Oil and Gas Pre-Drilling Season Update session

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ENERGY SAFETY CANADA

WorkSafeBC

Agenda

1. Introductions
2. Industry Overview
3. Risk Driver Analysis
4. Compliance
5. Work-related Deaths
6. Summary and Recommendations
7. Field Compliance and Incident Issues
8. OHSR Changes in 2021
9. Questions

Introduction

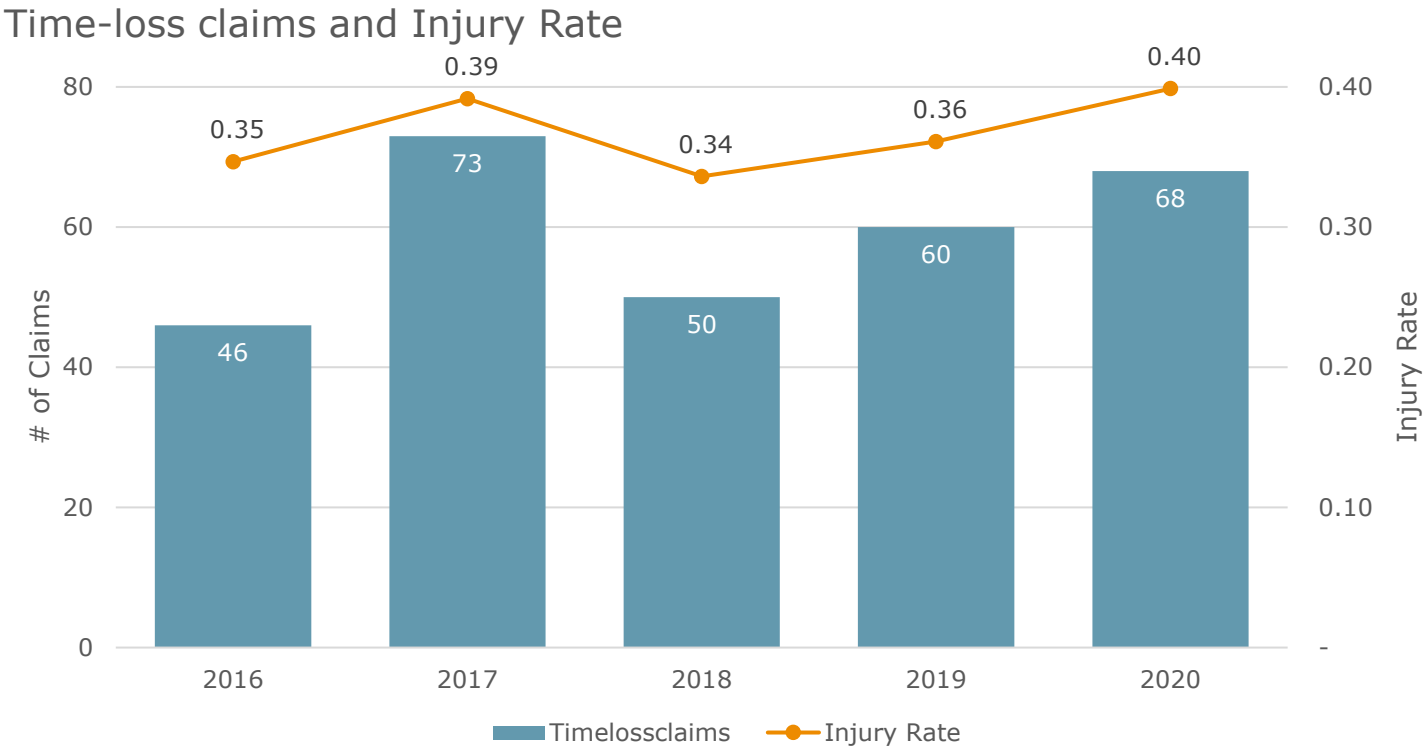
The main goal of this analysis is to identify areas of opportunity in the Oil and Gas industry, mainly below 6 CUs:

- 704002 – Oil & Gas Drilling
- 704003 – Oil & Gas Field Servicing
- 704009 – Seismic Exploration
- 713018 – Oil & Gas Production
- 721038 – Oil & Gas Pipeline Construction
- 767005 – Oil & Gas Transmission

Unless otherwise noted, the time period of the data used in this report is the five years from 2016 to 2020.

Industry Overview

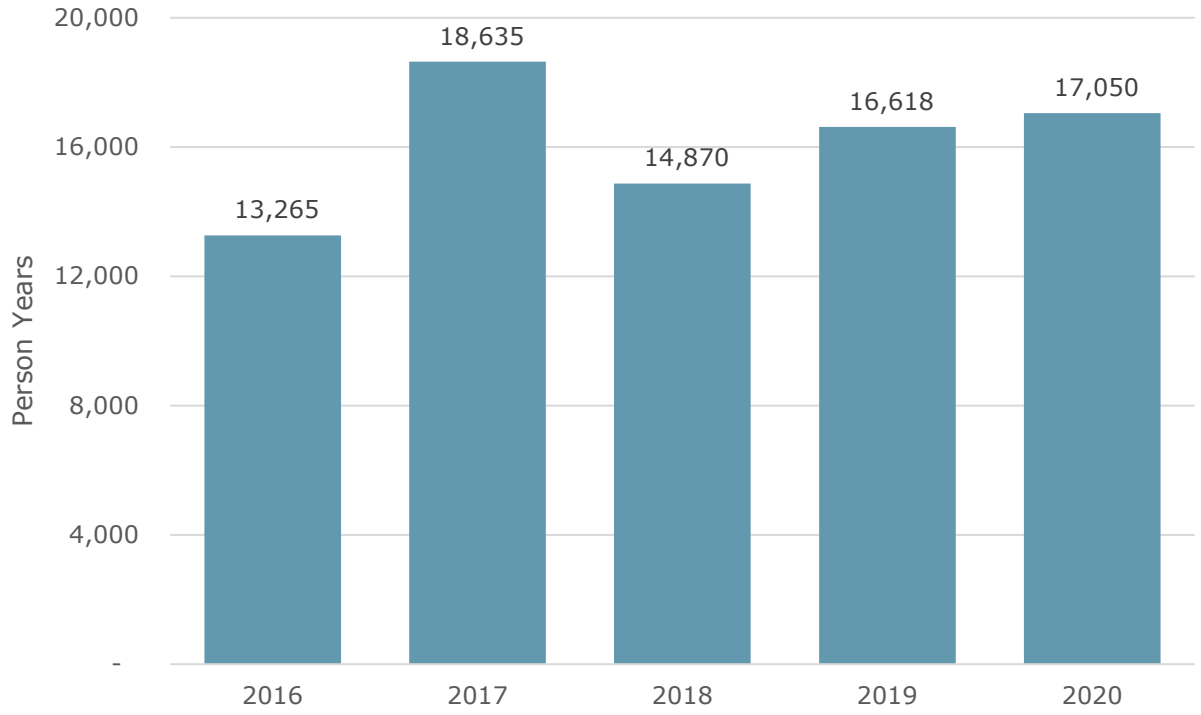
Injury Rate (Number of Time-loss Claims per 100 workers)



Injury rate has decreased between 2017 and 2018. But has been increasing between 2018 and 2020.

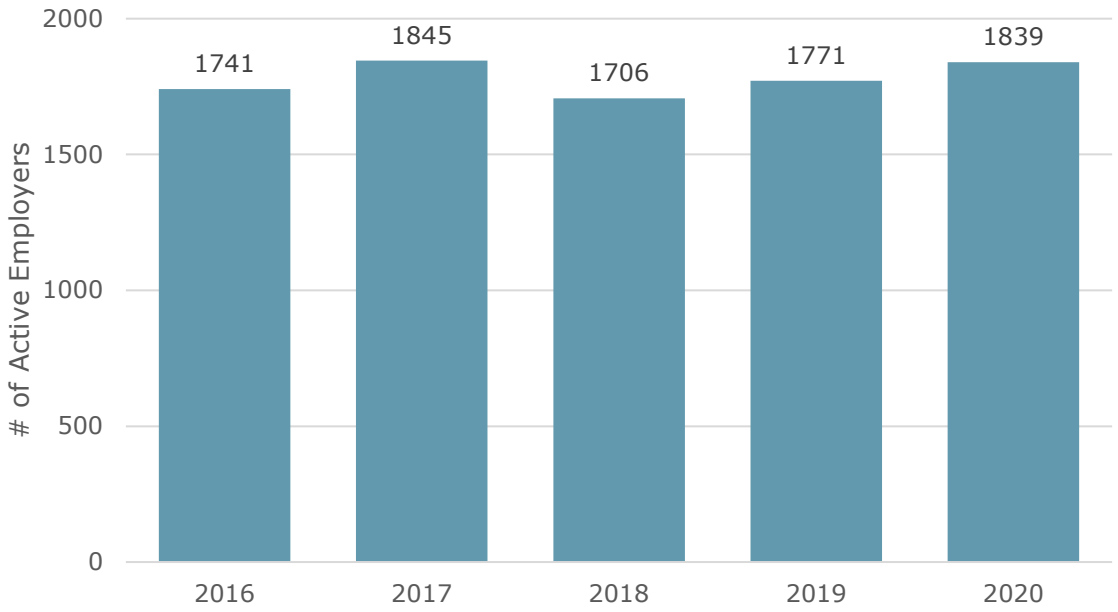
In 2020, the injury rate is 4 time-loss claims per 1000 workers in the selected CUs. The all BC injury rate is 21 per 1000 workers

Estimated Number of Workers (Person Years)



Estimated number of workers in the selected 6 CUs increased 3% in 2020

Number of Active Employers



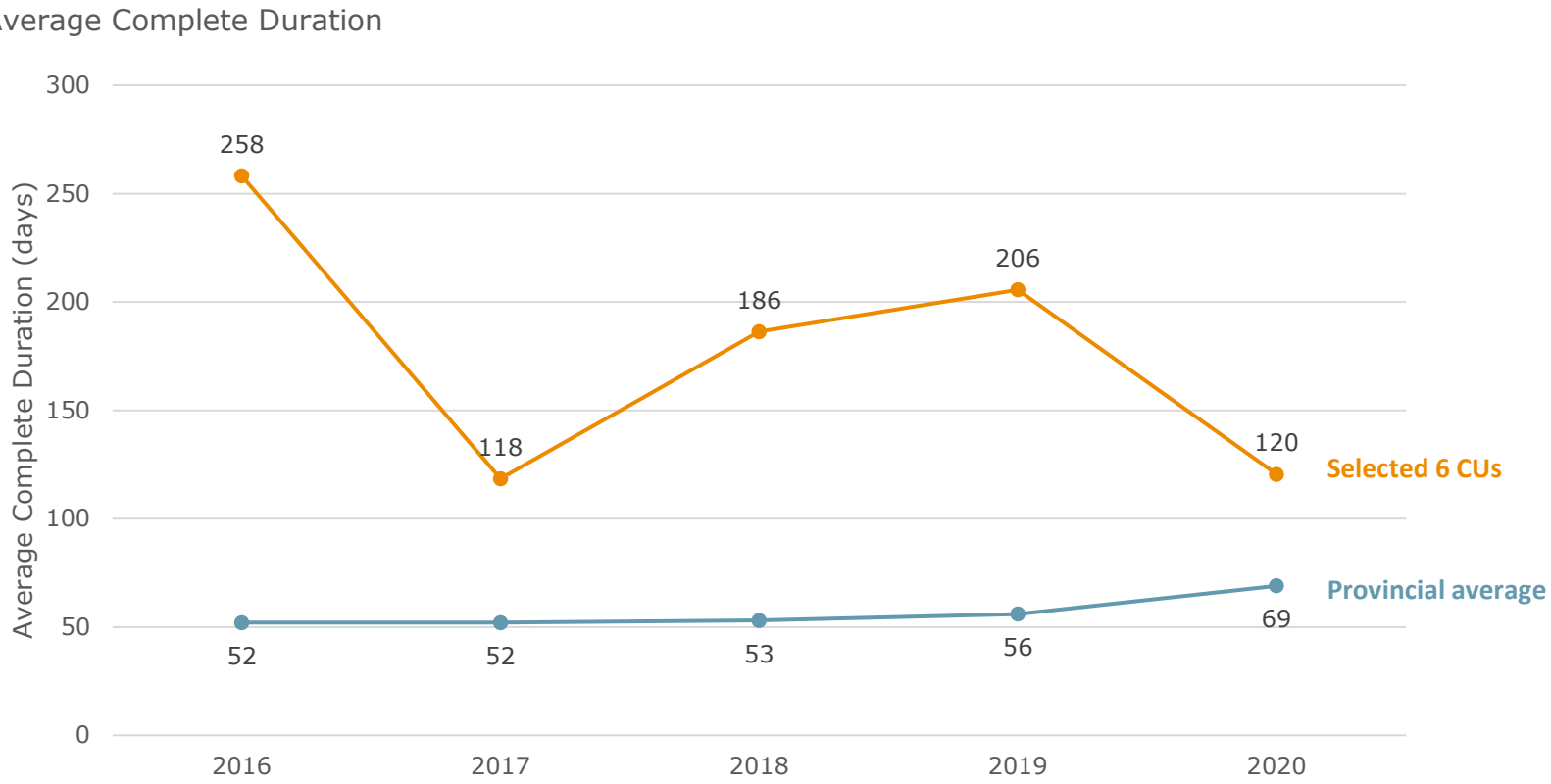
Number of active employers in the selected 6 CUs increased 4% in 2020

Serious Injuries and Long Recover Sprains and Strains (LRSS)

Year	Time-loss claims	Serious Injury claims	SI %	Sprain & Strain (SS) claims	LRSS	% of SS that are long recovery
2016	46	21	46%	19	6	32%
2017	73	26	36%	30	13	43%
2018	50	18	36%	15	5	33%
2019	60	21	35%	33	18	55%
2020	68	19	28%	29	11	38%

- The percentage of serious injury keeps declining from 2016 to 2020. However, the serious injury rate of the selected CUs is still higher than provincial average (13%)
- In 2020, 38% of Sprains and Strains (SS) claims are Long Recover Sprains and Strains (LRSS) claims

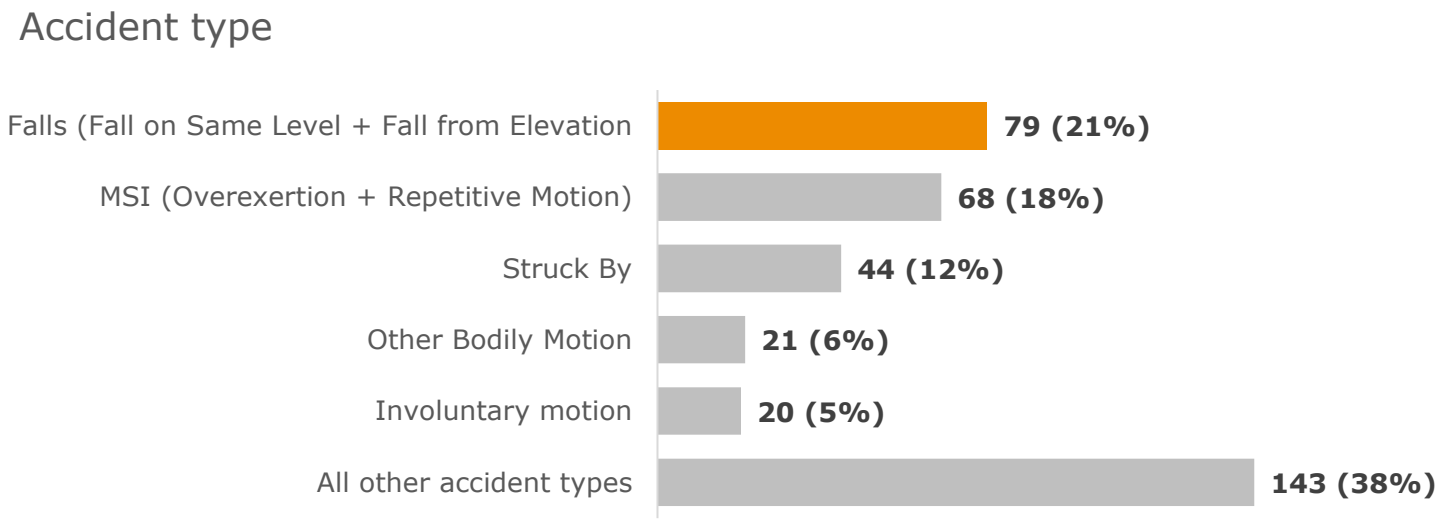
Average Complete Duration



The average complete duration is highly volatile and has decreased by 53% between 258 days in 2016 and 120 days in 2020. It is still higher than the provincial average.

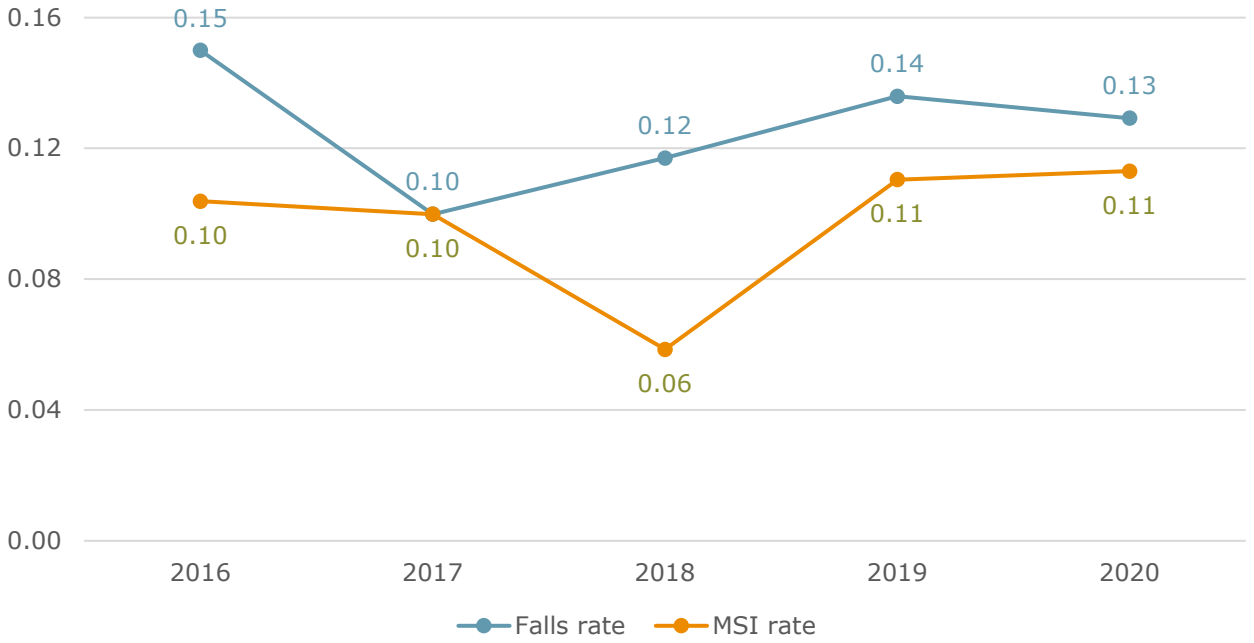
Risk Driver Analysis

Top 5 Accident Types



- When combined, Fall (from elevation or on same level) is the top accident type and accounts for over 21% of all claims from the selected CUs.
- MSI (overexertion + repetitive motion) is the second biggest accident type which accounts for about 16% of all claims

Trend of Falls and MSI rate*



Falls (from elevation or on same level) rate declined in 2020 while MSI (overexertion and repetitive motion) rate continued to increase.

