internal responsibility systems. OHS also reactively responds to concerns from employers, workers and the general public.

The next steps to addressing the issues highlighted in this report may include increasing awareness, developing educational resources and exploring more focused industry-specific proactive initiatives for industries with consistently high injury claim rates. Findings can be shared with internal and external stakeholders, including the Alberta OHS System Prevention Initiative partners, associated working groups, Certifying Partner organizations and labour groups among others.

<sup>20</sup> Psychosocial hazards. Work Safe Alberta Occupational Health and Safety Teacher Resources. Government of Alberta. <https://ohs-pubstore.labour.alberta.ca/download/sample/287>

<sup>21</sup> The 2013 to 2017 Alberta WCB data on assault and violence disabling injury incidents in the fuel and convenience industry reported the top three injury outcomes from these incidents were anxiety (17 per cent), bruises/contusions (16 per cent) and cuts/lacerations (10 per cent).

## Conclusion

The Workplace Injury, Illness and Fatality Statistics: Provincial Summary 2020 prepared by Labour and Immigration provides an overview of workplace injury and fatality trends in Alberta. Industry and occupation trends, as well as illness and injury characteristics, are presented in the report. This information will be considered by Labour and Immigration in planning for new and ongoing proactive programs, and will also be considered by Alberta's OHS System Prevention Initiative. The information gathered from this and other similar reports help to focus Alberta OHS inspection initiatives in areas that can have the most benefit.

# Appendix A

## Terms and definitions

**Adjusted fatality rate** adjusts for delays in reporting and claim processing. The number of accepted fatalities is limited to fatalities processed within the same calendar year as the fatality. The adjusted fatality rate is calculated by dividing the number of fatalities by the person-years estimate and multiplying the result by 100,000. The result is expressed as fatalities per 100,000 person-years. Fatality rates in this report include fatalities at Alberta work sites that are under either federal or provincial jurisdiction.

**Adjusted injury claim rate** is calculated using a different methodology and different information than lost-time claim, disabling injury, and fatality rates. The population is adjusted to reflect the proportions of a reference population. The adjustments are made to account for the varying population sizes within specific groups (for example, age groups or gender). The reference population used is the 2019 Labour Force Survey for Alberta. The number of injury or fatality claims from workers and the adjusted person-years is used to calculate the rate.

**Injury claim rates** are the number of claims per 100 person-years worked. The injury claim rate is calculated by dividing the number of injury claims by the person-years estimate and multiplying the result by 100.

**Fatality** means the death of a worker – caused by a work-related incident or exposure – that was accepted by WCB for compensation. This report includes fatalities at Alberta work sites that are under either federal or provincial jurisdiction.

**Psychological injury claims** consider when there is a confirmed psychological or psychiatric diagnosis as defined in the most current version of the Diagnostic and Statistical Manual of Mental Disorders (DSM) and the condition results from one of the following:

- organic brain damage;
- an emotional reaction to a work-related physical injury;
- an emotional reaction to a work-related treatment process;
- traumatic onset psychological injury or stress; or
- chronic onset psychological injury or stress.

# Appendix B

## Data considerations

The number of injuries is based on claims by the worker. If a claim is not filed, then there is a gap in the number of injuries that occurred in the workplace.

This report only covers employers registered with WCB.

Not all worker groups are covered by WCB (such as self-employed doctors); these groups are not included in the data.

Industry findings are based on WCB industry classifications, not the North American Industry Classification System (NAICS).

After January 1, 2016, employers in farming and ranching industries with waged, non-family member workers were required to have WCB coverage. This was no longer required as of January 31, 2020.

Workplace injuries and illnesses reported are based on WCB's classification system.

Person-years worked are estimated and audited by WCB. This is a measure of the length of workers' exposure within a workplace and is not equivalent to the number of workers.

Due to administrative processing times, the year WCB accepts a fatality claim may not be the same year the fatality occurred. In addition, the number of fatalities by death year and its associated adjusted fatality rate are calculated by considering claims accepted as of December 31 of the death year. In this report, fatality statistics are based on the year of death. Fatality data based on year of acceptance is shown in Appendix C.

Percentages displayed in tables may not total to 100 due to rounding.

Effective April 1, 2018, the *Workers' Compensation Act* (WCA) Section 24.2(3) was added to introduce presumptive psychological injury coverage for all workers with a diagnosis of psychological injury and exposure to a traumatic event at work<sup>22</sup>. This could have a major impact on the results for 2018 and 2019.

This report presents administrative WCB data, and this data can change based on the processing cycle of a claim. As such, data presented in this report may not be comparable to previous or future reports.

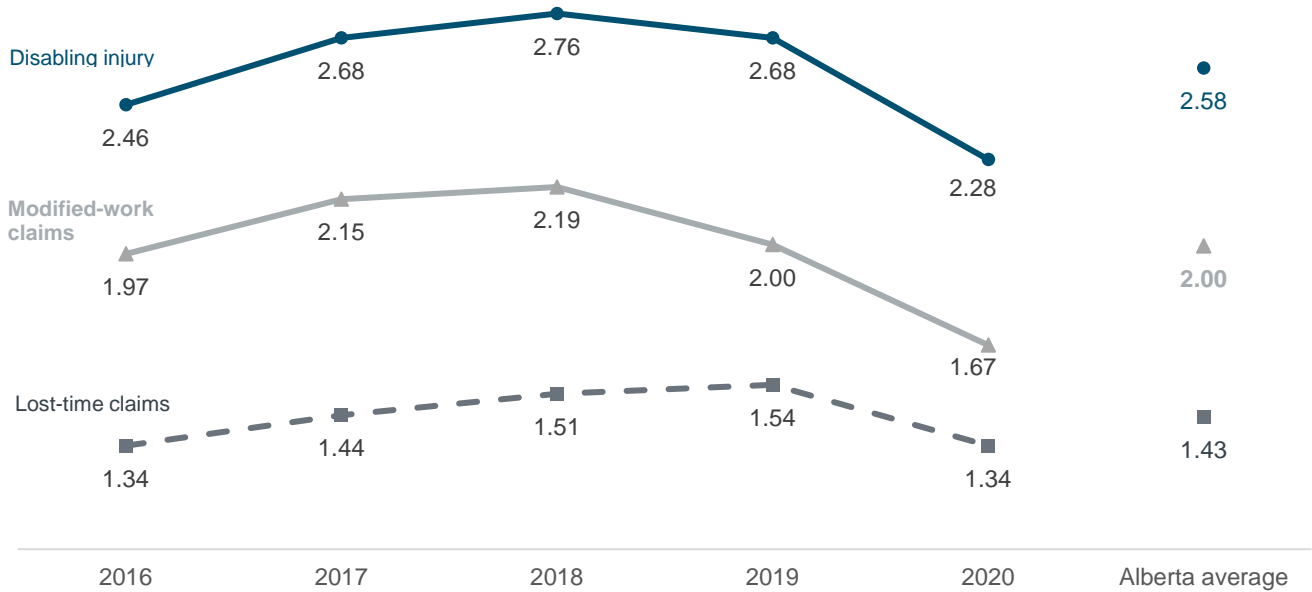
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<sup>22</sup> WCB Policy [https://www.wcb.ab.ca/assets/pdfs/public/policy/manual/printable\\_pdfs/0301\\_2\\_app6.pdf](https://www.wcb.ab.ca/assets/pdfs/public/policy/manual/printable_pdfs/0301_2_app6.pdf)