* Falls/MSI rate: number of falls/MSI time-loss claims per 100 workers

Zooming in on Falls

Claims in Last 36 Months, Percent

BY CLAIM INCIDENT TYPE (DETAIL)

Claim Incident Type (Detail)	Claims in Last 36 Months	Percent
Slip, trip or loss of balance involving environment...	14	35.90...
Fall from nonmoving vehicle	8	20.51...
Slip, trip or loss of balance involving bodily motion	7	17.95...
Slip, trip or loss of balance involving mineral items	6	15.38...
Slip, trip or loss of balance involving boilers, press...	1	2.56%
Slip, trip or loss of balance involving boxes, contai...	1	2.56%
Slip, trip or loss of balance involving floor, ground,...	1	2.56%
Slip, trip or loss of balance involving hand tools	1	2.56%

For the last 3 years, slip, strip or loss of balance involving cold environment (36%), falls from nonmoving vehicle (21%), and slip, strip or loss of balance involving bodily motion (18%) are the highest causes of Falls related time-loss claims

Zooming in on MSI

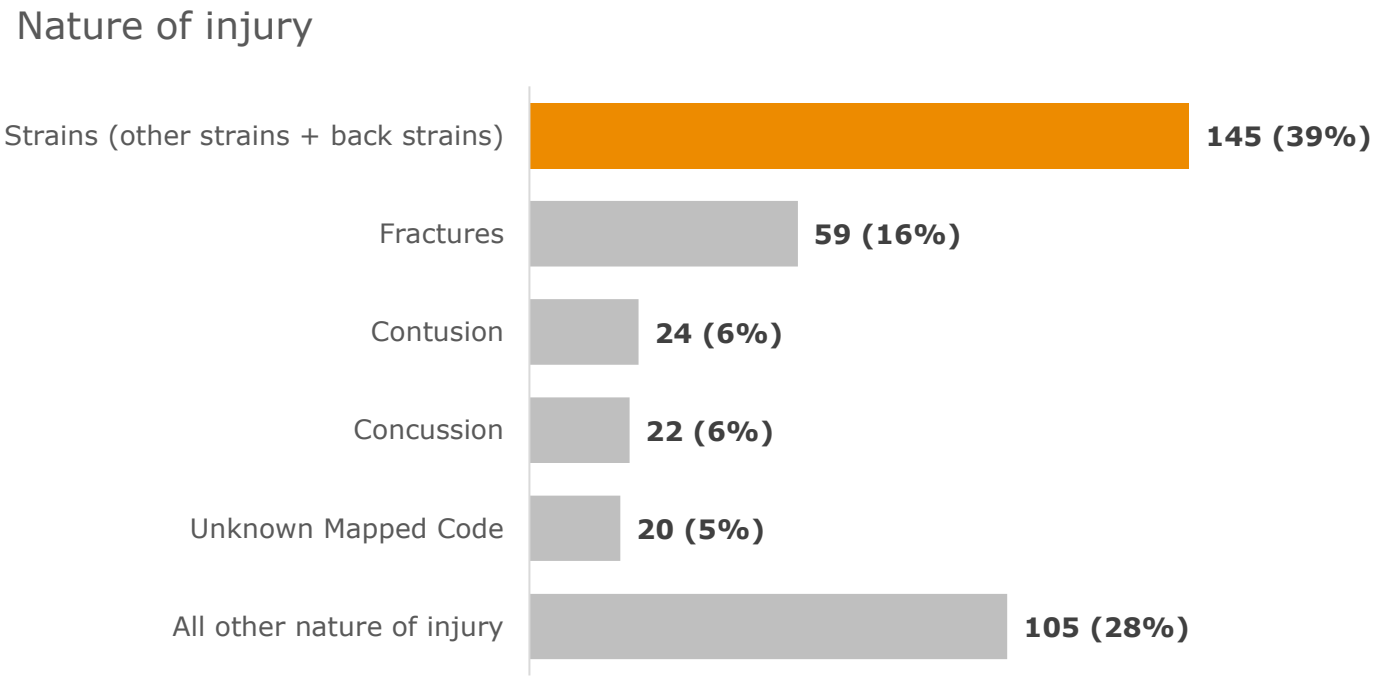
Claims in Last 36 Months, Percent

BY CLAIM INCIDENT TYPE (DETAIL)

Claim Incident Type (Detail)	Claims in Last 36 Months	Percent
Overexertion involving hand tools	6	19.35..
Overexertion involving boxes, containers	3	9.68%
Overexertion involving other sources	2	6.45%
Overexertion while lifting boxes, containers	2	6.45%
Overexertion while lifting electrical apparatus	2	6.45%
Overexertion while lifting pipes, ducts, tubing	2	6.45%
Overexertion while pulling or pushing objects invol...	2	6.45%
Overexertion involving buildings & structures	1	3.23%
Overexertion involving fasteners	1	3.23%

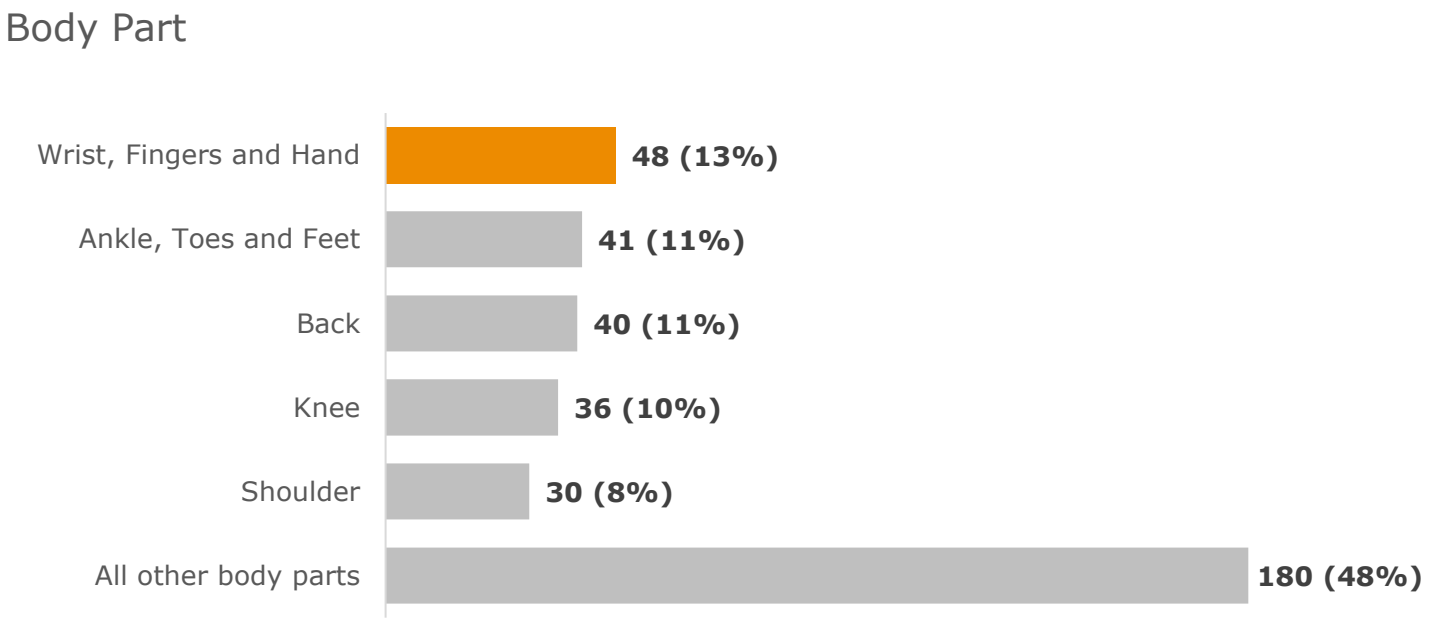
For the last 3 years, overexertion involving hand tools (19%), overexertion involving boxes, containers (10%), and overexertion involving other sources (6%) are the highest causes of MSI related time-loss claims

Top 5 Nature of Injury



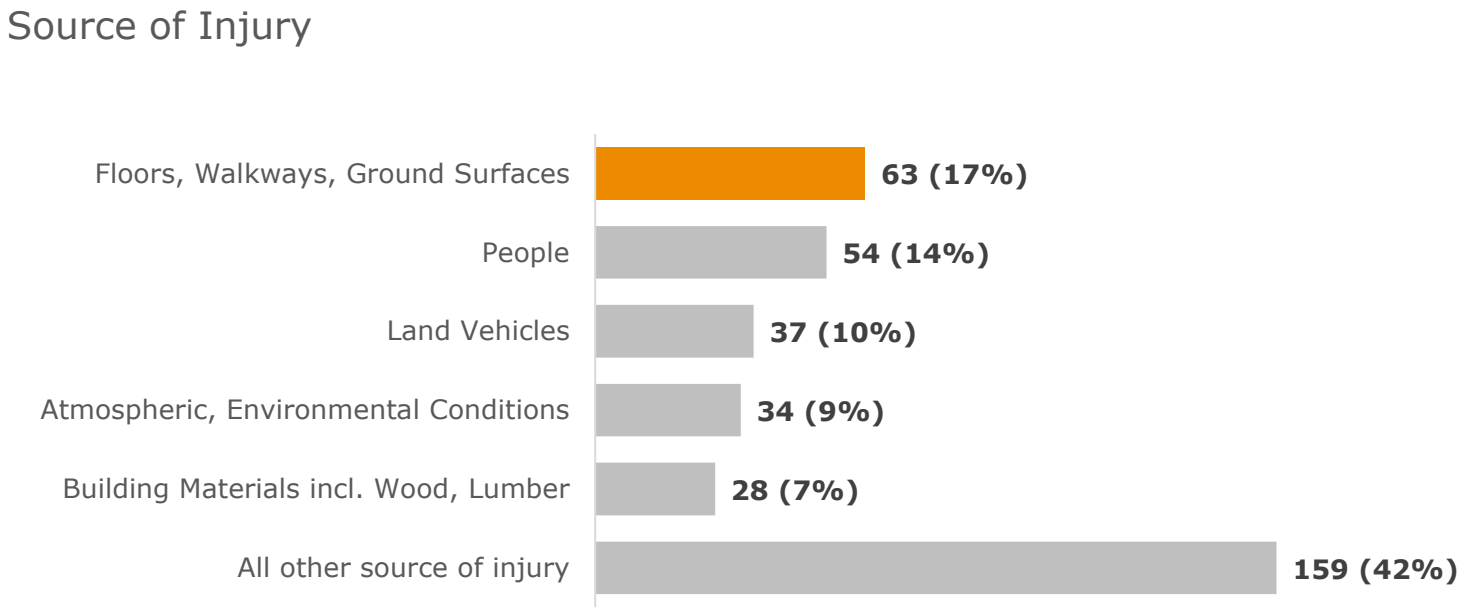
- When combined, the most common nature of injury is Strains (incl. Back Strain and Other strains). These injuries are often a result of overexertion and repetitive motion. Strains accounts for almost 40% of all time-loss claims with in the selected CUs.
- Fractures is the second biggest nature of injury. It accounts for 16% of all time-loss claims.

Top 5 Body Part



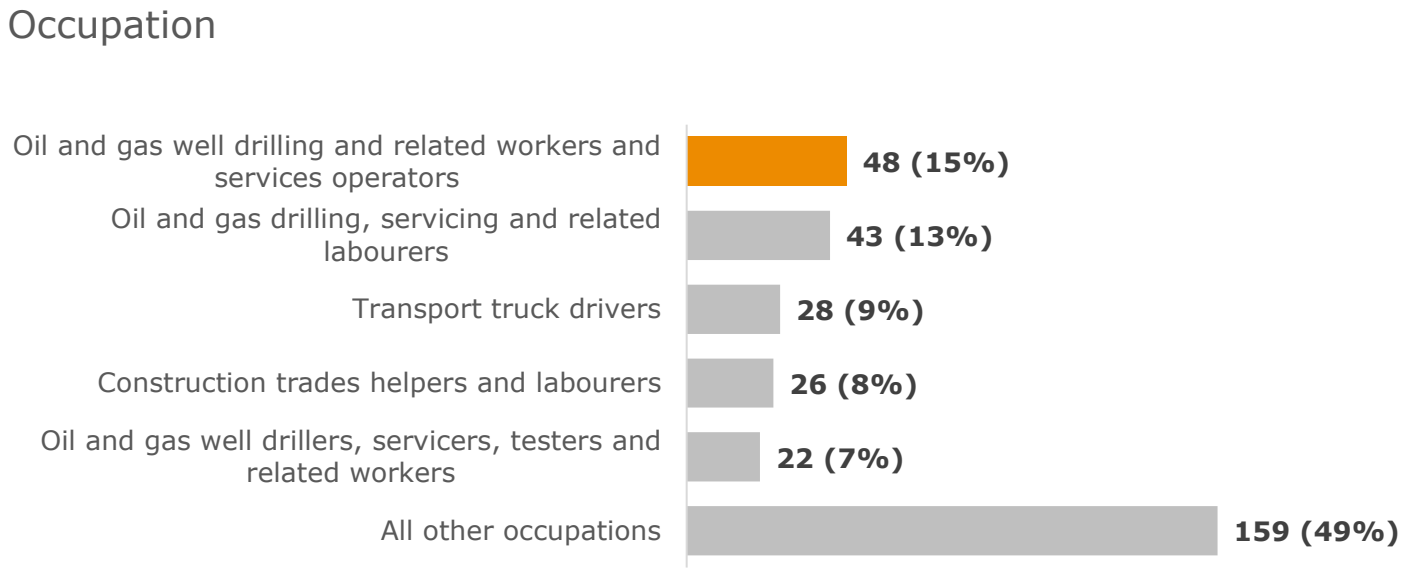
The most commonly injured body part is Wrist, Fingers, and Hand (13%), followed by Ankle, Toes and Feet (11%) and Back (11%).

Top 5 Source of Injury



The most common source of injury is Floors, Walkways, Ground Surfaces (17%), followed by People (14%) and Land Vehicles (10%).

Top 5 Occupations



The most common occupation is Oil and gas well drilling and related workers and services operators (15%), followed by Oil and gas drilling, servicing and related labourers (13%)

Time-loss Claims by Age Group

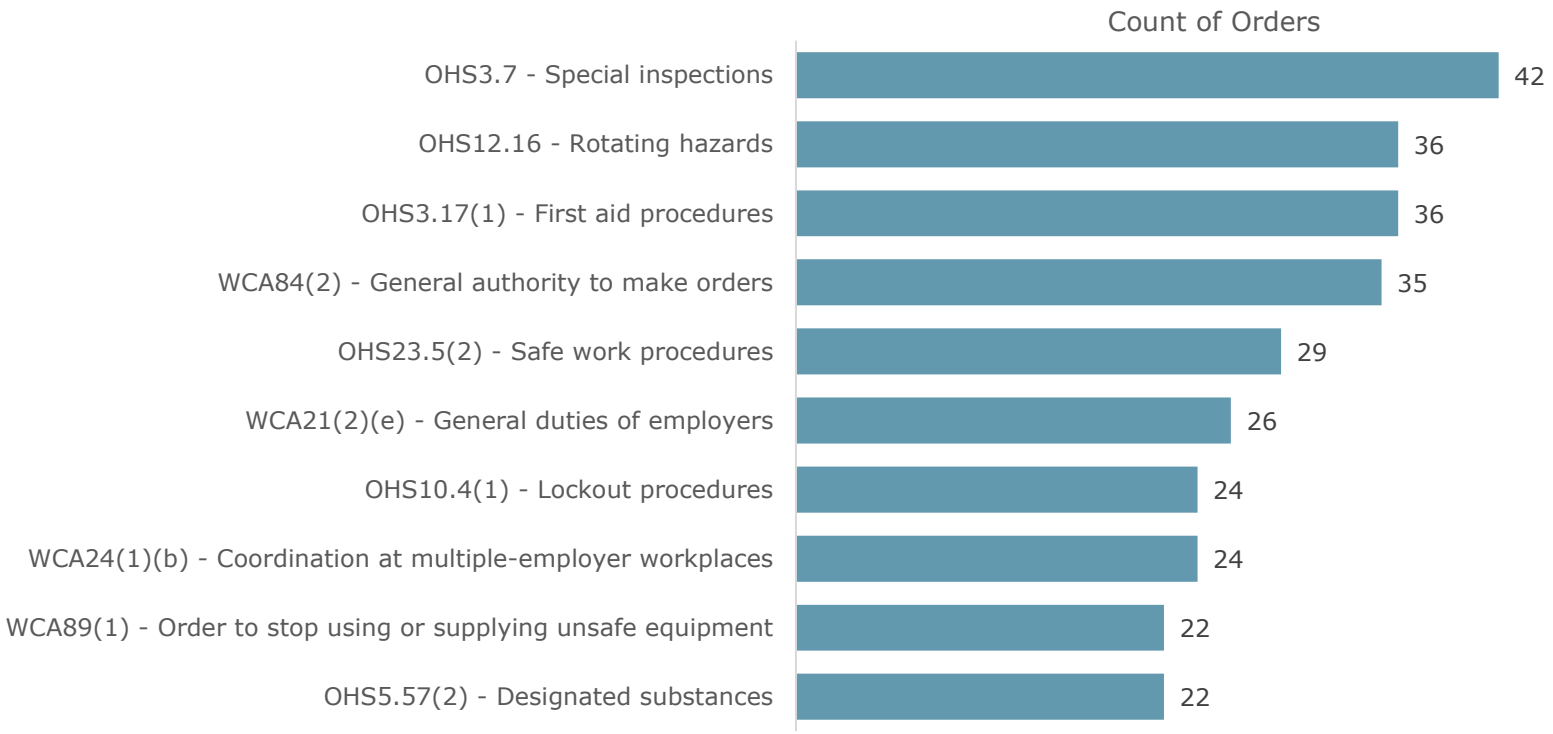
Worker Age Group	Female	Male	Unknown	Total	Age %
15 to 24	3	43		**46**	**12%**
25 to 34	8	91		**99**	**26%**
35 to 44	5	75		**80**	**21%**
45 to 54	9	62	1	**72**	**19%**
55 to 64	3	59		**62**	**17%**
65+		16		**16**	**4%**
Total	**28**	**346**	**1**	**375**	**100%**

- The most common age group is 25-34 (26%).
- Young worker (15 – 24 years old) injuries account for 12% of all time-loss injuries

Compliance

Top 10 Orders Issued

By Regulation Paragraph



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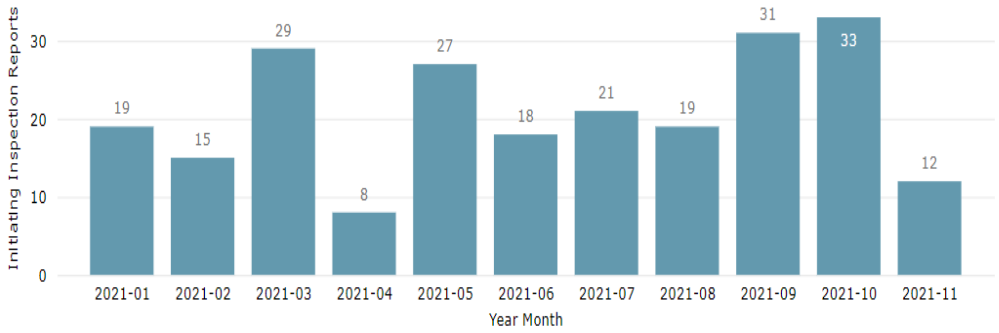
Prevention Dashboard - Projects Overview

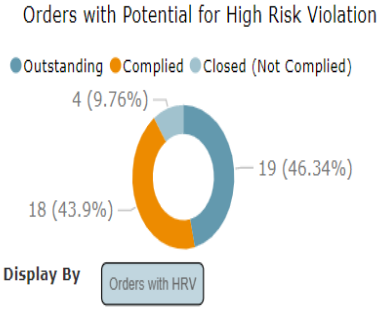
Clear Filters

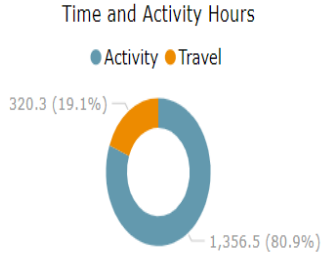
Service Centre	Officer Name	Is Active in SC?	Project Code Grouping	Project Code	Start Date	End Date
Province	All Staff	Yes	Oil & Gas	All Projects	1/1/2021	12/31/2021

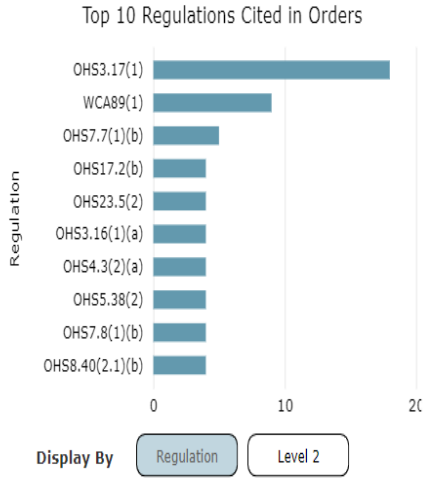
Key Project Statistics

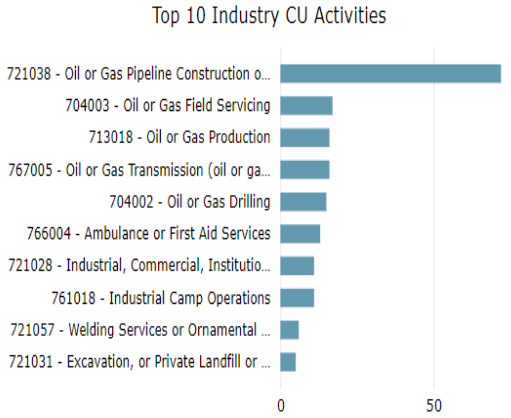
Inspection Activities	
Initiating Inspection Reports	232
Inspection Strategy Focus Count	238
Strategy's Inspectional Annual Target	
Strategy's Inspectional Annual Target	249
Employer Locations Inspected	132
Targeted Employer Locations Inspected	0
Locations Annual Target	0
% of Location Target Completed	
Inspections with Potential for HRV Order(s) (#)	23
Inspections with Potential for HRV Orders(s) (%)	10%
Enforcement	
Compliance Agreements	0
Orders Cited	234
Orders with Potential for HRV Regulation	27
Temporary Cessation of Work	3
Orders to Stop Use	8
Orders to Stop Work	2
Orders to Stop Operations	0
Citation Warnings	0
Citation Imposed	0
Warning Letters Sent	9
Penalties Imposed	2
In Progress Sanctions	0
Activity Outputs: Sanction	
Follow-up Inspection Reports	110
Inspection Reports	332
Consultation Reports	32
Education Reports	5



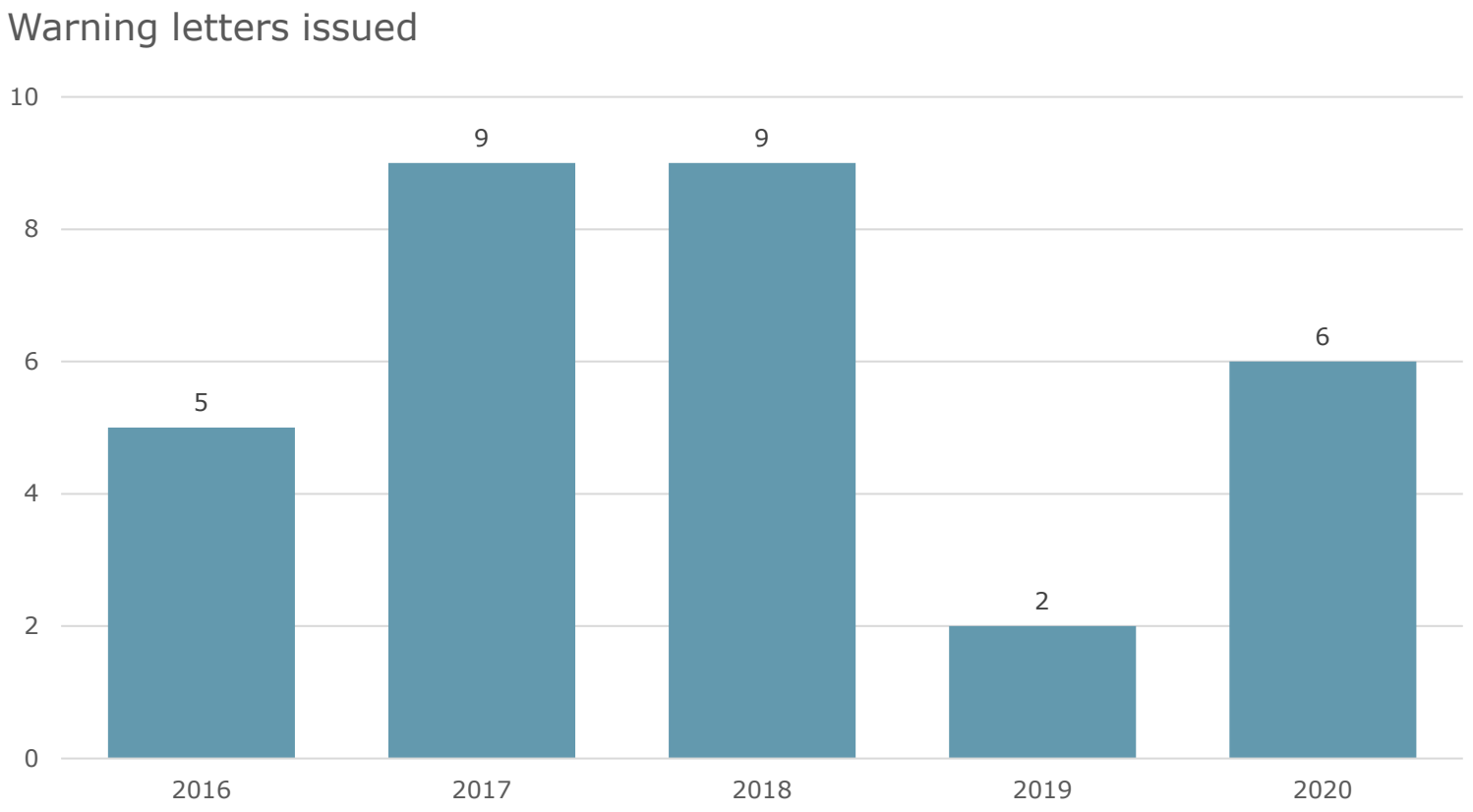








Warning letters issued



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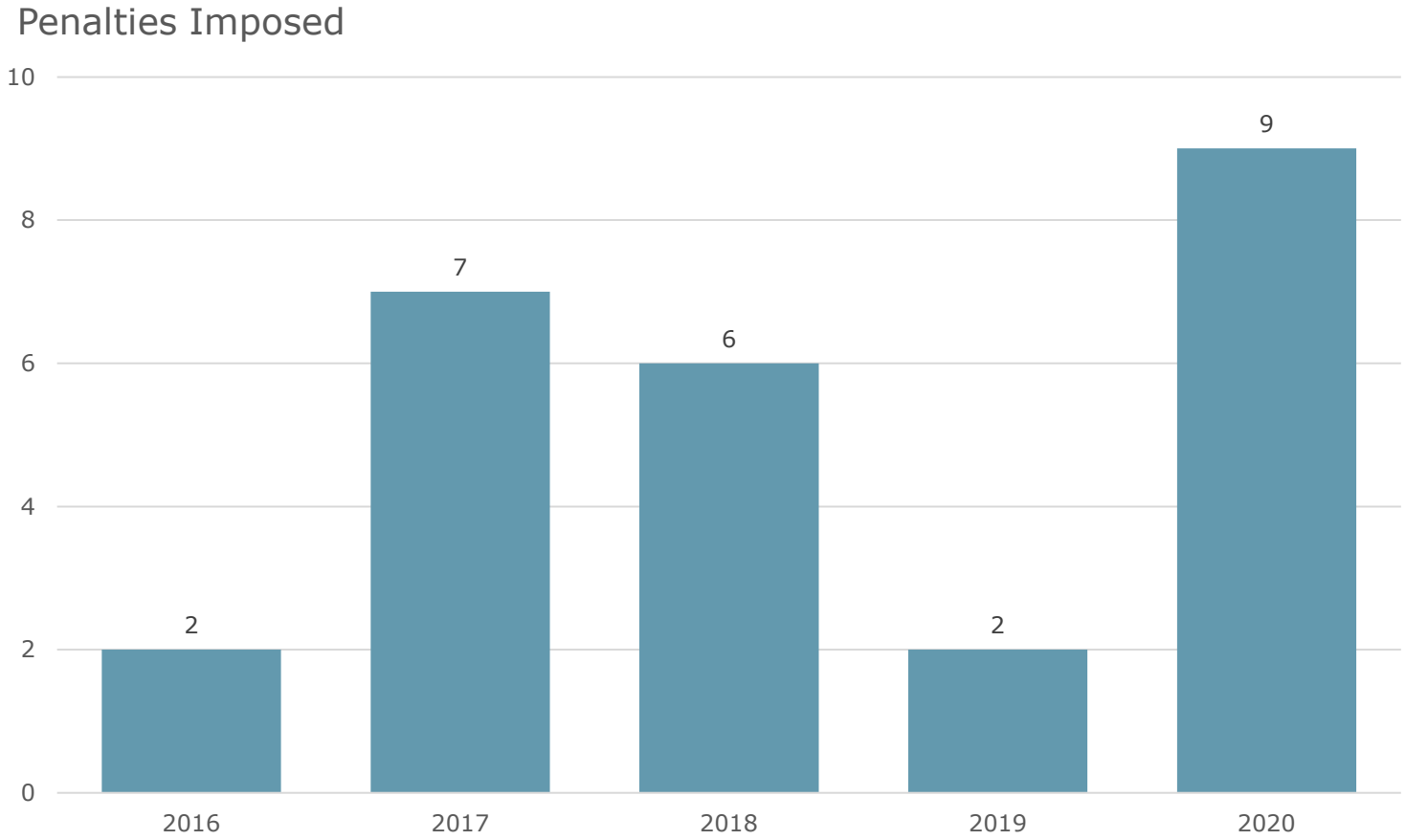
Penalties imposed



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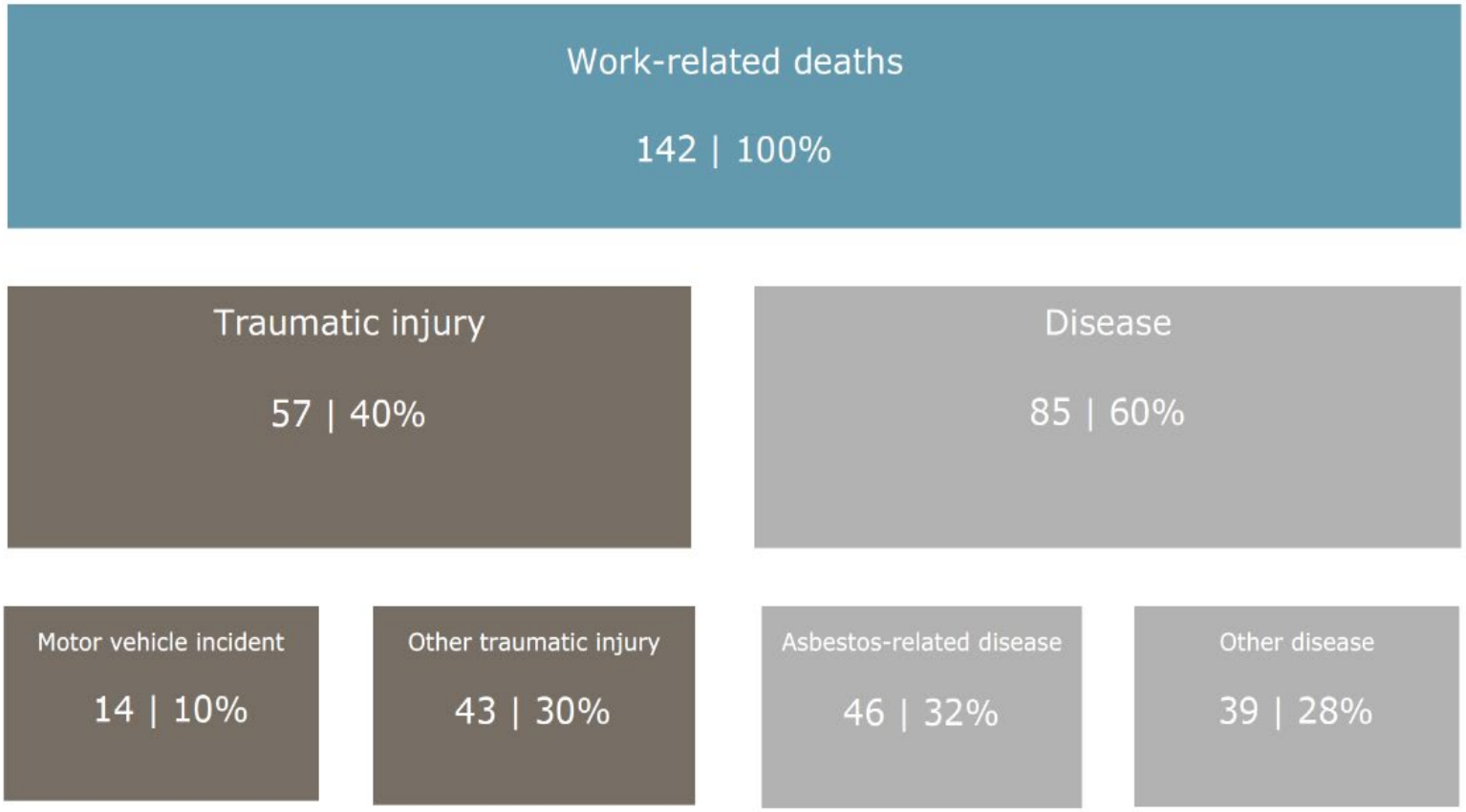
Summary and Recommendations

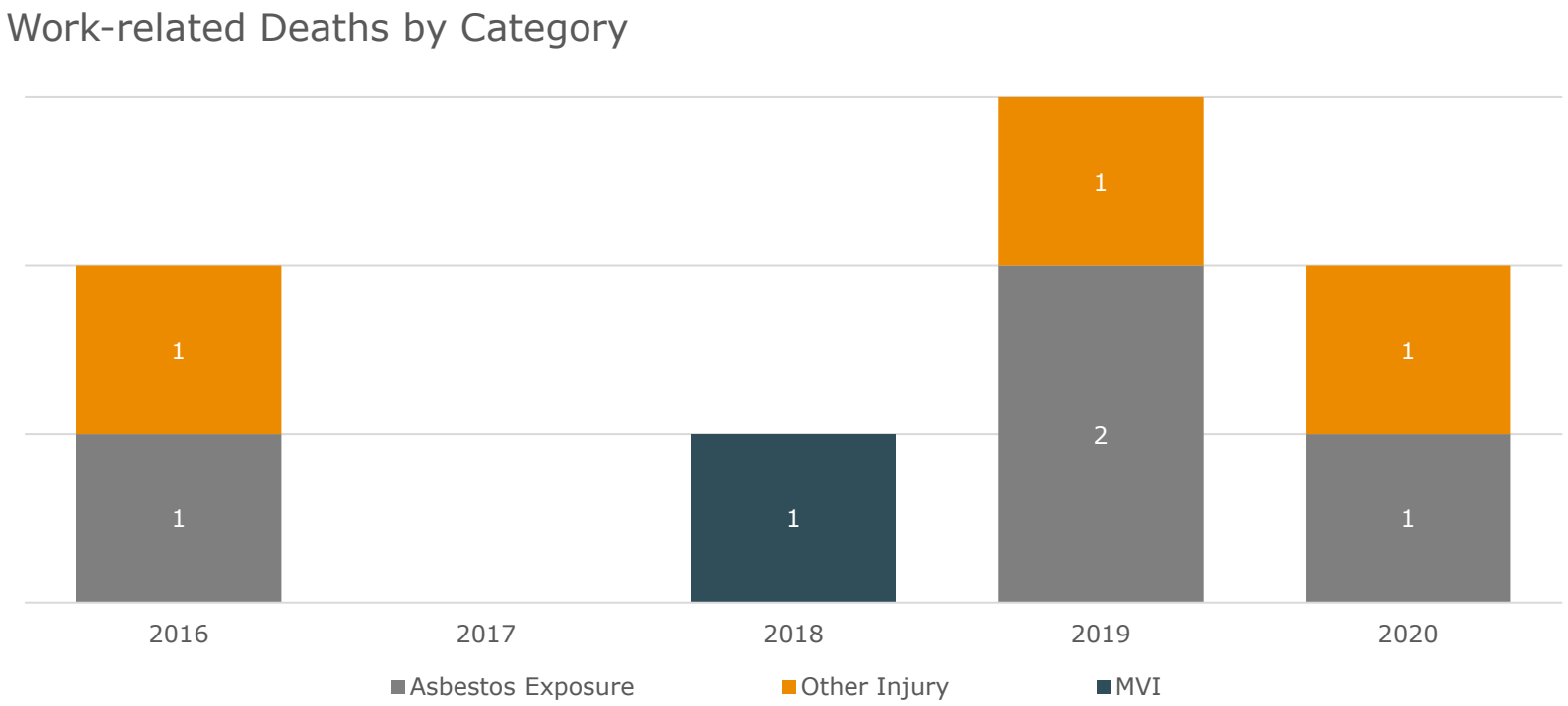
- Injury rate has remained almost stable in this industry, at 0.4.
- Falls, MSI and Struck By are the most common accident types (21%, 18% and 12% respectively).
- 28% of the time-loss injuries are serious injuries which is much higher than the provincial average (13%); In 2020, Long Recovery Sprains and Strains claims accounted for 38% of the Sprains and Strains claims
- The average complete duration in 2020 was 120 days, much higher than the provincial average (69 days)
- **An area of focus should be Fractures, which is the second most common injury type, at 16%.**
- **Another area of focus should be wrist, fingers and hand injuries (13%).**

Work-related deaths

Year to date Work Related Deaths in BC



Work-related Deaths



Asbestos exposure continues to be the biggest source of work-related death in the Oil & Gas industry

Prosecutions

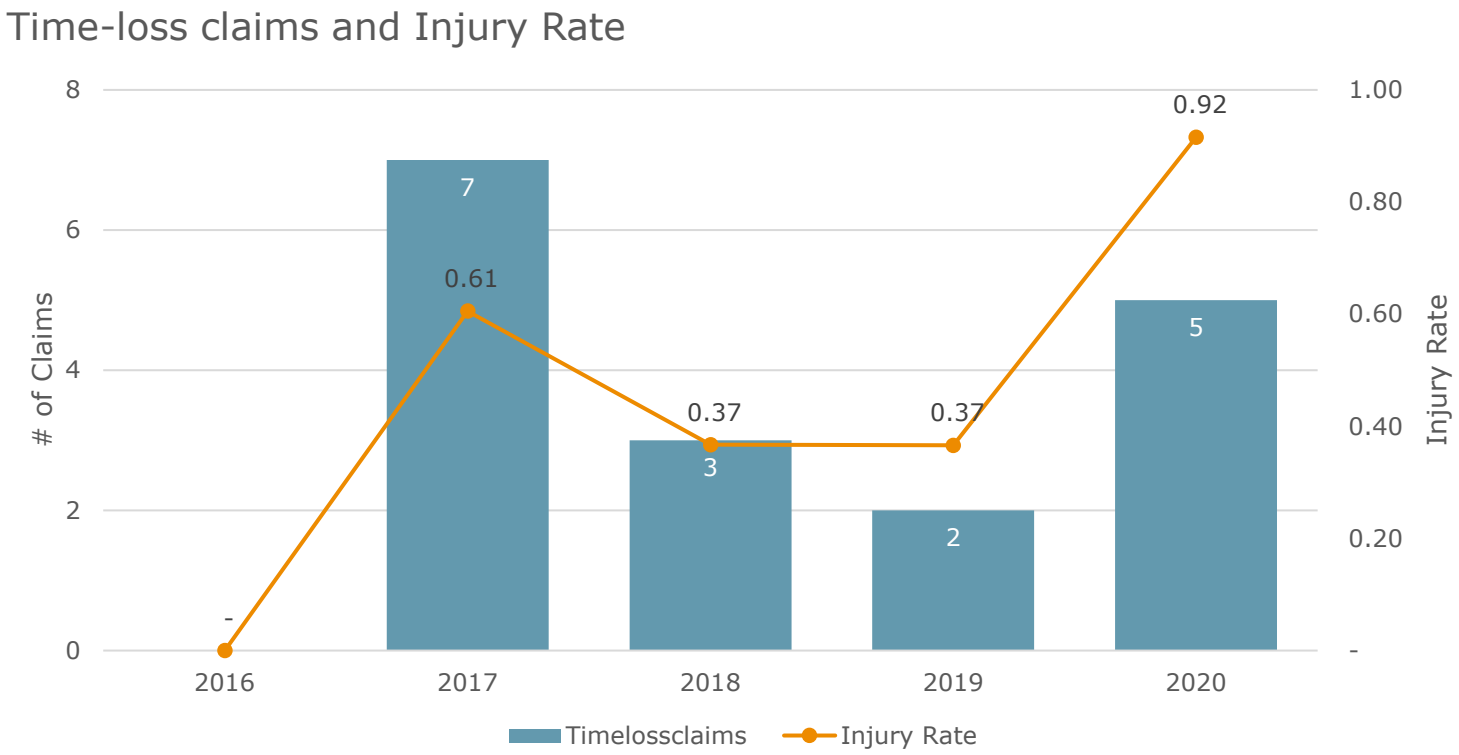
As of November 2021

Recent Prosecutions and Convictions related to workers death in 2018. Convictions were levied in October of 2021.

Workers were in the process of installing a new bridge to access into an Oil and Gas area. Work was progressing on the bridge deck when on e of the workers back off the open deck area and fell to their death 25 feet below in the creek bed. The bridge deck area lacked guard rails and the worker was not wearing any form of fall protection PPE.
The two companies involved Great Northern Bridge Work and YOHO Resources were convicted on charges under the WCAct along with the Supervisor for YOHO resources and the Supervisor for Great Northern Bridge Works. The fines imposed were as follows: GNB $ 70,000.00 + victim surcharge 15% YOHO $70,000.00 + 15 % GNB supervisor Randolph Kosik $ 8500.00 + 15 % and YOHO Brian Baker $7500.00 + 15% The companies and Supervisors must also take mandated safety training courses

Appendix

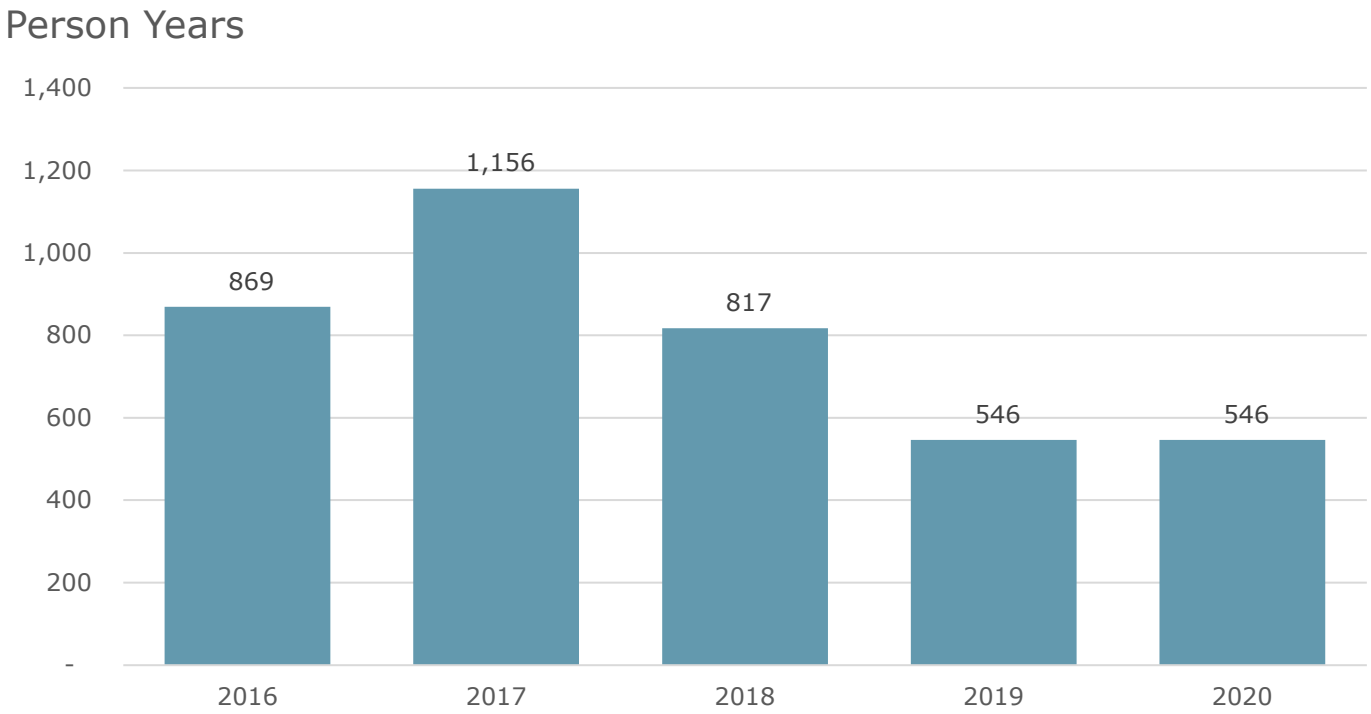
Injury Rate (Number of Time-loss Claims per 100 workers)



Injury rate has decreased between 2017 and 2018. But has been increasing between 2018 and 2020.