# Appendix C

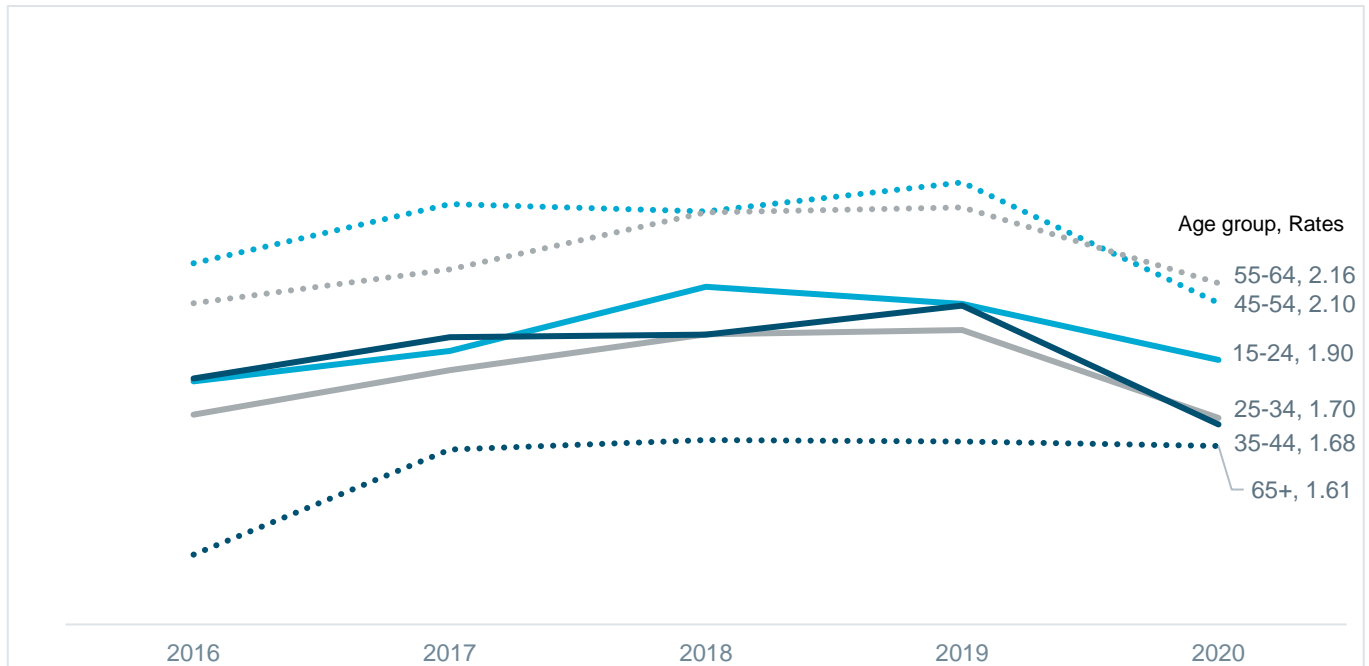
## Supplemental Data

### Figures



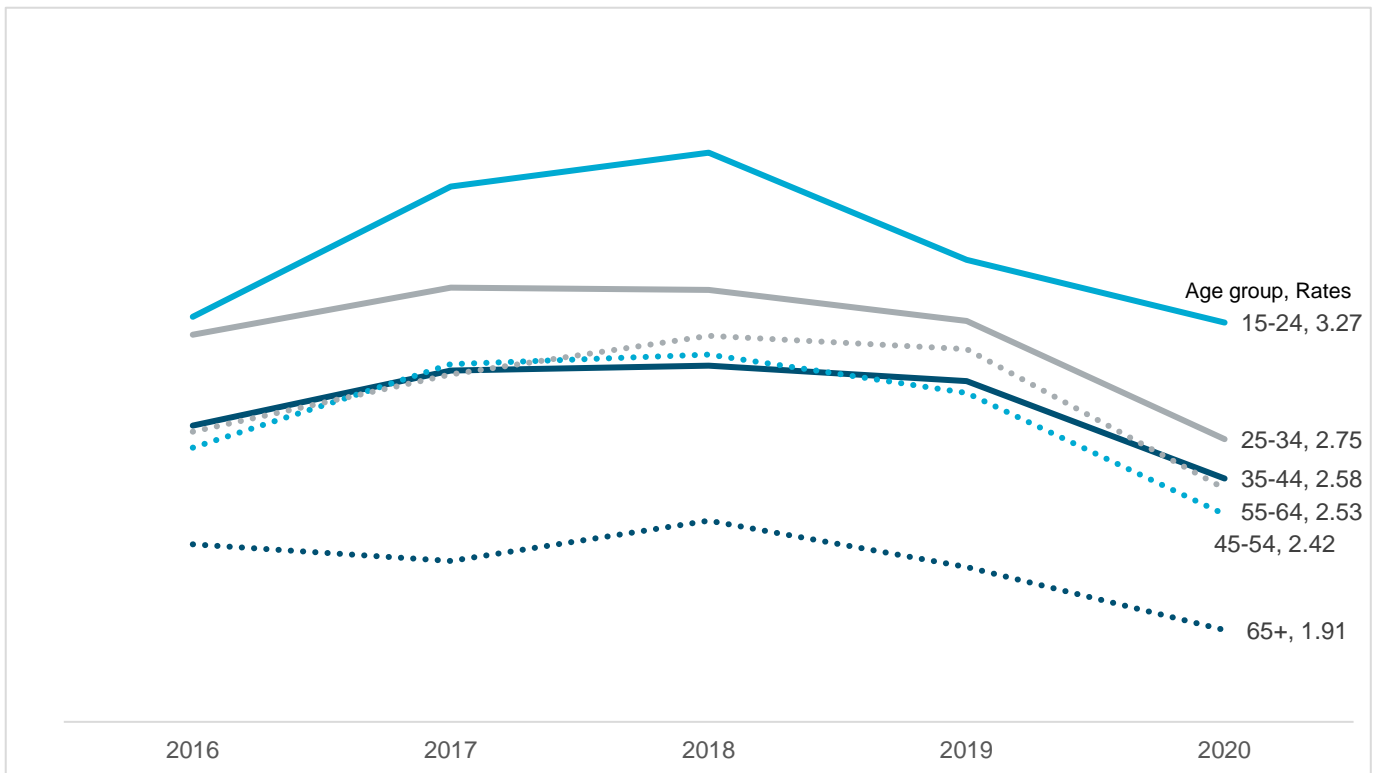
**Figure C1: Injury claim rates (per 100 person-years), Alberta, 2016-2020**