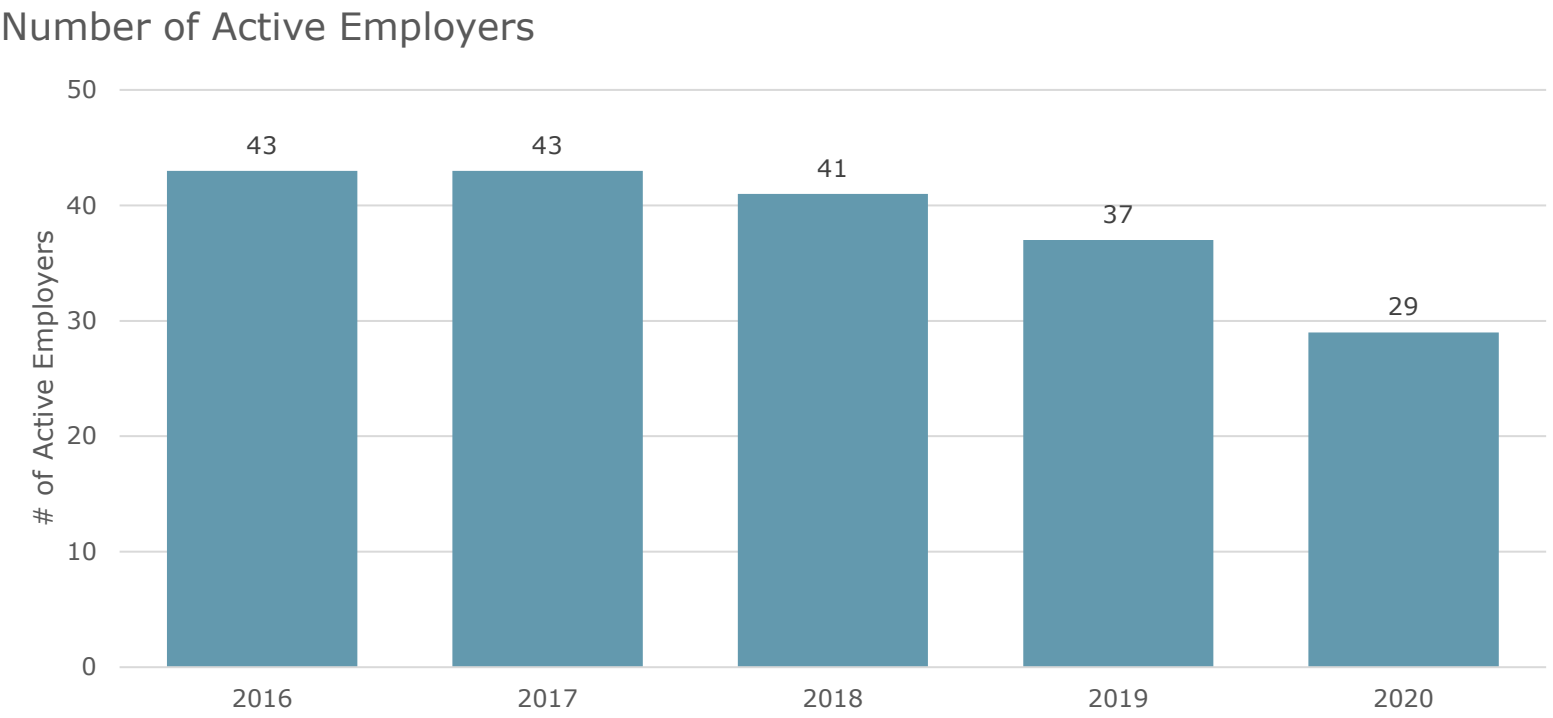
In 2020, the injury rate is about 9 time-loss claims per 1000 workers. The provincial average injury rate is 21 per 1000 workers

Estimated Number of Workers (Person Years)



Estimated number of workers in CU 704002 has not changed in 2020

Number of Active Employers



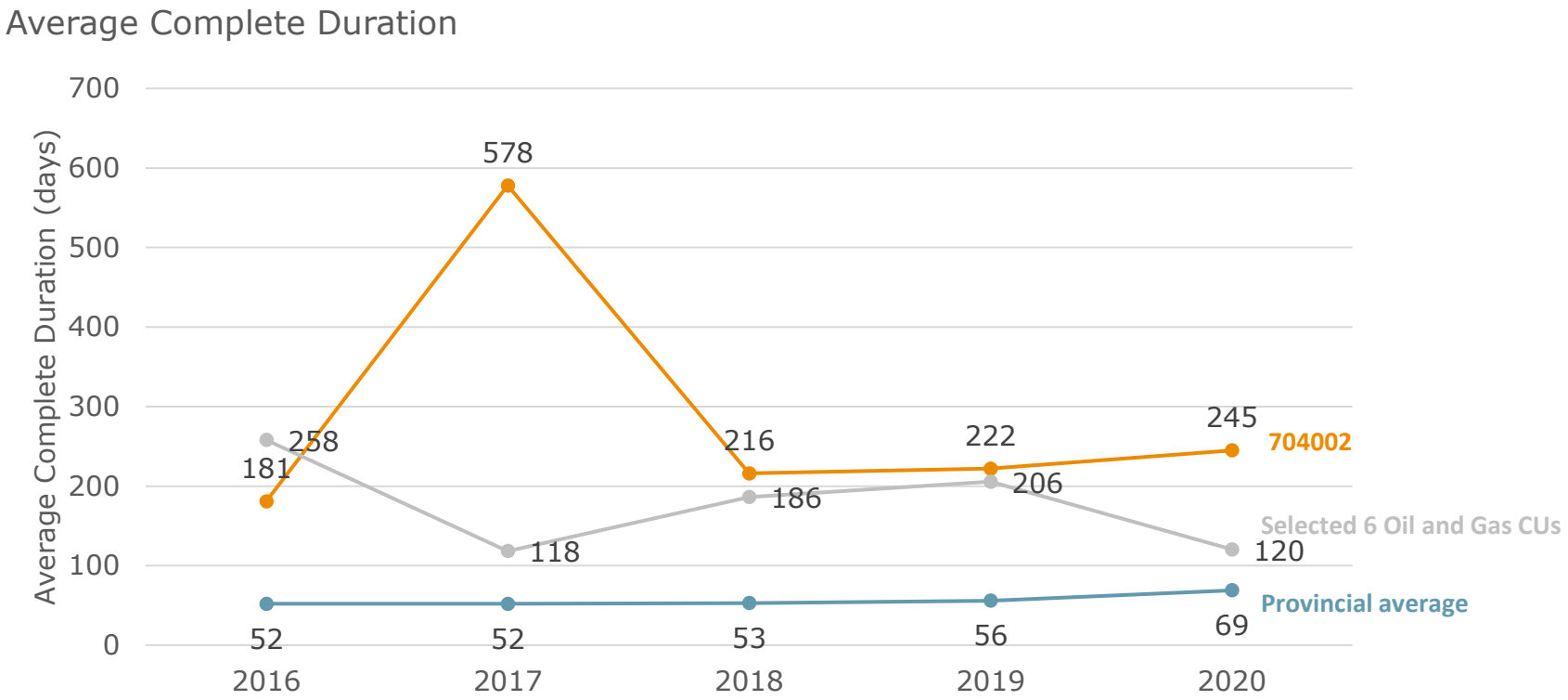
Number of active employers in CU 704002 decreased 22% in 2020

Serious Injuries and Long Recover Sprains and Strains (LRSS)

Year	Time-loss claims	Serious Injury claims	SI %	Sprain & Strain (SS) claims	LRSS	% of SS that are long recovery
2016	0	2	-	0	0	-
2017	7	4	57%	1	0	0%
2018	3	0	0%	0	0	-
2019	2	0	0%	2	1	50%
2020	5	3	60%	1	1	100%

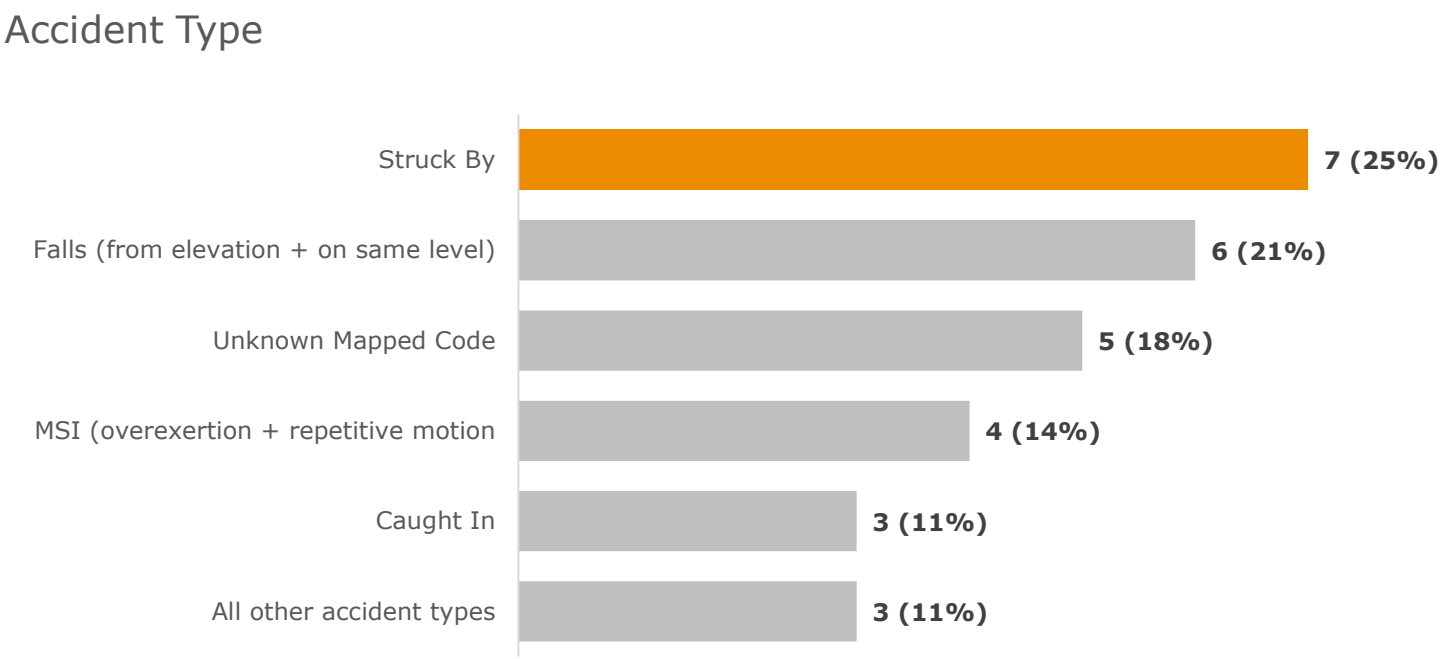
- The percentage of serious injury of CU 704002 is 60% in 2020, higher than provincial average (13%)
- In 2020, 100% of the Sprains and Strains (SS) claim is Long Recover Sprains and Strains (LRSS) claim

Average Complete Duration



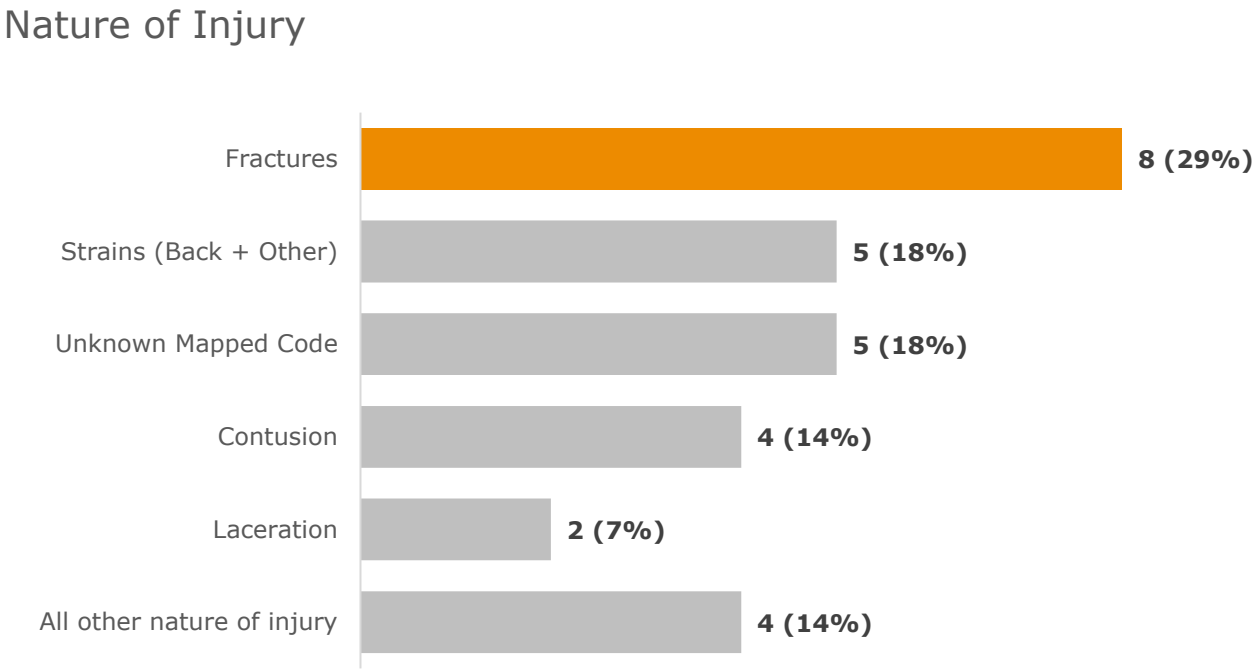
The average complete duration of CU 704002 slowly trend upwards from 2018 to 2020. It is higher than the Oil and Gas CU average and the provincial average.

Top 5 Accident Types



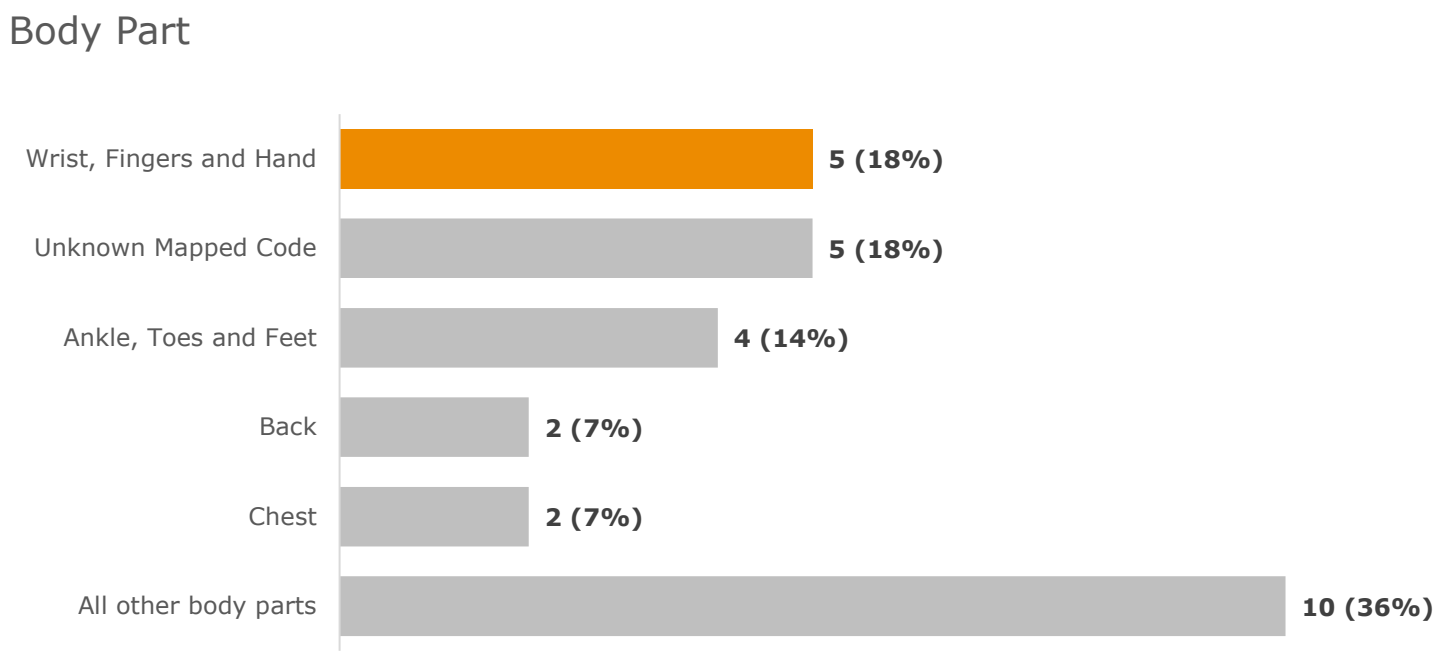
- Struck By is the top accident type which accounts for 25% of all time-loss claims in CU 704002.
- Falls (from elevation + on same level) is the second biggest accident type which accounts for about 21% of all time-loss claims.

Top 5 Nature of Injury



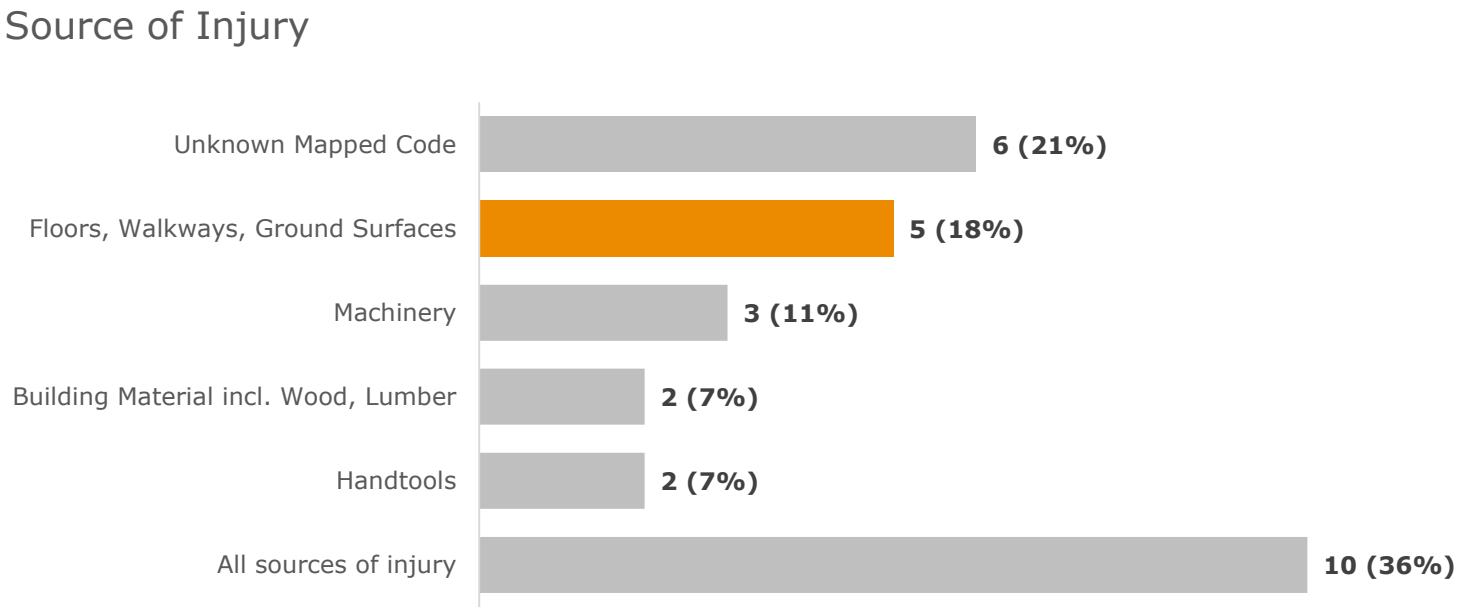
- The most common nature of injury is Fracture (29%) followed by Strains (Back + Other) (18%)

Top 5 Body Part



The most commonly injured body part is Wrist, Fingers, and Hand (18%), followed by Ankle, Toes and Feet (14%) and Back (7%).

Top 5 Source of Injury



The most common source of injury is Floors, Walkways, Ground Surfaces (18%), followed by Machinery (11%) and Building Material incl. Wood, Lumber (7%) and Hand tools (7%)

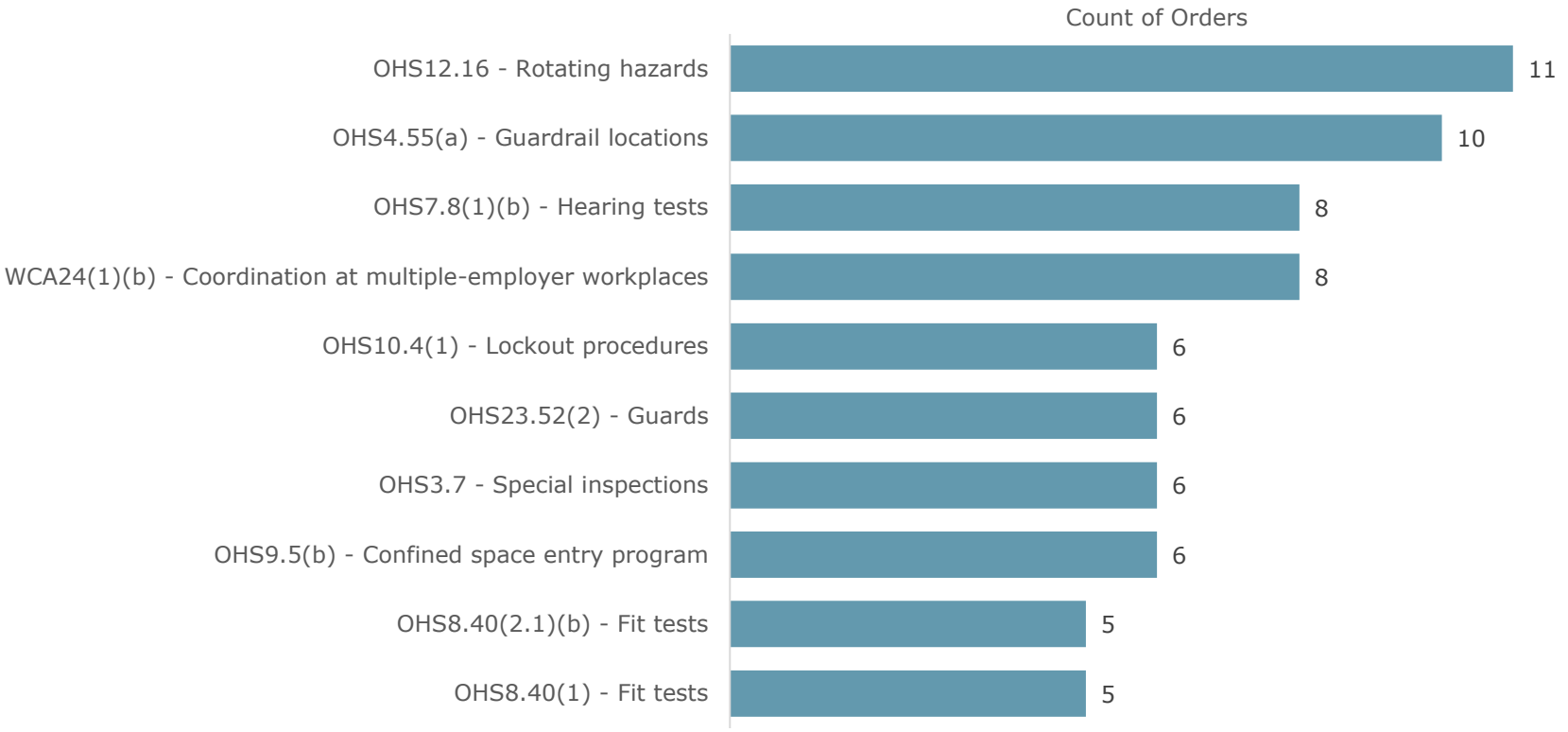
Time-loss Claims by Age Group

Worker Age Group	Female	Male	Unknown	Total	Age %
15 to 24	0	3		**3**	**11%**
25 to 34	0	9		**9**	**32%**
35 to 44	0	9		**9**	**32%**
45 to 54	0	3		**3**	**11%**
55 to 64	0	3		**3**	**11%**
65+		1		**1**	**4%**
Total	**0**	**28**	**0**	**28**	**100%**

- The most common age group is 25-34 (32%) and 35-44 (32%).
- Young worker (15 – 24 years old) injuries account for 11% of all time-loss injuries

Top 10 Orders Issued

By Regulation Paragraph



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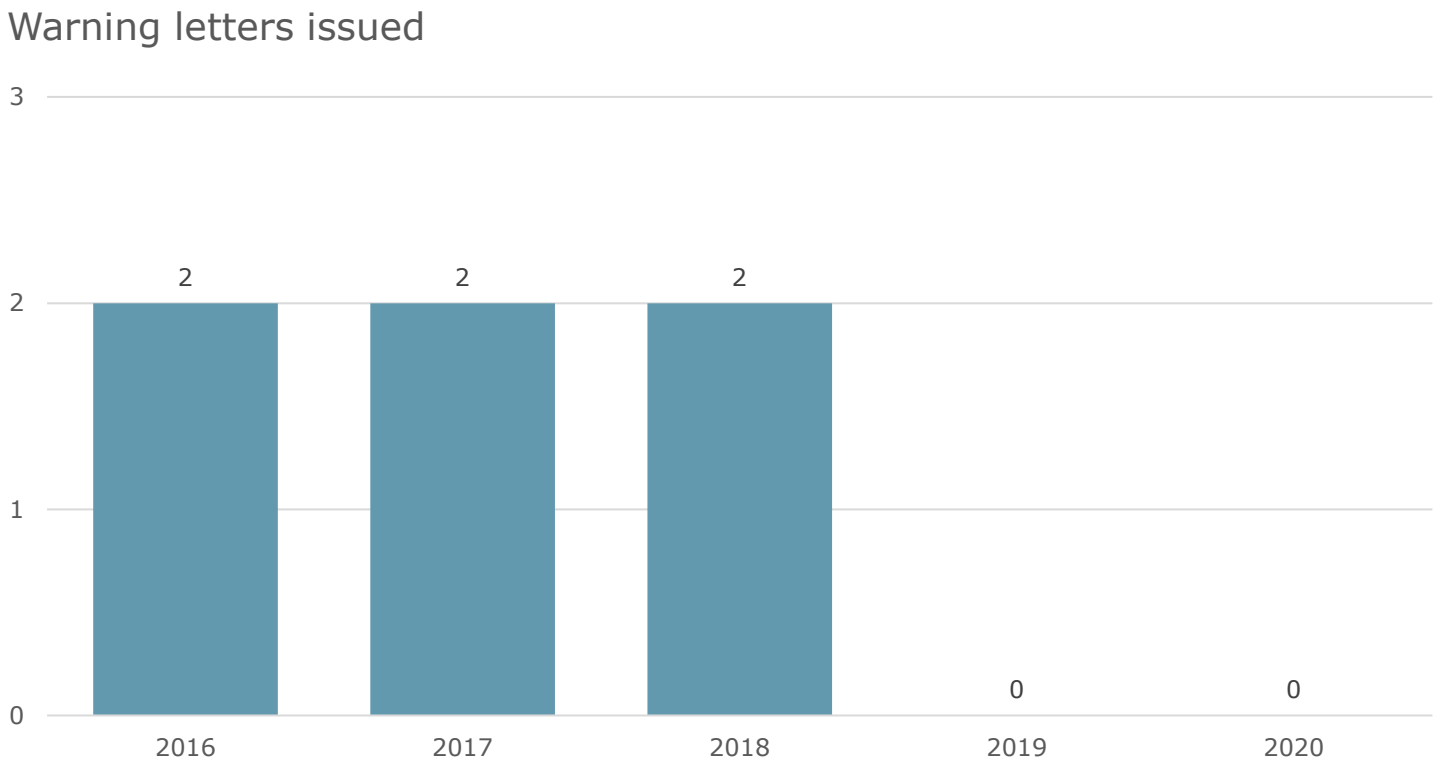
Warning letters issued



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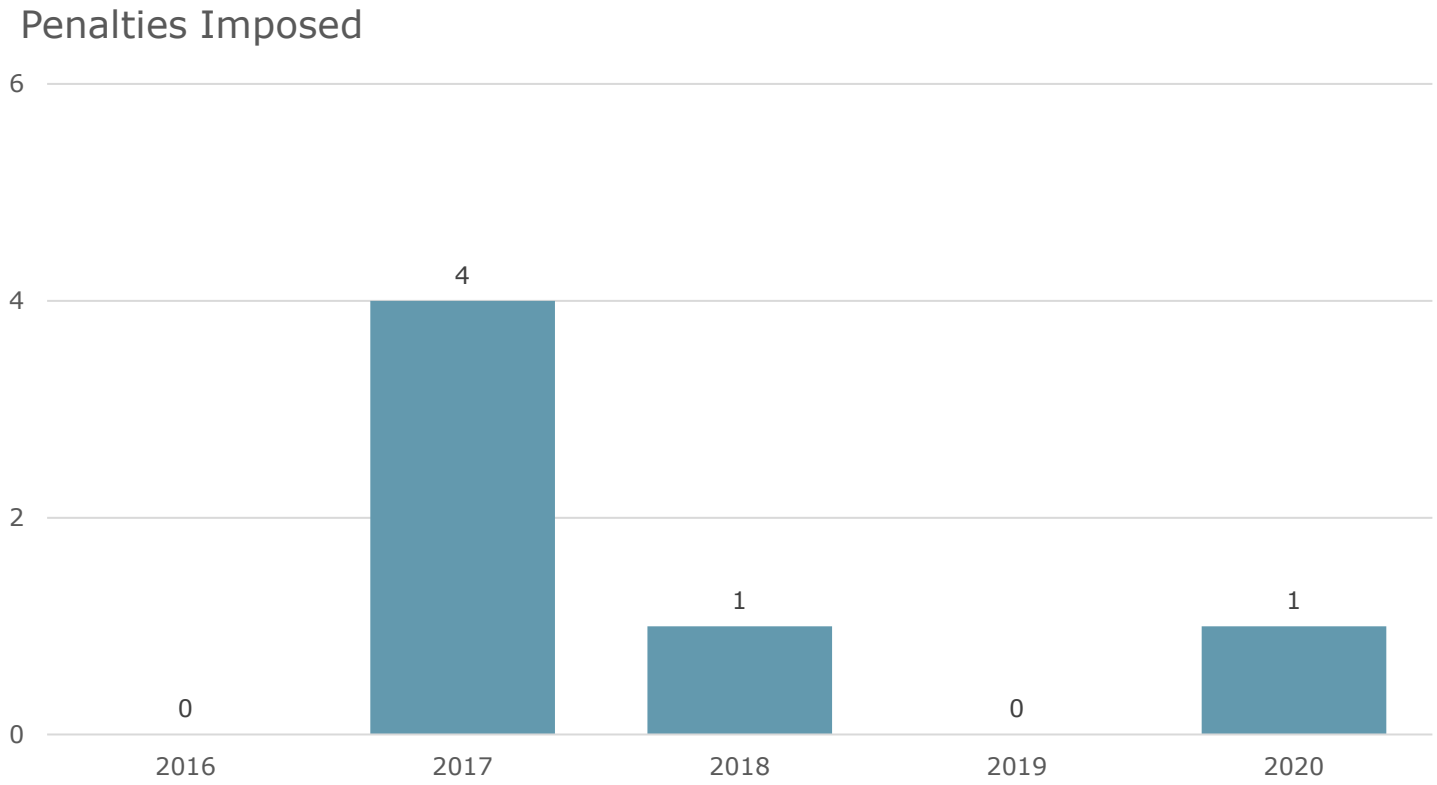
Penalties imposed



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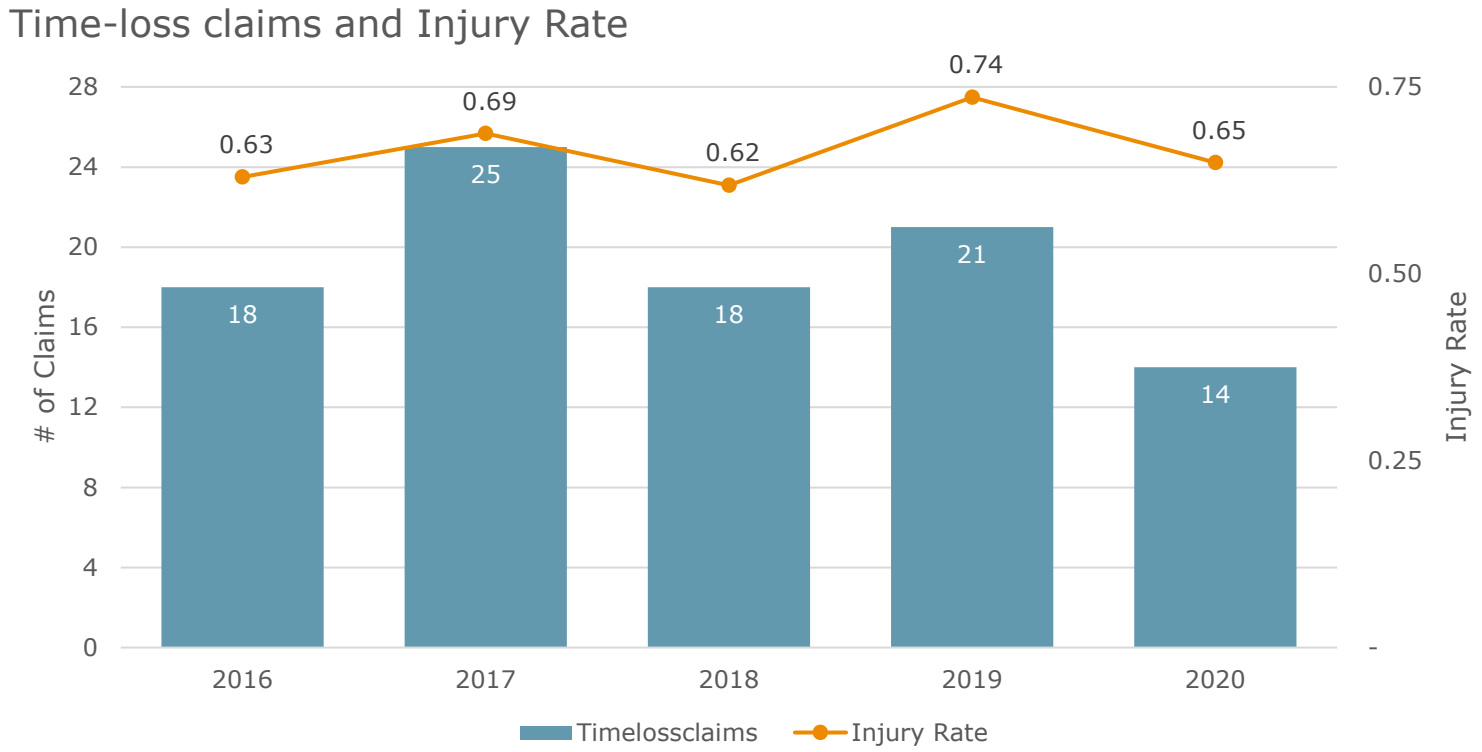
CU 704003 – Oil or Gas Field Servicing

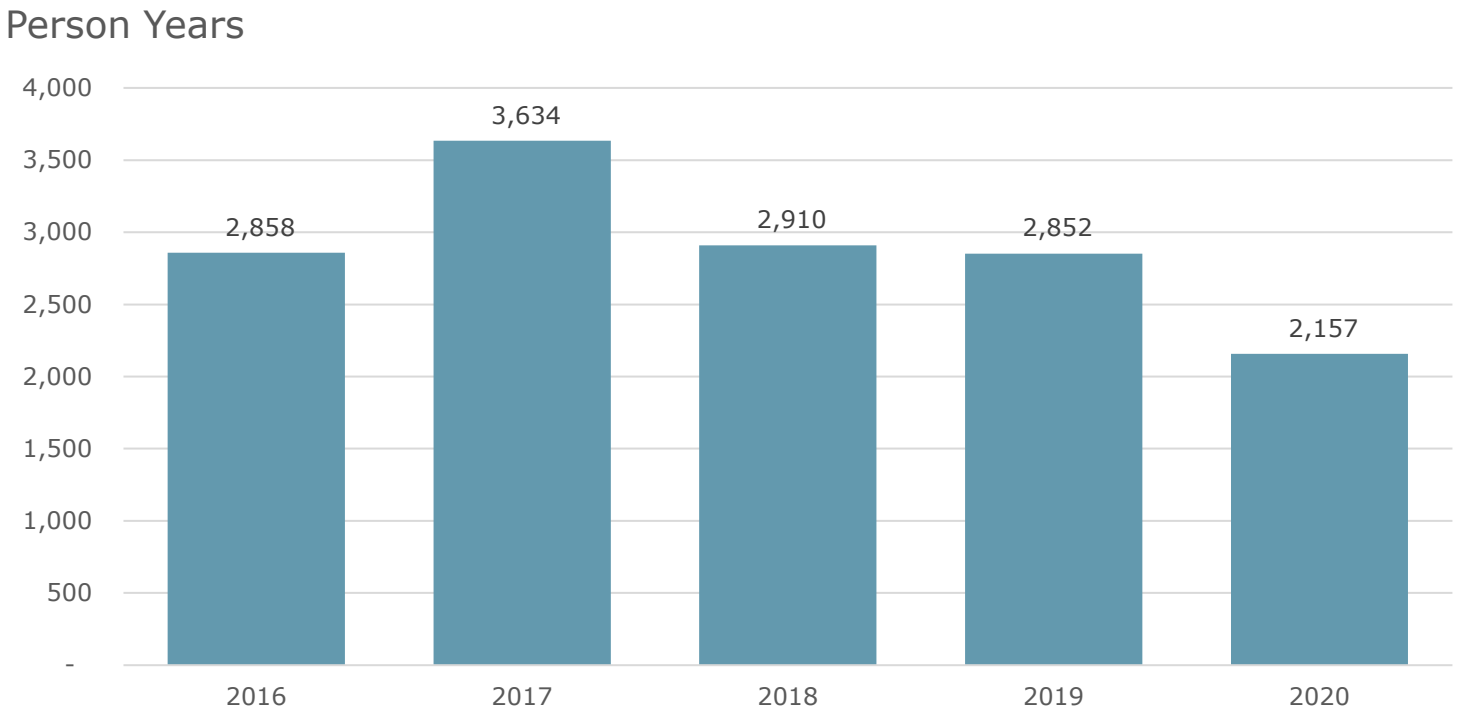
Injury Rate (Number of Time-loss Claims per 100 workers)



Injury rate has decreased 12% in 2020.

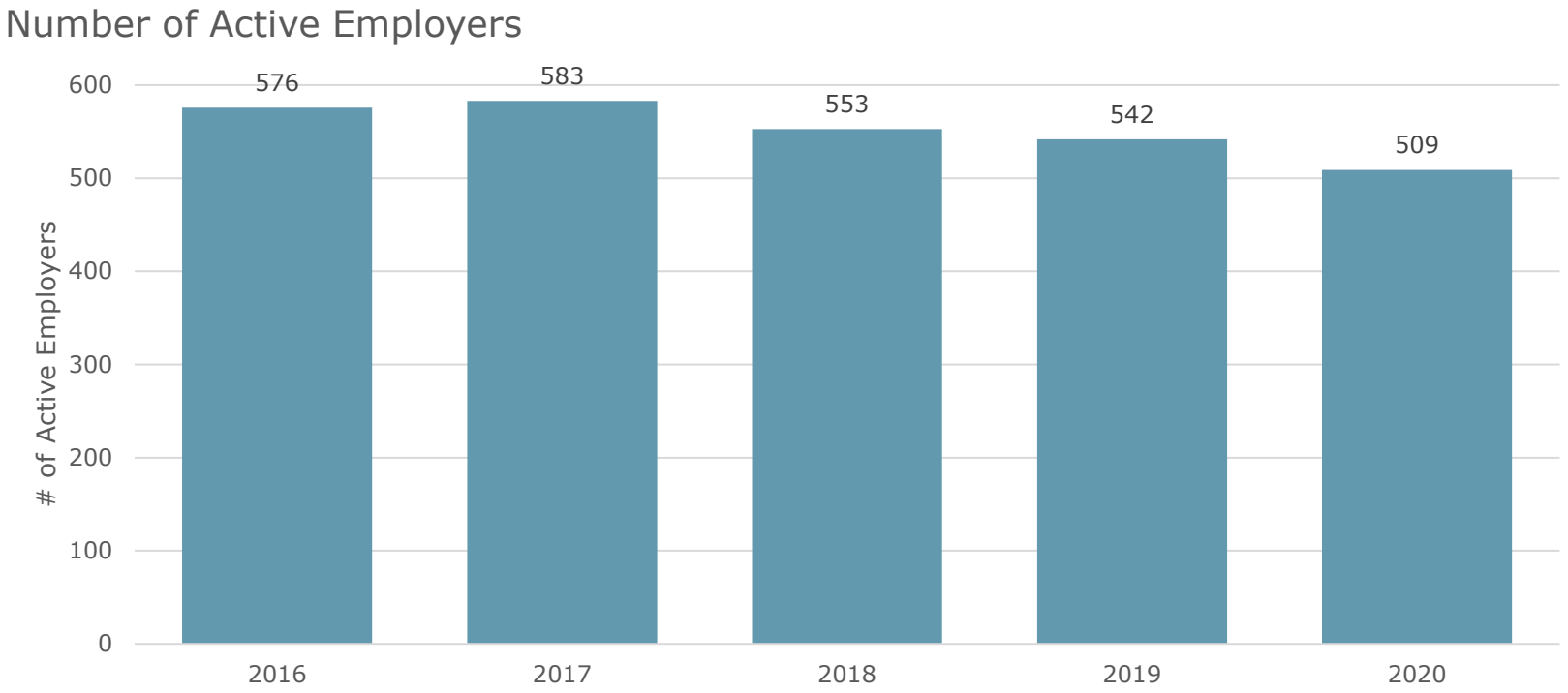
In 2020, the injury rate is about 6 time-loss claims per 1000 workers. The provincial average injury rate is 21 per 1000 workers

Estimated Number of Workers (Person Years)