Source: WCB data, prepared by Labour and Immigration

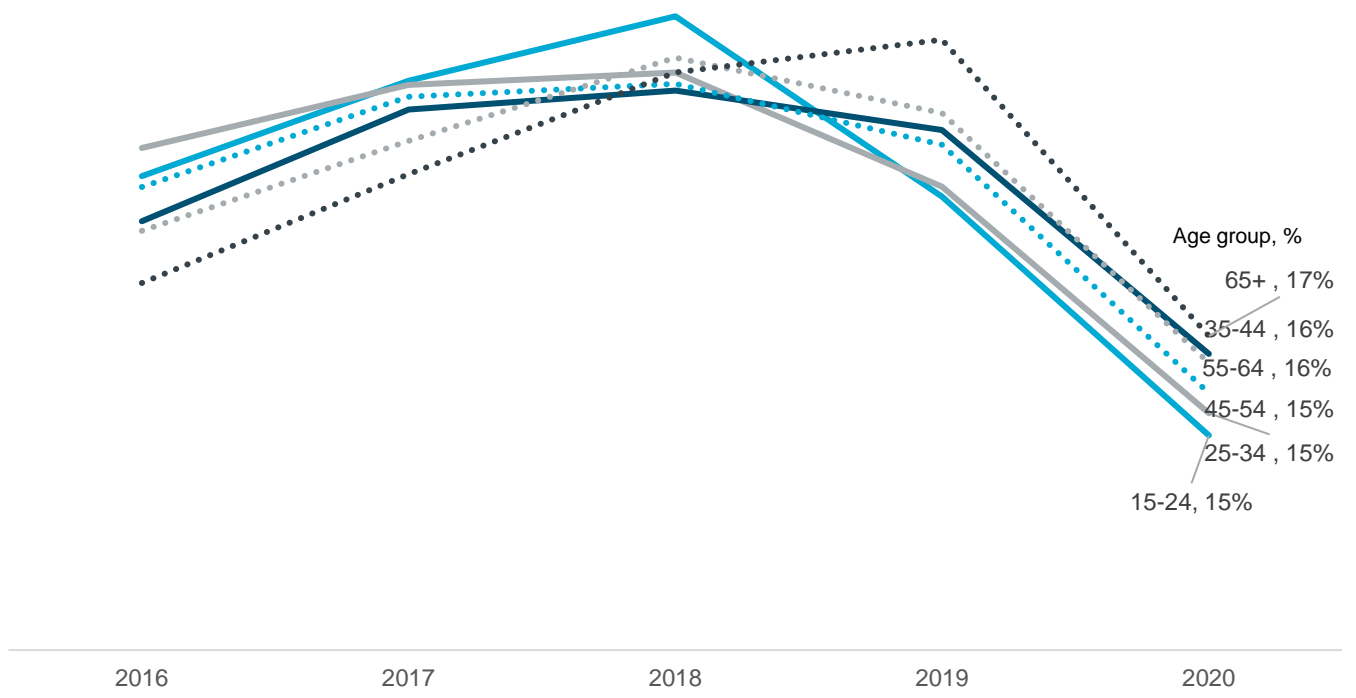


**Figure C2: Adjusted disabling injury claim rate (per 100 person-years) by age group, females, Alberta, 2016-2020**

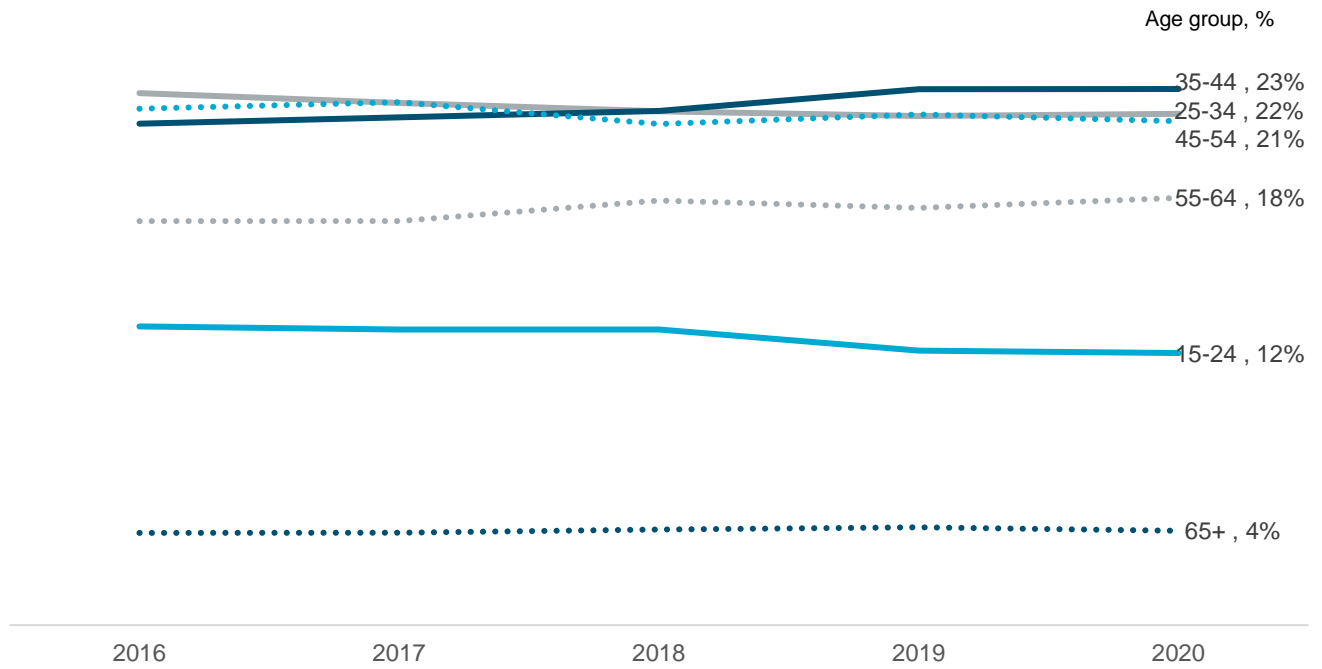
Data Source: WCB Data, Statistics Canada's Labour Force Survey (2020 Historical Review), prepared by Labour and Immigration