Estimated number of workers in CU 704003 has decreased 24% in 2020

Number of Active Employers



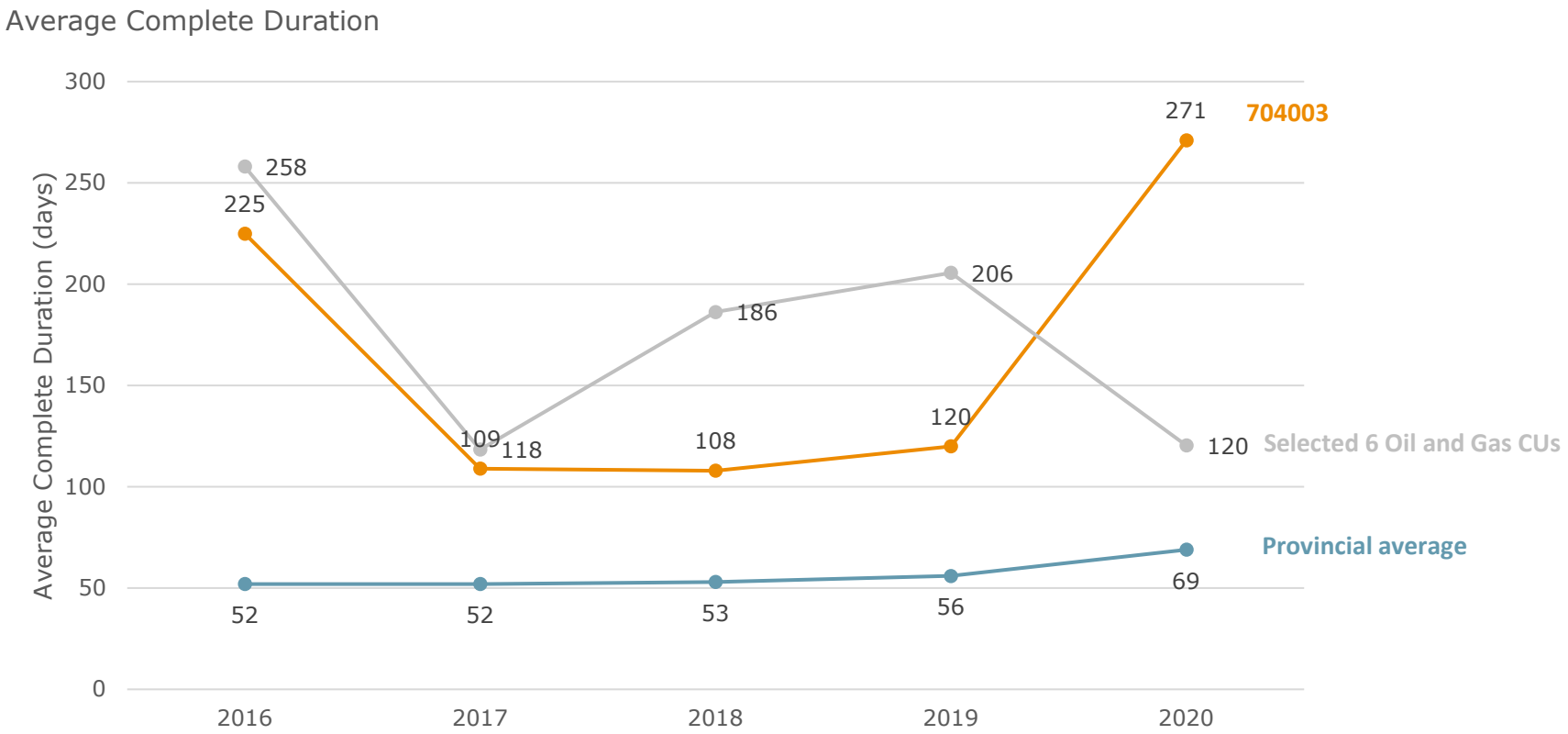
Number of active employers in CU 704003 decreased 6% in 2020

Serious Injuries and Long Recover Sprains and Strains (LRSS)

Year	Time-loss claims	Serious Injury claims	SI %	Sprain & Strain (SS) claims	LRSS	% of SS that are long recovery
2016	18	7	39%	8	3	38%
2017	25	5	20%	12	4	33%
2018	18	8	44%	5	2	40%
2019	21	5	24%	9	5	56%
2020	14	4	29%	5	2	40%

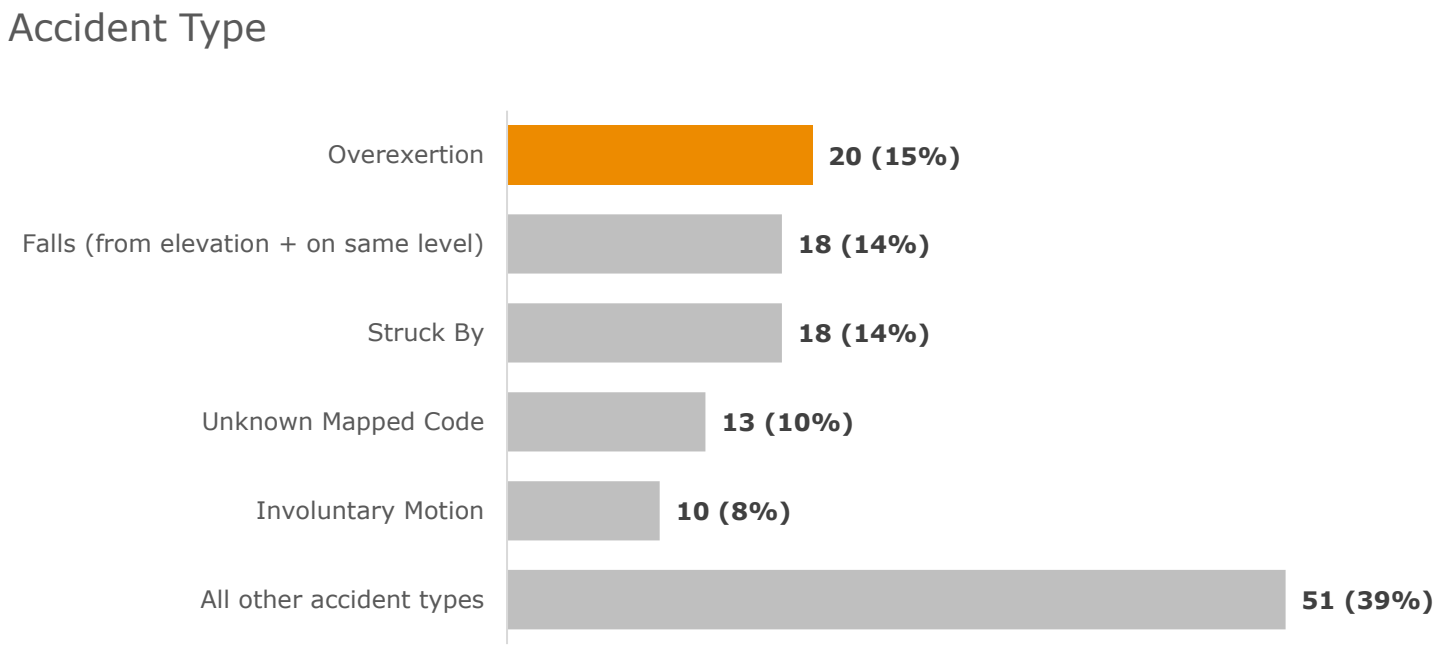
- The percentage of serious injury of CU 704003 is 29% in 2020, higher than provincial average (13%)
- In 2020, 40% of the Sprains and Strains (SS) claims are Long Recover Sprains and Strains (LRSS) claims

Average Complete Duration



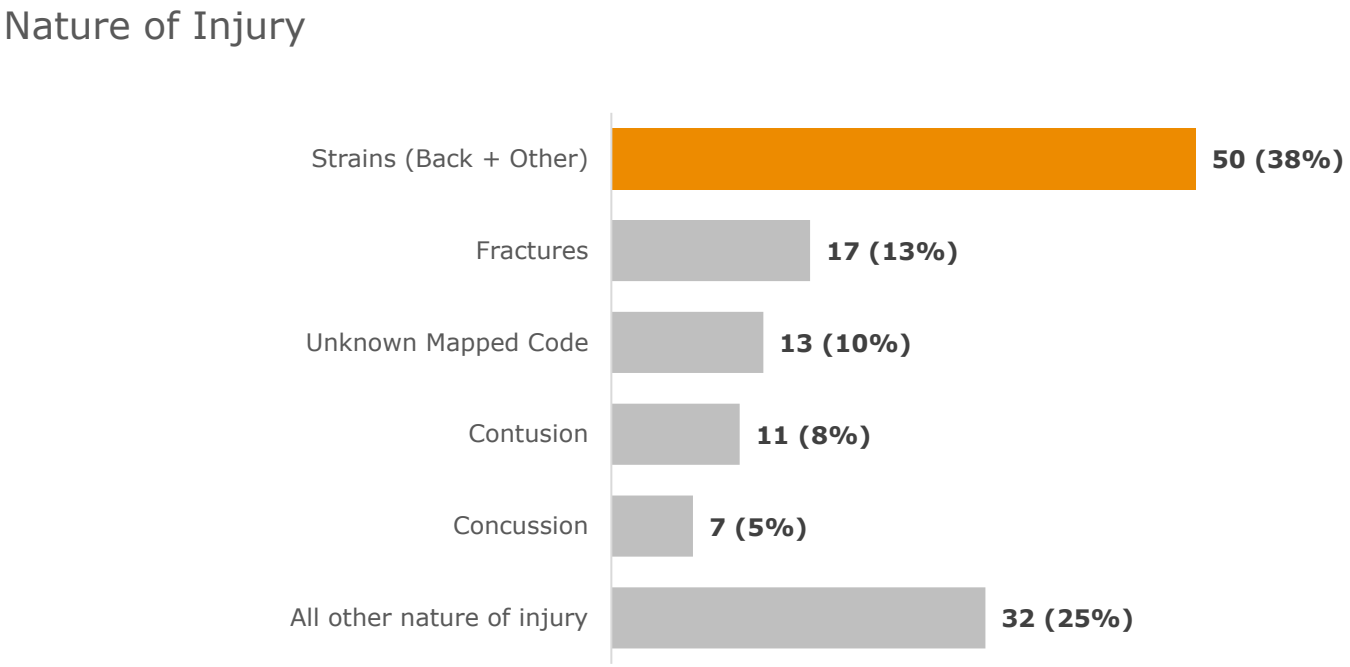
The average complete duration of CU 704003 more than doubled in 2020. It is higher than the Oil and Gas CU average and the provincial average.

Top 5 Accident Types



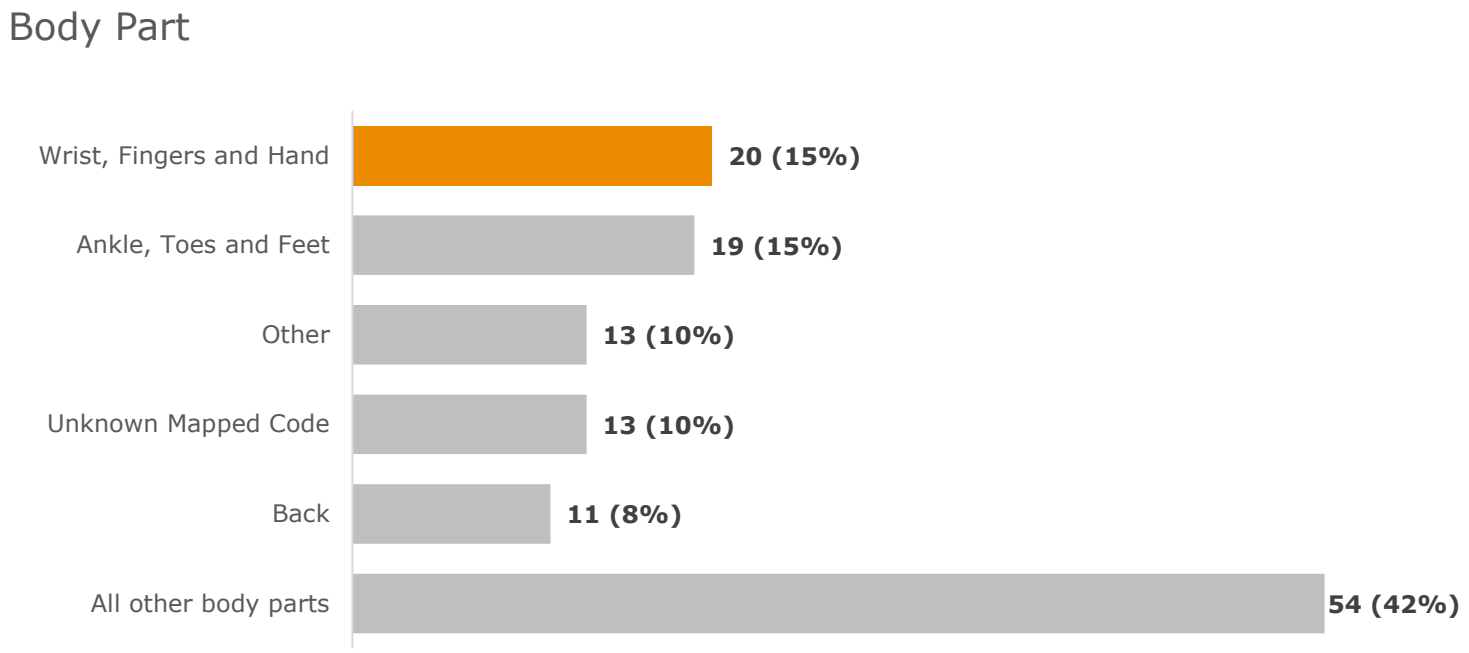
- Overexertion is the top accident type which accounts for 15% of all time-loss claims in CU 704003.
- Falls (from elevation + on same level) is the second biggest accident type which accounts for 14% of all time-loss claims.

Top 5 Nature of Injury



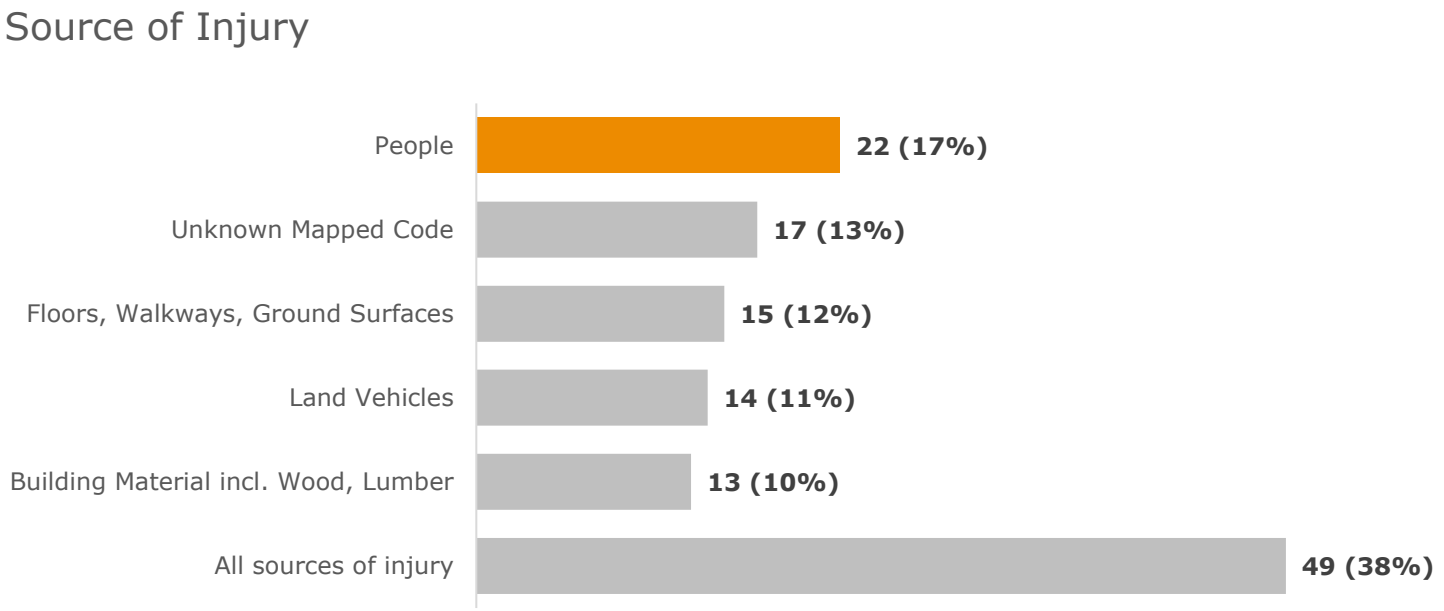
- The most common nature of injury is Strains (Back + Other) (38%) followed by Fracture (13%)

Top 5 Body Part



The most commonly injured body part is Wrist, Fingers, and Hand (15%), followed by Ankle, Toes and Feet (15%) and Other (10%).

Top 5 Source of Injury



The most common source of injury is People (17%), followed by Floors, Walkways, Ground Surfaces (12%) and Land Vehicles (11%)

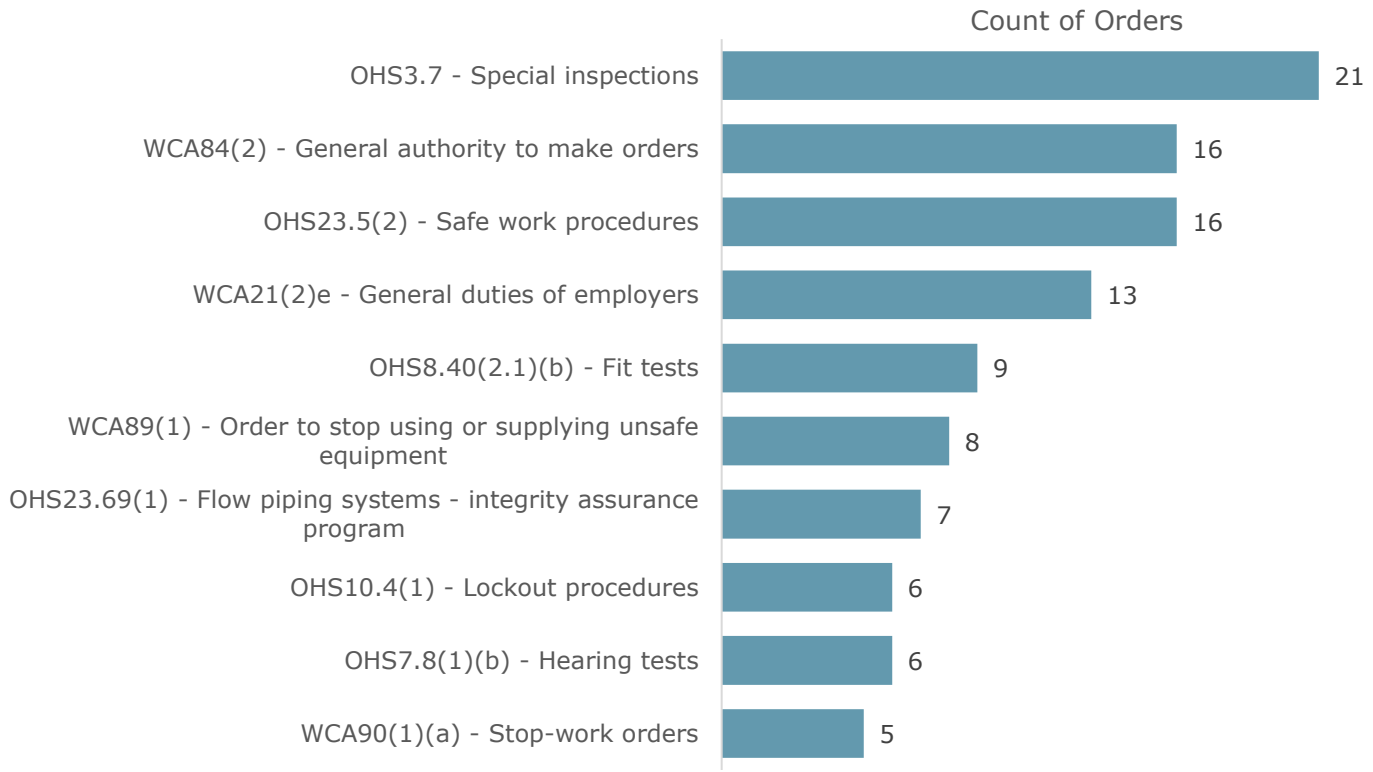
Time-loss Claims by Age Group

Worker Age Group	Female	Male	Unknown	Total	Age %
15 to 24		21		**21**	**16%**
25 to 34	6	37		**43**	**33%**
35 to 44	1	29		**30**	**23%**
45 to 54	2	20	1	**23**	**18%**
55 to 64	1	10		**11**	**8%**
65+		2		**2**	**2%**
Total	**10**	**119**	**1**	**130**	**100%**

- The most common age group is 25-34 (33%).
- Young worker (15 – 24 years old) injuries account for 16% of all time-loss injuries

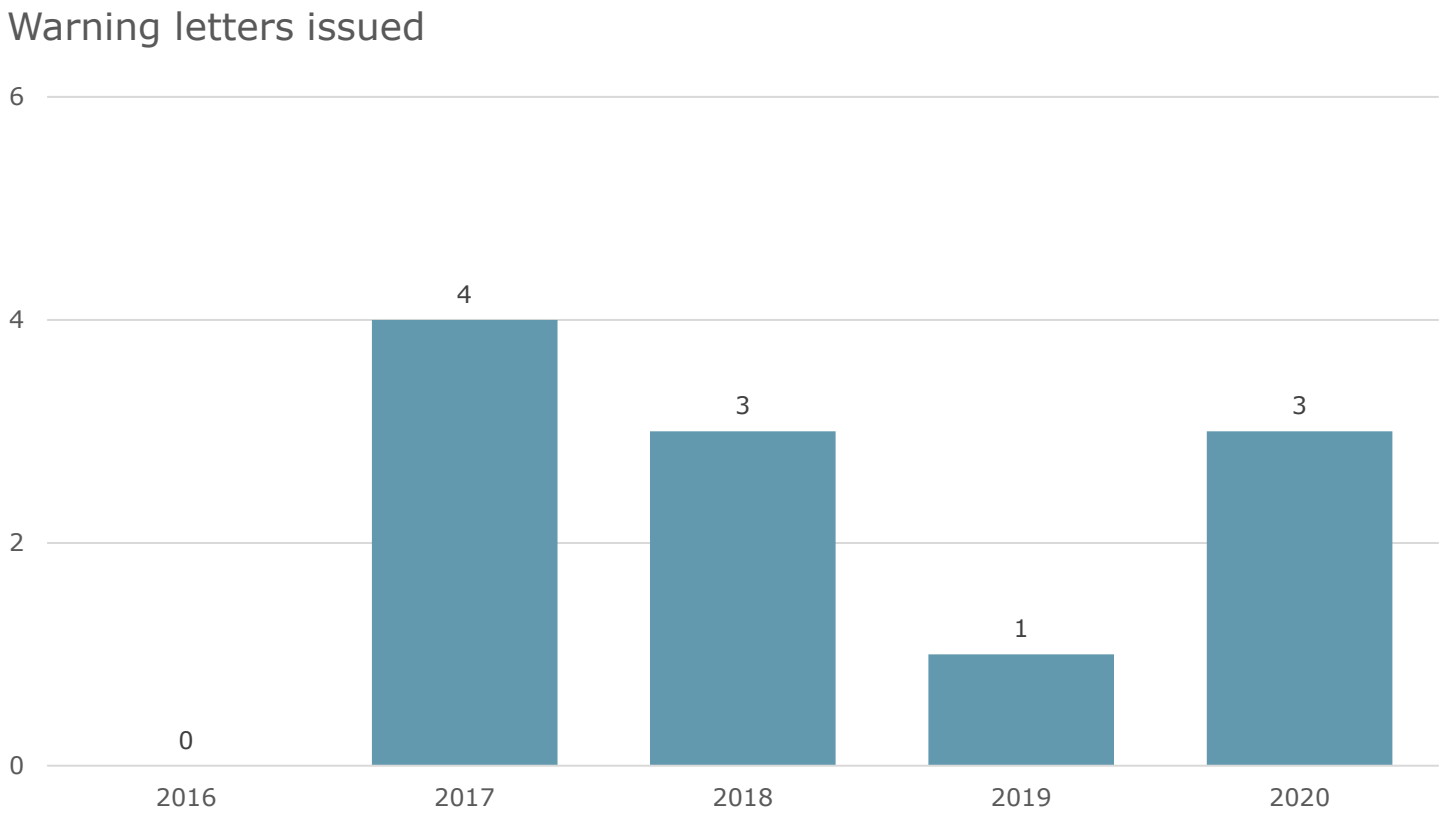
Top 10 Orders Issued

By Regulation Paragraph



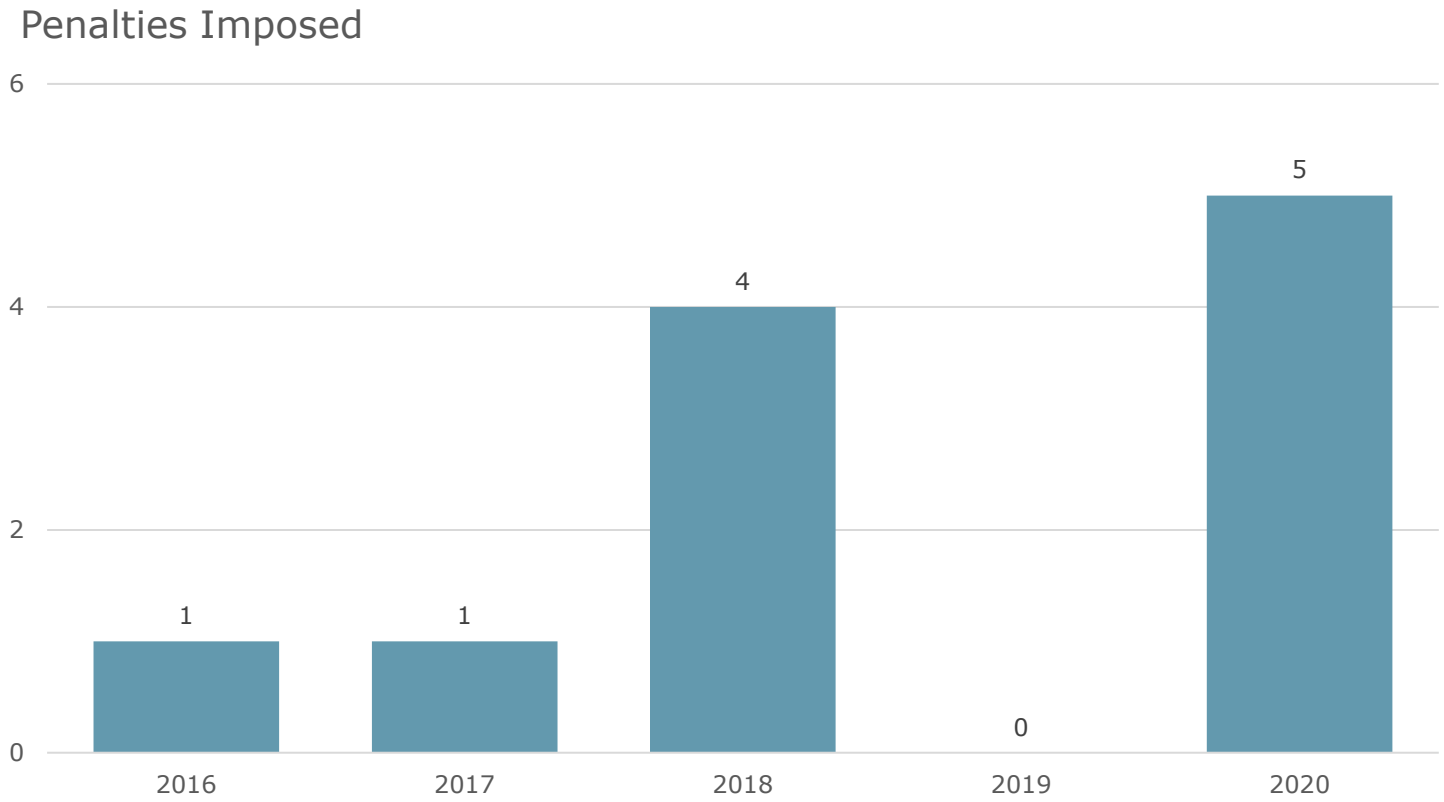
<Add insights>

Warning letters issued



<Add insights>

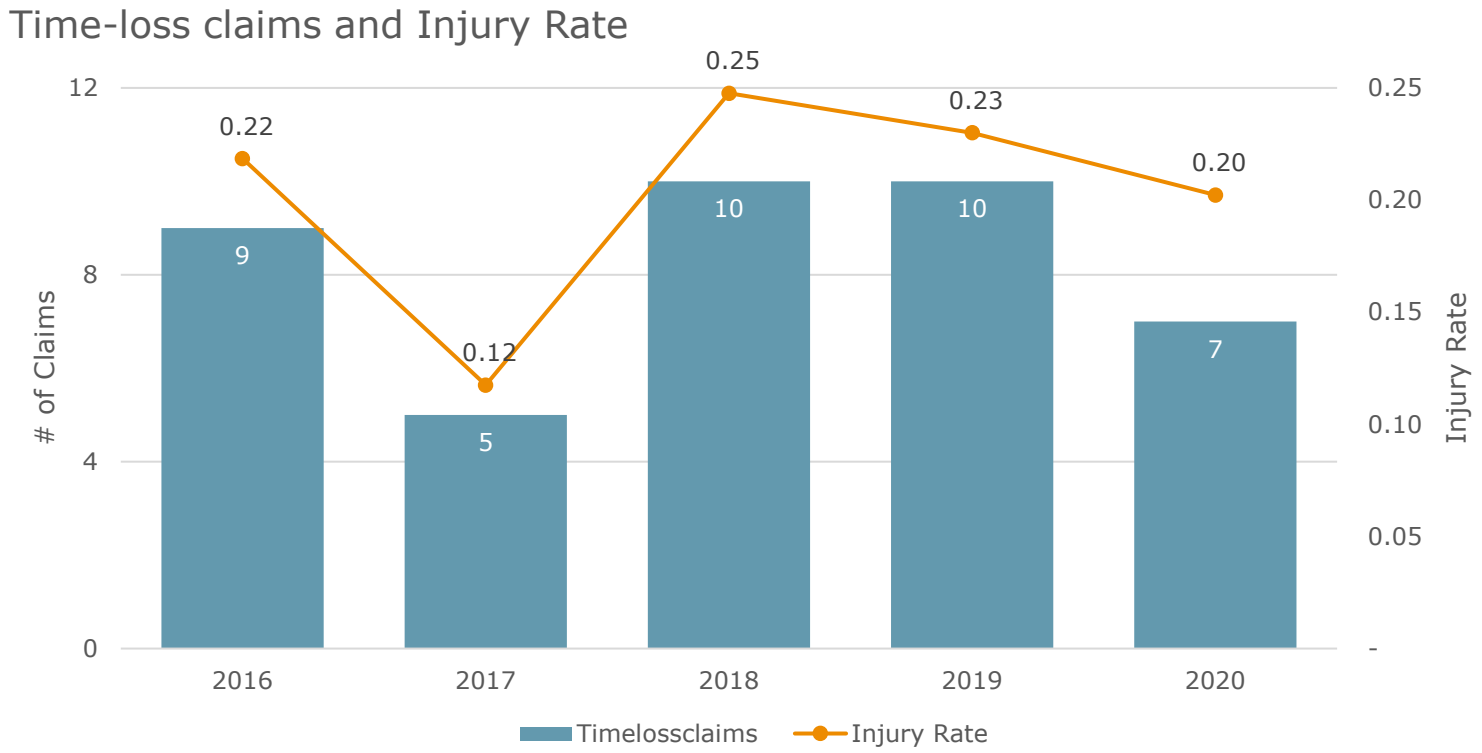
Penalties imposed



<Add insights>

CU 713018 – Oil or Gas Production

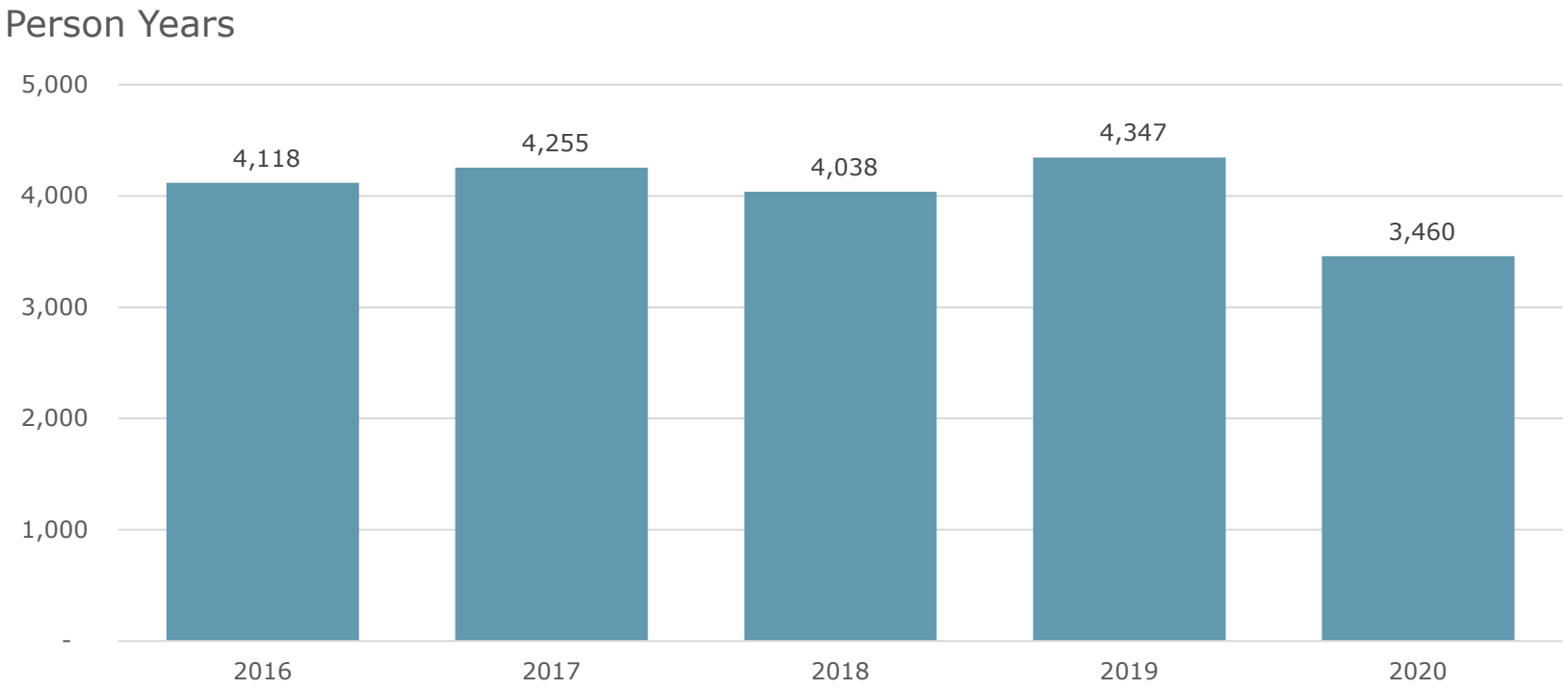
Injury Rate (Number of Time-loss Claims per 100 workers)



Injury rate has decreased 13% in 2020.

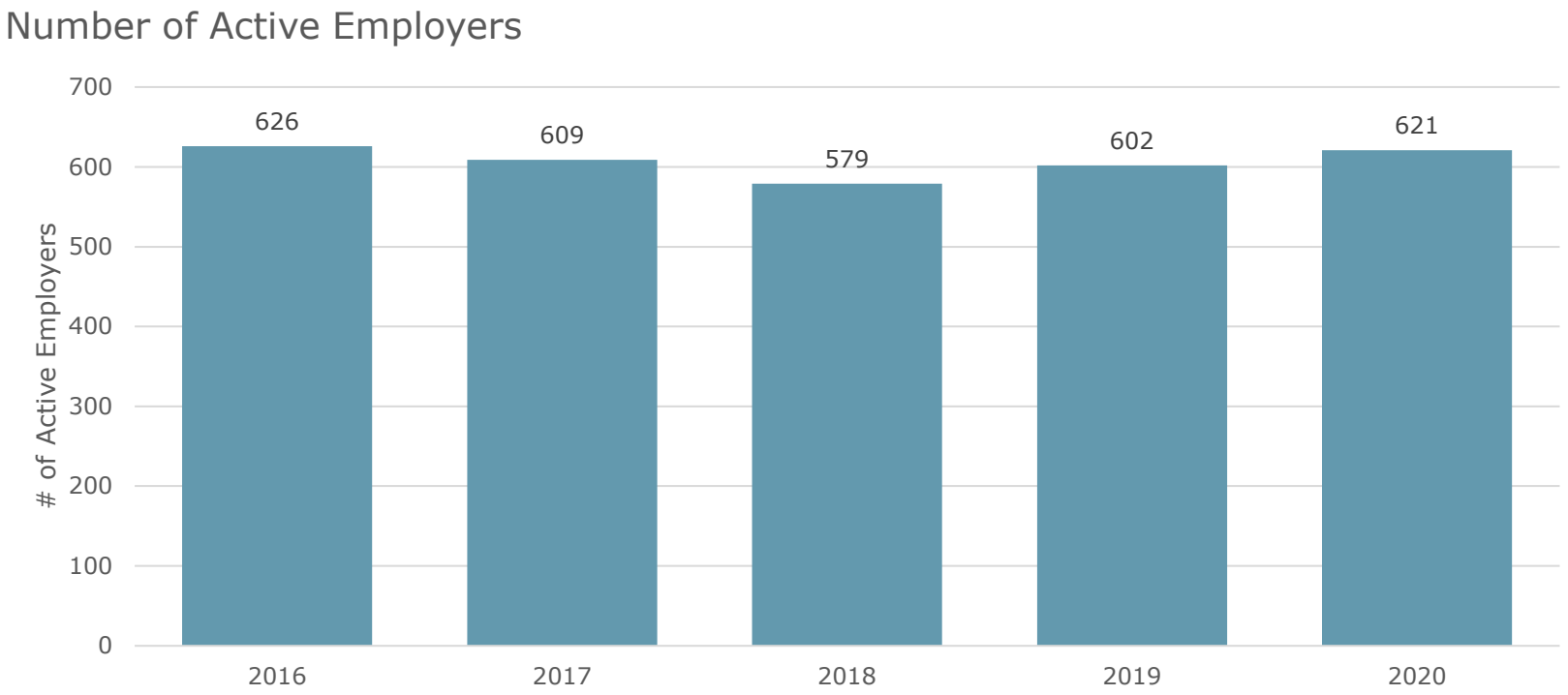
In 2020, the injury rate is about 2 time-loss claims per 1000 workers. The provincial average injury rate is 21 per 1000 workers

Estimated Number of Workers (Person Years)



Estimated number of workers in CU 713018 has decreased 20% in 2020

Number of Active Employers



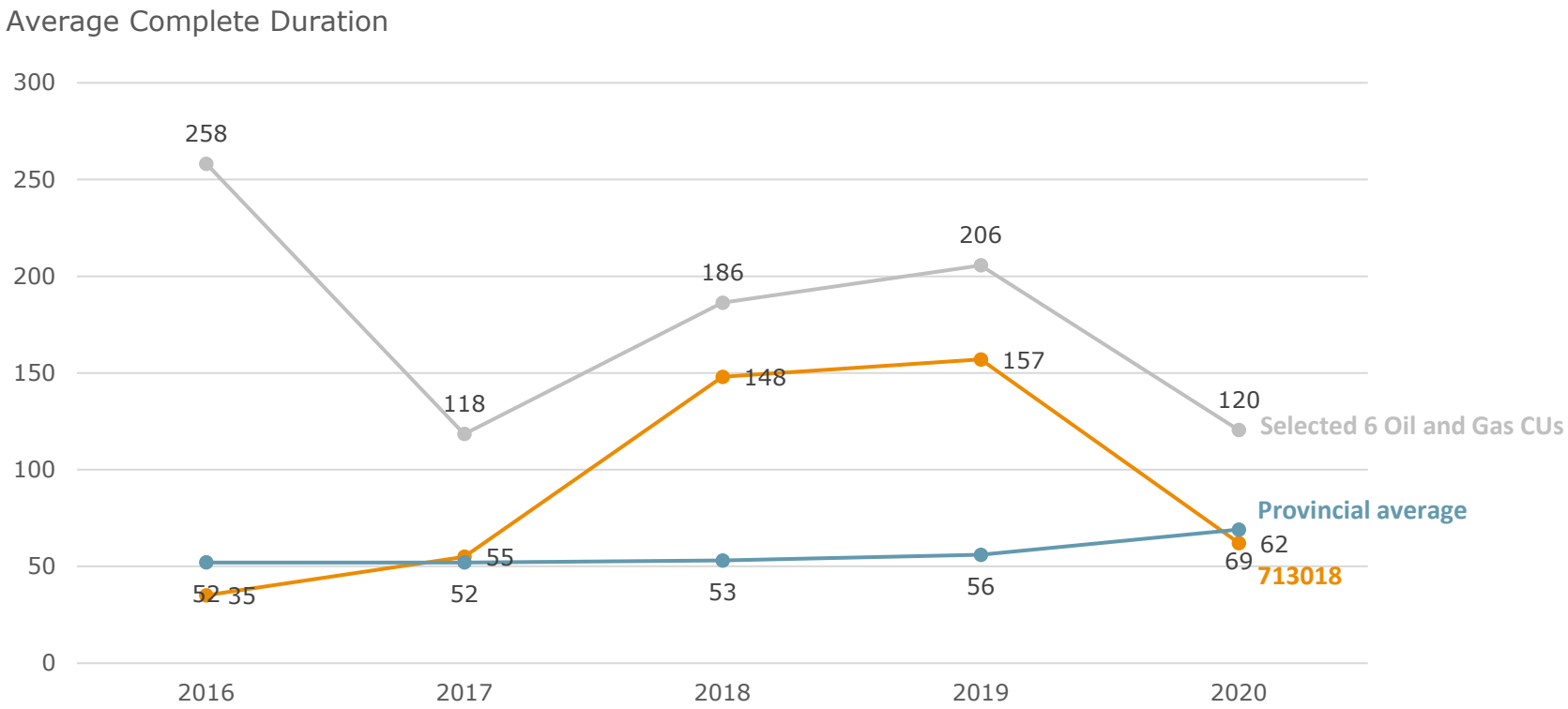
Number of active employers in CU 713018 increased 3% in 2020

Serious Injuries and Long Recover Sprains and Strains (LRSS)

Year	Time-loss claims	Serious Injury claims	SI %	Sprain & Strain (SS) claims	LRSS	% of SS that are long recovery
2016	9	4	44%	4	0	0%
2017	5	3	60%	3	2	67%
2018	10	4	40%	3	2	67%
2019	10	2	20%	5	2	40%
2020	7	2	29%	3	0	0%

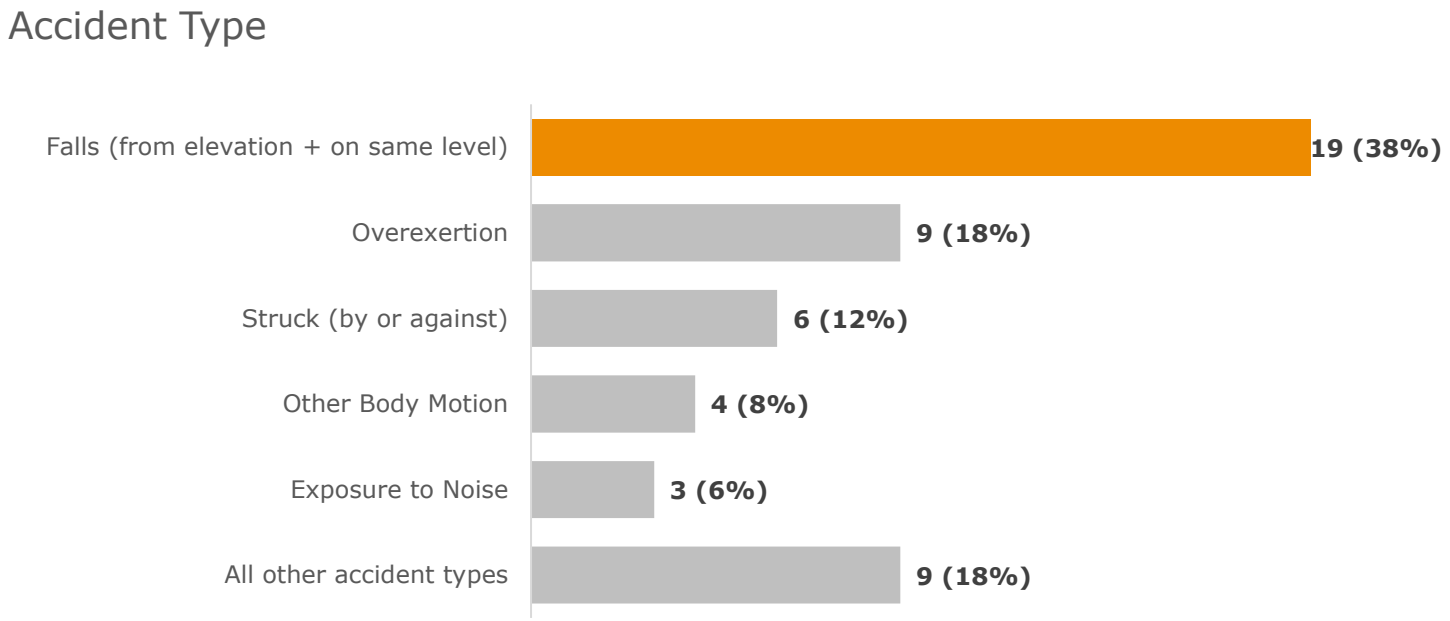
- The percentage of serious injury of CU 713018 is 29% in 2020, higher than provincial average (13%)
- In 2020, none of the Sprains and Strains (SS) claim is Long Recover Sprains and Strains (LRSS) claim