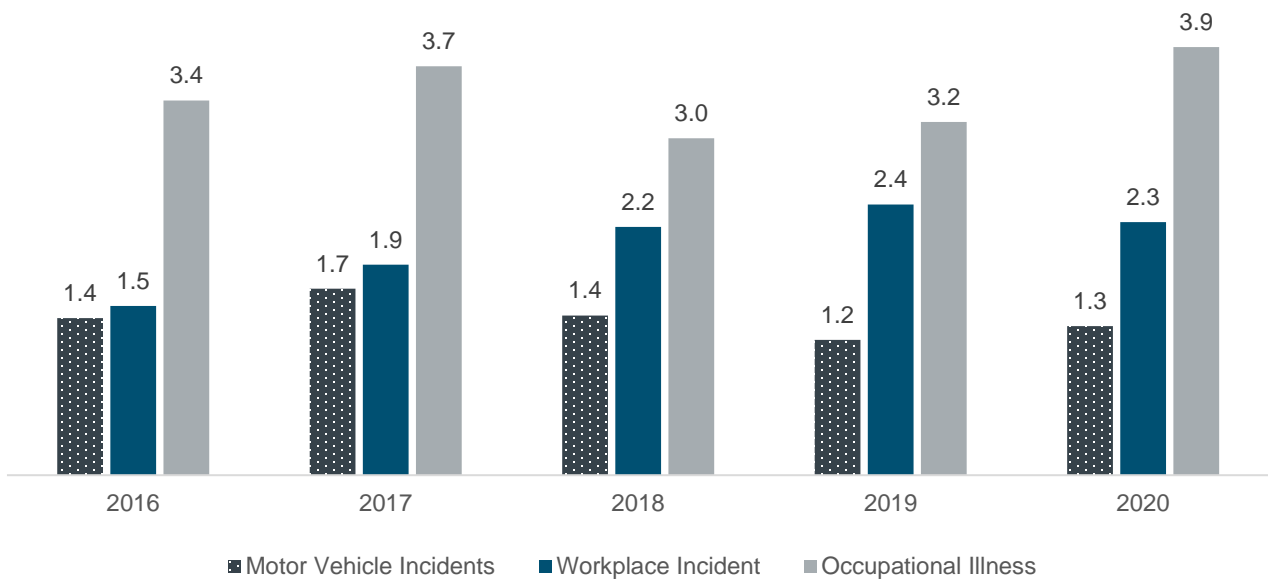
**Figure C3: Adjusted disabling injury claim rate (per 100 person-years) by age group, males, Alberta, 2016-2020**  
 Data Source: WCB Data, Statistics Canada's Labour Force Survey (2020 Historical Review); prepared by Labour and Immigration



**Figure C4: Percentage of modified non-COVID-19 claims by age group, Alberta, 2016-2020**  
 Source: WCB data, prepared by Labour and Immigration

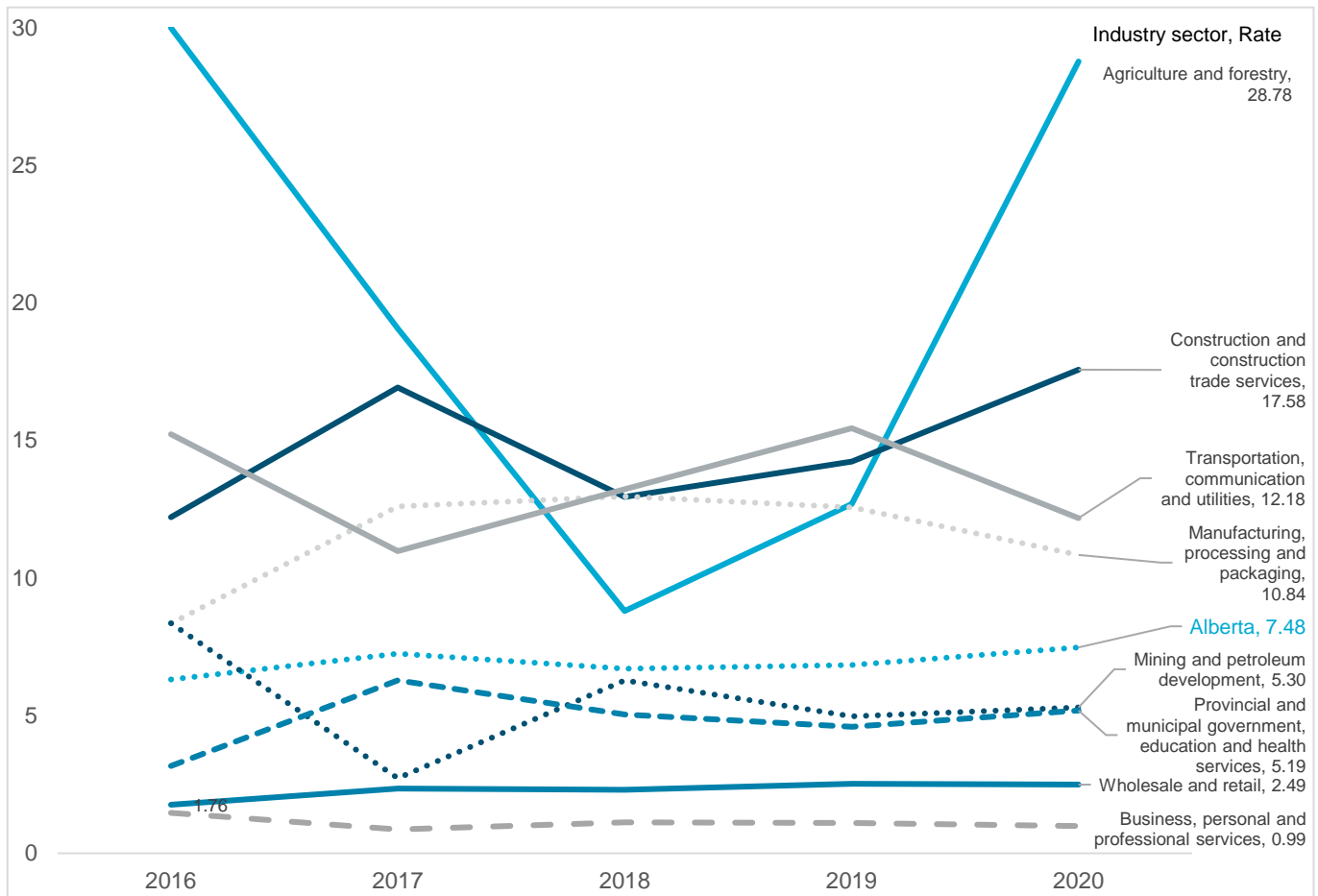


**Figure C5: Percentage of lost-time non-COVID-19 claims by age group, Alberta, 2016-2020**  
 Source: WCB data, prepared by Labour and Immigration



**Figure C6: Adjusted fatality rates (per 100,000 person-years) by type of incident, Alberta, 2016-2020**  
 Source: WCB Data, Statistics Canada's Labour Force Survey (2020 Historical Review), prepared by Labour and Immigration





**Figure C7: Adjusted fatality rate (per 100,000 person-years) by major industry sector, Alberta, 2016-2020**

Source: WCB Data, prepared by Labour and Immigration

## Tables

**TABLE C1: INJURY CLAIMS AND INJURY CLAIM RATES (PER 100 PERSON-YEARS) BY MAJOR INDUSTRY SECTOR, ALBERTA, 2016-2020**

Major industry sector	Measure	Year					Yearly change (%)	
		2016	2017	2018	2019	2020	2018-2019	2019-2020
Agriculture and forestry	Person-years	16,668	20,972	22,716	23,640	24,324	4.1↑	2.9↑
	Lost-time claims	457	477	496	575	441	15.9↑	23.3↓
	Lost-time injury claim rate	2.74	2.27	2.18	2.43	1.81	11.5↑	25.5↓
	Modified-work claims	352	395	419	522	477	24.6↑	8.6↓
	Modified-work claims injury claim rate	2.11	1.88	1.84	2.21	1.96	20.1↑	11.3↓
	Disabling injury claims	577	626	672	838	706	24.7↑	15.8↓
	Disabling injury claim rate	3.46	2.98	2.96	3.54	2.90	19.6↑	18.1↓
Business, personal and professional services	Person-years	340,488	346,442	355,449	361,540	302,768	1.7↑	16.3↓
	Lost-time claims	3,371	3,624	3,755	3,764	2,435	0.2↑	35.3↓
	Lost-time injury claim rate	0.99	1.05	1.06	1.04	0.80	1.9↓	23.1↓
	Modified-work claims	3,983	4,370	4,369	4,079	2,457	6.6↓	39.8↓
	Modified-work claims injury claim rate	1.17	1.26	1.23	1.13	0.81	8.1↓	28.3↓
	Disabling injury claims	5,334	5,864	6,004	5,865	3,657	2.3↓	37.6↓
	Disabling injury claim rate	1.57	1.69	1.69	1.62	1.21	4.1↓	25.3↓
Construction and construction trade services	Person-years	343,838	330,736	331,966	316,176	295,862	4.8↓	6.4↓
	Lost-time claims	3,982	4,091	4,396	4,084	3,124	7.1↓	23.5↓
	Lost-time injury claim rate	1.16	1.24	1.32	1.29	1.06	2.3↓	17.8↓
	Modified-work claims	7,445	7,731	7,860	6,565	4,729	16.5↓	28.0↓
	Modified-work claims injury claim rate	2.17	2.34	2.37	2.08	1.60	12.2↓	23.1↓
	Disabling injury claims	8,903	9,252	9,486	8,366	6,299	11.8↓	24.7↓
	Disabling injury claim rate	2.59	2.80	2.86	2.65	2.13	7.3↓	19.6↓
Manufacturing, processing and packaging	Person-years	167,551	174,476	177,349	174,954	156,774	1.4↓	10.4↓
	Lost-time claims	1,805	2,055	2,274	2,190	1,705	3.7↓	22.1↓
	Lost-time injury claim rate	1.08	1.18	1.28	1.25	1.09	2.3↓	12.8↓
	Modified-work claims	4,752	5,055	5,236	4,925	3,644	5.9↓	26.0↓
	Modified-work claims injury claim rate	2.84	2.90	2.95	2.82	2.32	4.4↓	17.1↓
	Disabling injury claims	5,258	5,661	5,951	5,766	4,331	3.1↓	24.9↓
	Disabling injury claim rate	3.14	3.24	3.36	3.30	2.76	1.8↓	16.4↓

Mining and petroleum development	Person-years	143,525	146,648	143,240	140,747	132,019	1.7↓	6.2↓
	Lost-time claims	474	624	629	618	495	1.7↓	19.9↓
	Lost-time injury claim rate	0.33	0.43	0.44	0.44	0.37	0.0	15.9↓
	Modified-work claims	1,120	1,674	1,725	1,430	1,046	17.1↓	26.9↓
	Modified-work claims injury claim rate	0.78	1.14	1.20	1.02	0.79	15.0↓	22.5↓
	Disabling injury claims	1,261	1,841	1,900	1,671	1,259	12.1↓	24.7↓
	Disabling injury claim rate	0.88	1.26	1.33	1.19	0.95	10.5↓	20.2↓
Provincial and municipal government, education and health services	Person-years	346,586	350,074	357,102	370,074	347,002	3.6↑	6.2↓
	Lost-time claims	7,433	8,172	8,828	9,780	8,117	10.8↑	17.0↓
	Lost-time injury claim rate	2.14	2.33	2.47	2.64	2.34	6.9↑	11.4↓
	Modified-work claims	7,313	8,147	8,593	8,479	6,594	1.3↓	22.2↓
	Modified-work claims injury claim rate	2.11	2.33	2.41	2.29	1.90	5.0↓	17.0↓
	Disabling injury claims	10,315	11,419	12,176	12,945	10,416	6.3↑	19.5↓
	Disabling injury claim rate	2.98	3.26	3.41	3.50	3.00	2.6↑	14.3↓
Transportation, communication and utilities	Person-years	137,836	136,595	143,579	142,412	131,337	0.8↓	7.8↓
	Lost-time claims	2,018	2,317	2,658	2,716	2,020	2.2↑	25.6↓
	Lost-time injury claim rate	1.46	1.70	1.85	1.91	1.54	3.2↑	19.4↓
	Modified-work claims	3,191	3,444	3,685	3,343	2,441	9.3↓	27.0↓
	Modified-work claims injury claim rate	2.32	2.52	2.57	2.35	1.86	8.6↓	20.9↓
	Disabling injury claims	3,875	4,337	4,730	4,643	3,453	1.8↓	25.6↓
	Disabling injury claim rate	2.81	3.18	3.29	3.26	2.63	0.9↓	19.3↓
Wholesale and retail	Person-years	340,068	340,225	345,940	356,358	320,643	3.0↑	10.0↓
	Lost-time claims	4,498	4,751	5,000	5,385	4,515	7.7↑	16.2↓
	Lost-time injury claim rate	1.32	1.40	1.45	1.51	1.41	4.1↑	6.6↓
	Modified-work claims	7,867	8,699	8,947	8,254	6,891	7.7↓	16.5↓
	Modified-work claims injury claim rate	2.31	2.56	2.59	2.32	2.15	10.4↓	7.3↓
	Disabling injury claims	8,978	9,902	10,307	10,224	8,568	0.8↓	16.2↓
	Disabling injury claim rate	2.64	2.91	2.98	2.87	2.67	3.7↓	7.0↓

Source: WCB data, prepared by Labour and Immigration

**TABLE C2: DISABLING INJURIES BY GENDER AND MAJOR INDUSTRY SECTOR, ALBERTA, 2020**

Major Industry Sector	Females		Males		Total
	Number	Per cent	Number	Per cent	
Agriculture and forestry	214	30	492	70	706
Business, personal and professional services	1,974	54	1,683	46	3,657
Construction and construction trade services	504	8	5,795	92	6,299
Manufacturing, processing and packaging	769	18	3,562	82	4,331
Mining and petroleum development	107	8	1,152	92	1,259
Provincial and municipal government, education and health services	7,052	68	3,362	32	10,414
Transportation, communication and utilities	529	15	2,923	85	3,452
Wholesale and retail	3,457	40	5,109	60	8,566

Data Source: WCB Data, prepared by Labour and Immigration

**TABLE C3: LOST-TIME CLAIMS, ADJUSTED INJURY CLAIM RATES (PER 100 PERSON-YEARS) AND EMPLOYMENTS BY GENDER, ALBERTA, 2020**

Gender	Lost-time claims	Per cent	People in employment	Adjusted lost-time claim injury rate
Females	9,697	42	978,500	1.23
Males	13,161	58	1,151,200	1.42
<b>Total</b>	<b>22,859</b>	<b>100</b>	<b>2,129,700</b>	<b>1.34</b>

Data Source: WCB Data, prepared by Labour and Immigration

**TABLE C4: ADJUSTED LOST-TIME CLAIM INJURY CLAIM RATES (PER 100 PERSON-YEARS) BY GENDER AND AGE GROUPS, ALBERTA, 2016-2020**

Age Group	Males					Females				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
15-24 years	1.44	1.65	1.69	1.58	1.55	1.03	1.06	1.21	1.23	1.14
25-34 years	1.39	1.49	1.53	1.57	1.36	1.03	1.10	1.17	1.26	1.08
35-44 years	1.38	1.45	1.52	1.56	1.36	1.13	1.20	1.28	1.36	1.09
45-54 years	1.47	1.68	1.73	1.68	1.40	1.44	1.57	1.51	1.71	1.42
55-64 years	1.67	1.78	1.93	1.94	1.57	1.40	1.46	1.62	1.64	1.54
65 years and over	1.70	1.62	1.71	1.59	1.35	0.89	1.09	1.14	1.18	1.22
<b>Total</b>	<b>1.47</b>	<b>1.59</b>	<b>1.66</b>	<b>1.65</b>	<b>1.42</b>	<b>1.18</b>	<b>1.27</b>	<b>1.34</b>	<b>1.48</b>	<b>1.23</b>

Data Source: WCB Data, prepared by Labour and Immigration

**TABLE C5: DISABLING INJURIES BY TYPE OF INJURY OR ILLNESS, ALBERTA, 2016-2020**

Type of injury	2016		2017		2018		2019		2020 (Non-COVID-19)	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Bodily reaction or exertion	20,919	46	22,428	45	22,897	44	23,257	46	18,283	47
Overexertion	10,648	51	10,854	48	11,088	48	11,232	48	8,677	47
Bodily reaction	5,952	28	6,349	28	6,595	29	6,824	29	5,419	30
Repetitive motion	2,099	10	2,475	11	2,443	11	2,611	11	1,908	10
Other bodily reaction or exertion	2,220	11	2,750	11	2,771	12	2,590	11	2,279	12
Contact with objects or equipment	11,041	24	11,811	24	12,044	23	11,208	22	8,167	21
Struck by object	5,507	50	5,758	49	5,856	49	5,375	48	3,805	47
Struck against object	2,101	19	2,153	18	2,089	17	2,040	18	1,423	17
Caught in object	1,993	18	2,246	19	2,283	19	2,049	18	1,506	18
Rubbed or abraded	353	3	399	3	351	3	335	3	248	3
Other contact with object/equipment	1,087	10	1,255	11	1,465	12	1,409	13	1,185	15
Falls	7,366	16	8,683	18	9,581	19	8,641	17	6,908	18
Fall on same level	4,999	68	5,994	69	6,787	71	5,999	69	4,706	68
Fall to lower level	2,138	29	2,252	26	2,206	23	2,033	24	1,630	24
Other falls	229	3	437	5	588	6	609	7	572	8
Exposure to harmful substances	2,495	6	2,656	5	2,841	5	2,700	5	1,905	5
Transportation accidents	1,774	4	2,053	4	2,138	4	2,107	4	1,507	4
Assaults and violent acts	1,245	3	1,538	3	1,813	4	2,107	4	1,544	4
Assaults and violent acts by person(s)	779	63	973	63	1,169	64	1,507	72	1,037	67
Other assaults and violent acts	466	37	565	37	644	36	600	28	507	33
Fires and explosions	57	<1	63	<1	72	<1	55	<1	56	33
Other events or exposures	290	1	327	1	371	1	447	1	443	<1
Type of event - unknown	0	0	1	<1	0	0	5	<1	128	1
<b>Total</b>	<b>45,187</b>	<b>100</b>	<b>49,560</b>	<b>100</b>	<b>51,757</b>	<b>100</b>	<b>50,527</b>	<b>100</b>	<b>38,941</b>	<b>100</b>

Source: WCB data, prepared by Labour and Immigration

**TABLE C6: DISABLING INJURIES BY THE SOURCE OF INJURY OR ILLNESS, ALBERTA, 2016-2020**

Source of injury	2016		2017		2018		2019		2020 (Non-COVID-19)	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Persons, plants, animals and minerals	13,157	29	14,512	29	15,040	29	15,857	31	12,250	31
Person injured or ill worker	8,910	68	9,878	68	10,209	68	10,431	66	8,195	67
Person other than injured or ill worker	2,809	21	3,077	21	3,333	22	3,901	25	3,108	25
Minerals metallic or nonmetallic (except fuel)	212	2	211	1	192	1	167	1	113	1
Other persons, plants, animals and minerals	1,226	9	1,346	9	1,306	9	1,358	9	834	7
Structures and surfaces	7,816	17	8,983	18	9,960	19	9,090	18	7,184	18
Parts and materials	5,062	11	5,530	11	5,641	11	5,149	10	3,721	10
Containers	5,080	11	5,253	11	5,413	10	5,239	10	4,051	10
Vehicles	3,279	7	3,730	8	3,862	7	3,706	7	2,730	7
Tools, instruments and equipment	4,104	9	4,328	9	4,384	8	4,125	8	3,133	8
Hand tools – non powered	1,959	48	2,081	48	2,242	51	1,958	47	1,455	46
Hand tools – powered	435	11	434	10	429	10	355	9	280	9
Other tools, instruments and equipment	1,710	42	1,813	42	1,713	39	1,812	44	1,398	45
Machinery	1,967	4	2,170	4	2,174	4	2,059	4	1,606	4
Furniture and fixtures	1,560	3	1,637	3	1,610	3	1,603	3	1,081	3
Chemicals and chemical products	440	1	474	1	515	1	464	1	418	1
Other sources	2,722	6	2,942	6	3,158	6	3,230	6	2,606	7
Source of injury – unknown	0	0	1	<1	0	0	5	<1	162	<1
<b>Total</b>	<b>45,187</b>	<b>100</b>	<b>49,560</b>	<b>100</b>	<b>51,757</b>	<b>100</b>	<b>50,527</b>	<b>100</b>	<b>38,941</b>	<b>100</b>

Source: WCB Data, prepared by Labour and Immigration

**TABLE C7: DISABLING INJURIES BY NATURE OF INJURY OR ILLNESS, ALBERTA, 2016-2020**

Nature of injury	2016		2017		2018		2019		2020 (Non-COVID-19)	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Traumatic injuries and disorders	42,165	93	46,175	93	48,093	93	46,506	92	36,040	93
Sprains, strains	23,740	56	25,903	56	26,718	56	26,302	57	20,525	57
Superficial wounds	4,561	11	5,165	11	5,435	11	4,971	11	3,561	10
Open wounds	4,002	9	4,191	9	4,255	9	3,768	8	2,779	8
Fractures and dislocations	3,388	8	3,700	8	3,747	8	3,443	7	2,830	8
Burns	852	2	953	2	982	2	802	2	564	2
Other traumatic injuries and disorders	5,622	13	6,263	14	6,956	14	7,220	16	5,781	16
Systemic illness and disorders	2,109	5	2,468	5	2,296	4	2,337	5	1,685	4
Infectious and parasitic illness	201	<1	84	<1	167	<1	220	<1	32	<1
Neoplasms, tumors and cancer	45	<1	32	<1	34	<1	37	<1	20	<1
Abnormal symptoms, conditions and disorders	198	<1	207	<1	211	<1	232	<1	238	1
Multiple illness, conditions and disorders	1	<1	5	<1	4	<1	2	<1	2	<1
Other illness, conditions and disorders	435	1	528	1	880	2	1,151	2	898	2
Nature of injury - unknown	33	<1	61	<1	72	<1	42	<1	26	<1
<b>Total</b>	<b>45,187</b>	<b>100</b>	<b>49,560</b>	<b>100</b>	<b>51,757</b>	<b>100</b>	<b>50,527</b>	<b>100</b>	<b>38,941</b>	<b>100</b>

Source: WCB Data, prepared by Labour and Immigration

**TABLE C8: PERCENTAGE OF WORKPLACE ILLNESS DISABLING INJURY CLAIMS, ALBERTA, 2020**

Workplace illness	Number	Per cent
Intracranial injuries	1,176	29
Mental diseases	898	22
Inflammations of joints or muscles	729	18
Other system diseases	323	8
Ear/hearing condition	299	7
Abnormal symptoms or conditions	238	6
Peripheral nerve damage, carpal tunnel	156	4
Dermatitis	87	2
Environmental condition	66	2
Eye/vision conditions	60	1
Infectious diseases	32	1
Cancers, tumors	20	<1
Heart or circulatory diseases	20	<1
Pneumoconiosis including asbestosis	11	<1
Multiple diseases or disorders	2	<1

Source: WCB Data, prepared by Labour and Immigration

**TABLE C9: DISABLING INJURIES BY PARTS OF THE BODY INJURED BY INJURY OR ILLNESS, ALBERTA, 2016-2020**

Part of body injured	2016		2017		2018		2019		2020 (Non-COVID-19)	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Trunk	16,847	37	18,235	37	18,927	37	18,813	37	14,530	37
Back, including spine, spinal cord	9,770	58	10,541	58	10,781	57	10,654	57	8,357	58
Other trunk	7,077	42	7,694	42	8,146	43	8,159	43	6,173	42
Upper extremity	11,845	26	13,173	27	13,588	26	12,761	25	9,539	24
Finger, fingernail	4,286	36	4,631	35	4,571	34	4,236	33	2,987	31
Wrist and hand except finger	4,484	38	5,211	40	5,392	40	5,109	40	3,912	41
Other upper extremity	3,075	26	3,331	25	3,625	27	3,416	27	2,640	28
Lower extremity	8,818	20	9,431	19	9,969	19	9,563	19	7,663	20
Leg	4,408	50	4,719	50	4,969	50	4,998	52	3,931	51
Ankle and foot, except toe	3,988	45	4,244	45	4,493	45	4,120	43	3,437	45
Other lower extremity	422	5	468	5	507	5	445	5	295	4
Head	3,390	8	3,825	8	4,032	8	4,037	8	3,091	8
Other head part	2,630	78	3,037	79	3,326	82	3,372	84	2,564	83
Eye	760	22	788	21	706	18	665	16	527	17
Multiple body parts	2,507	6	2,672	5	2,725	5	2,533	5	2,038	5
Neck, including throat	971	2	1,153	2	1,210	2	1,187	2	885	2
Body system	773	2	1,012	2	1,241	2	1,566	3	1,138	3
Part of body - unknown	36	<1	59	<1	65	<1	67	<1	57	<1
<b>Total</b>	<b>45,187</b>	<b>100</b>	<b>49,560</b>	<b>100</b>	<b>51,757</b>	<b>100</b>	<b>50,527</b>	<b>100</b>	<b>38,941</b>	<b>100</b>

Source: WCB Data, prepared by Labour and Immigration

**TABLE C10: OCCUPATIONAL FATALITIES (BASED ON YEAR OF DEATH) BY TYPE, ALBERTA, 2016-2020**

Year	Motor vehicle incidents		Workplace incidents		Occupational disease		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
2016	29	20	39	27	77	53	145	100
2017	33	20	49	29	87	51	169	100
2018	30	19	53	33	78	48	161	100
2019	25	17	50	34	71	49	146	100
2020	23	18	39	30	66	52	128	100
<b>Average</b>	<b>28.0</b>	<b>18.6</b>	<b>46.0</b>	<b>30.6</b>	<b>76.2</b>	<b>50.8</b>	<b>150.2</b>	

Source: WCB data, prepared by Labour and Immigration

Note: Annual fatality data changes based on the processing cycle of a claim. As such, data presented in this table will not be comparable to previous or future reports.

**TABLE C11: OCCUPATIONAL FATALITIES (BASED ON YEAR OF CLAIM ACCEPTANCE) BY TYPE, ALBERTA, 2016-2020**

Year	Motor vehicle incidents		Workplace incidents		Occupational disease		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
2016	26	22	28	24	62	53	116	100
2017	31	23	35	26	68	51	134	100
2018	27	21	42	33	57	45	126	100
2019	23	18	46	36	60	47	129	100
2020	23	18	39	30	66	52	128	100
<b>Average</b>	<b>26.0</b>	<b>20.6</b>	<b>38.0</b>	<b>29.9</b>	<b>62.6</b>	<b>49.5</b>	<b>126.6</b>	

Source: WCB data, prepared by Labour and Immigration

**TABLE C12: OCCUPATIONAL FATALITIES (BASED ON YEAR OF DEATH) BY TYPE AND AGE GROUP, ALBERTA, 2020**

Year	Motor vehicle incidents		Workplace incidents		Occupational disease		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
15-24 years	0	0	5	100	0	0	5	100
25-34 years	9	60	6	40	0	0	15	100
35-44 years	3	30	7	70	0	0	10	100
45-54 years	4	36	6	55	1	9	11	100
55-64 years	5	24	9	43	7	33	21	100
65 years and over	2	3	6	9	58	88	66	100
<b>Average</b>	<b>3.8</b>	<b>25.5</b>	<b>6.5</b>	<b>52.7</b>	<b>11.0</b>	<b>21.7</b>	<b>21.3</b>	

Source: WCB data, prepared by Labour and Immigration

**TABLE C13: OCCUPATIONAL FATALITIES (BASED ON YEAR OF DEATH) BY MAJOR INDUSTRY SECTOR, ALBERTA, 2016-2020**

Major industry sector	2016	2017	2018	2019	2020	Total	Per cent
Agriculture and forestry	6	6	3	3	7	25	3
Business, personal and professional services	7	3	8	4	3	25	3
Construction and construction trade services	52	71	56	53	52	284	38
Manufacturing, processing and packaging	18	27	30	22	17	114	15
Mining and petroleum development	14	8	11	10	7	50	7
Provincial and municipal government, education and health services	17	28	20	19	18	102	14
Transportation, communication and utilities	23	17	22	24	16	102	14
Wholesale and retail	8	9	11	11	8	47	6
<b>Total</b>	<b>145</b>	<b>169</b>	<b>161</b>	<b>146</b>	<b>128</b>	<b>749</b>	<b>100</b>

Source: WCB data, prepared by Labour and Immigration



# Appendix D

## Resources

To help address findings from this report, employers and workers can access key resources through the government's resource portal on [alberta.ca/OHS](http://alberta.ca/OHS) (OHS Education and resources > OHS resources > OHS online resource portal):

- Establishing safety culture
  - Guide to OHS: Employers (LI009)
  - Guide to OHS: Workers (LI008)
  - Occupational health and safety and the internal responsibility system (LI051)
  - Participation in health and safety for small business owners and workers (LI055)
  
- Closing compliance gaps
  - A handbook for Alberta employers and workers: Hazard Assessment and Control (BP018)
  - Harassment and violence in the workplace (LI045)
  - Slips, Trips and Falls (PH015)
  - Leading Indicators for Workplace Health and Safety: A user guide (BP019)

Read about the OHS prevention initiative at [www.alberta.ca/occupational-health-and-safety-prevention-initiative.aspx](http://www.alberta.ca/occupational-health-and-safety-prevention-initiative.aspx).

Online employer records include five years of WCB data. Industry and safety associations, labour organizations, employers and workers can incorporate this information into their plans to enhance workplace health and safety. To search employer records, go to [www.alberta.ca/employer-records-using-database.aspx](http://www.alberta.ca/employer-records-using-database.aspx).

For the most current information on the OHS Act, Regulation and Code please see [www.alberta.ca/ohs-act-regulation-code.aspx](http://www.alberta.ca/ohs-act-regulation-code.aspx). For information on enforcement programs, please see [www.alberta.ca/ohs-compliance-enforcement.aspx](http://www.alberta.ca/ohs-compliance-enforcement.aspx).

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