Average Complete Duration



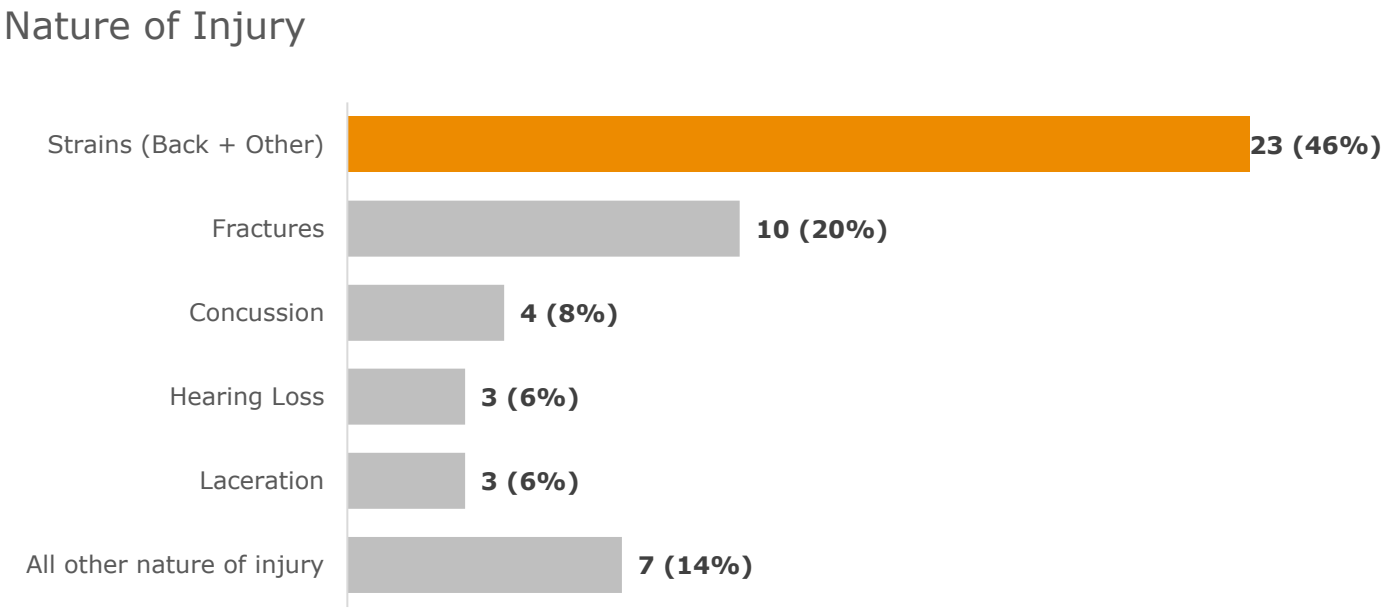
The average complete duration of CU 713018 decreased more than 60% in 2020. It is lower than the Oil and Gas CU average and the provincial average.

Top 5 Accident Types



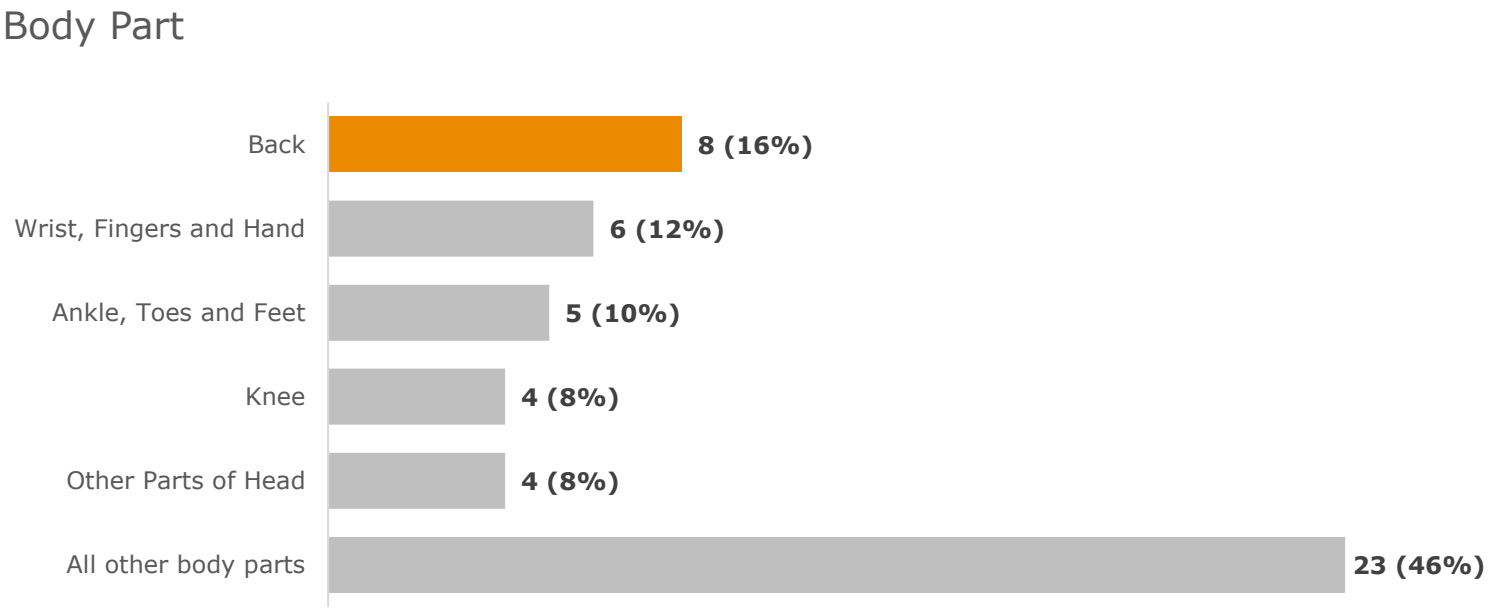
- Falls (from elevation + on same level) is the top accident type which accounts for 38% of all time-loss claims in CU 713018.
- Overexertion is the second biggest accident type which accounts for 18% of all time-loss claims.

Top 5 Nature of Injury



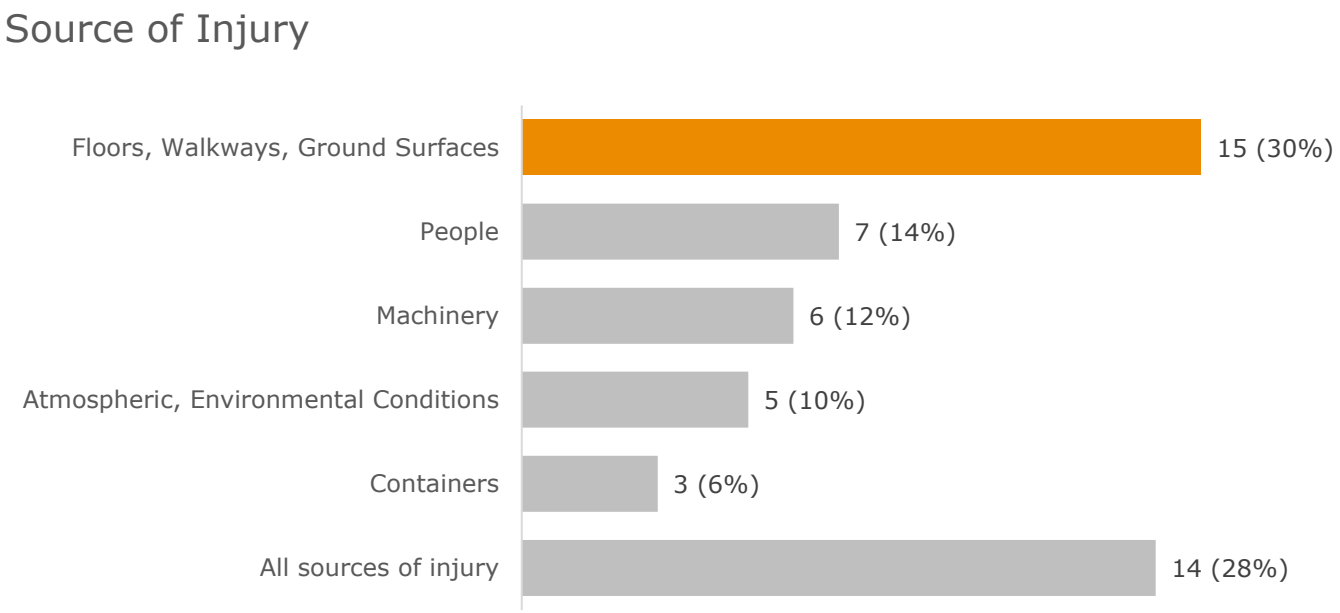
- The most common nature of injury is Strains (Back + Other) (46%) followed by Fracture (20%)

Top 5 Body Part



The most commonly injured body part is Back (16%), followed by Wrist, Fingers, and Hand (12%), and Ankle, Toes and Feet (10%)

Top 5 Source of Injury



The most common source of injury is Floors, Walkways, Ground Surfaces (30%), followed by People (14%) and Machinery (12%)

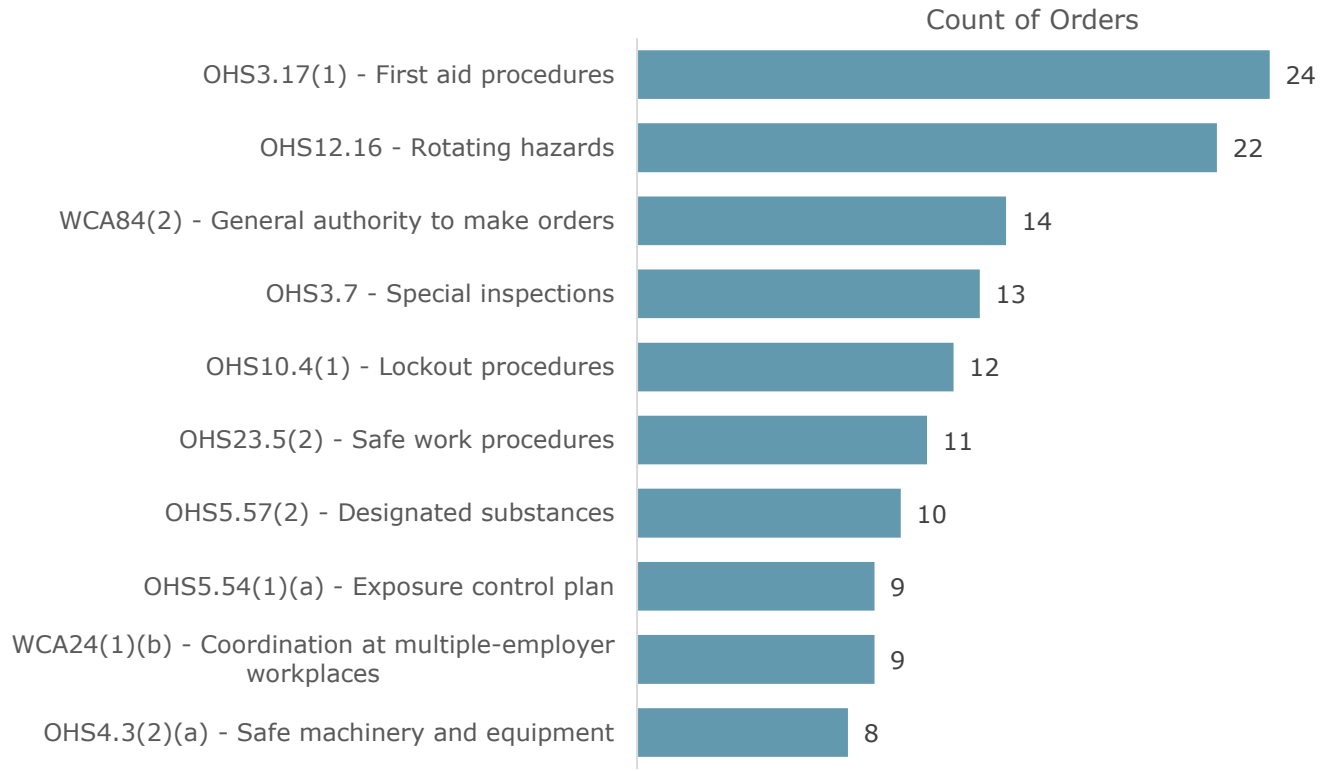
Time-loss Claims by Age Group

Worker Age Group	Female	Male	Unknown	Total	Age %
15 to 24	1	1		**2**	**4%**
25 to 34		8		**8**	**16%**
35 to 44		8		**8**	**16%**
45 to 54	2	13		**15**	**30%**
55 to 64	1	15		**16**	**32%**
65+		1		**1**	**2%**
Total	**4**	**46**	**0**	**50**	**100%**

- The most common age group is 55-64 (32%).
- Young worker (15 – 24 years old) injuries account for 4% of all time-loss injuries

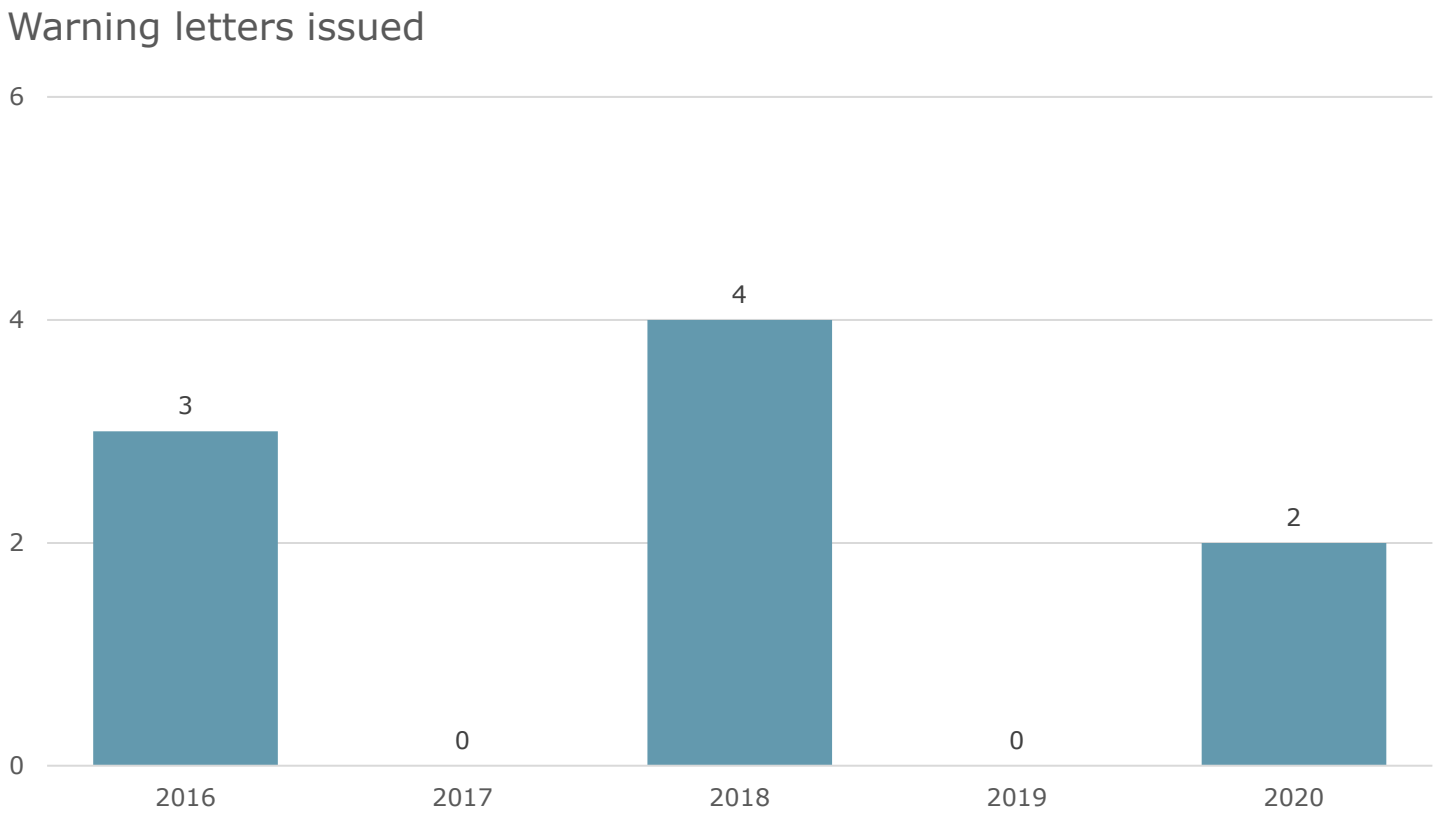
Top 10 Orders Issued

By Regulation Paragraph



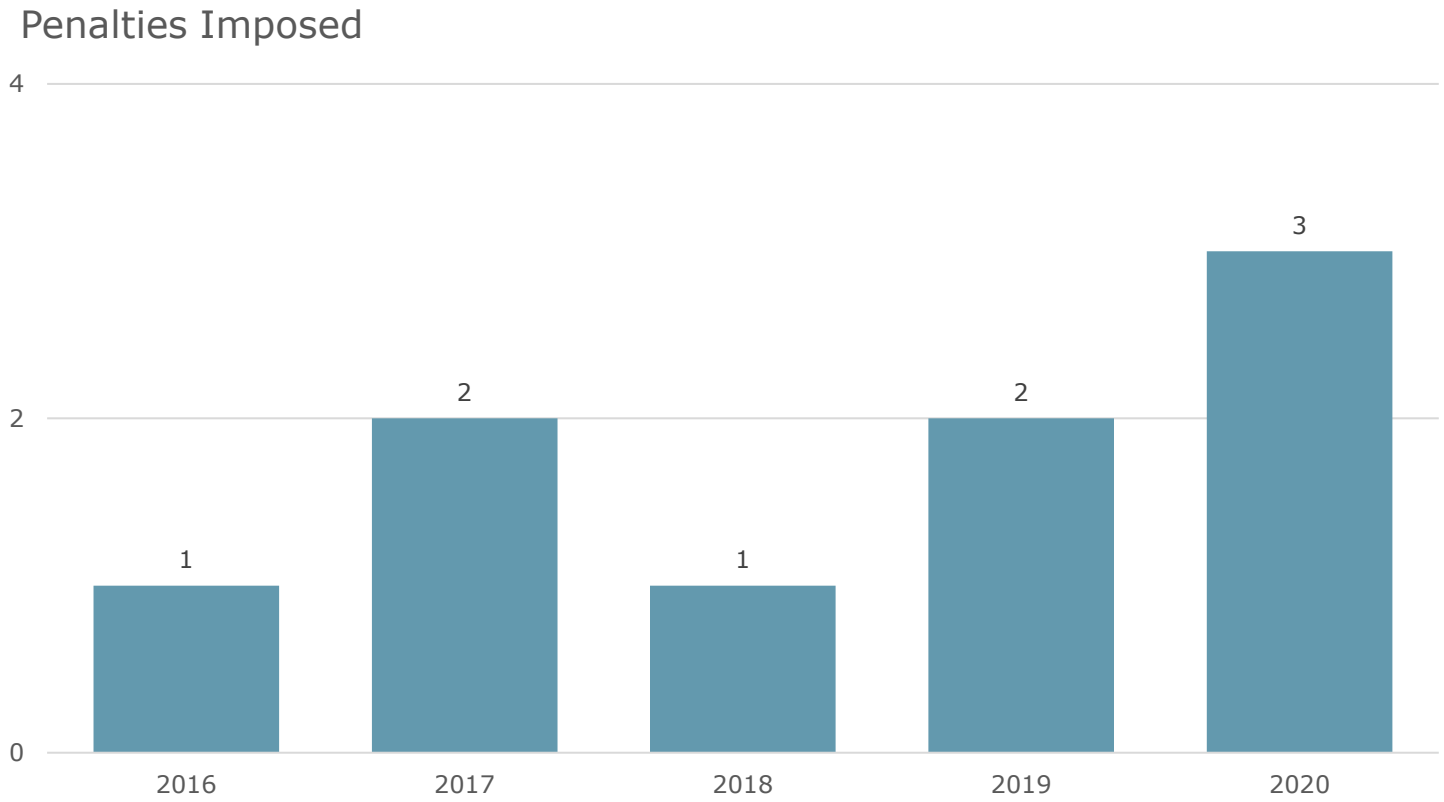
<Add insights>

Warning letters issued



<Add insights>

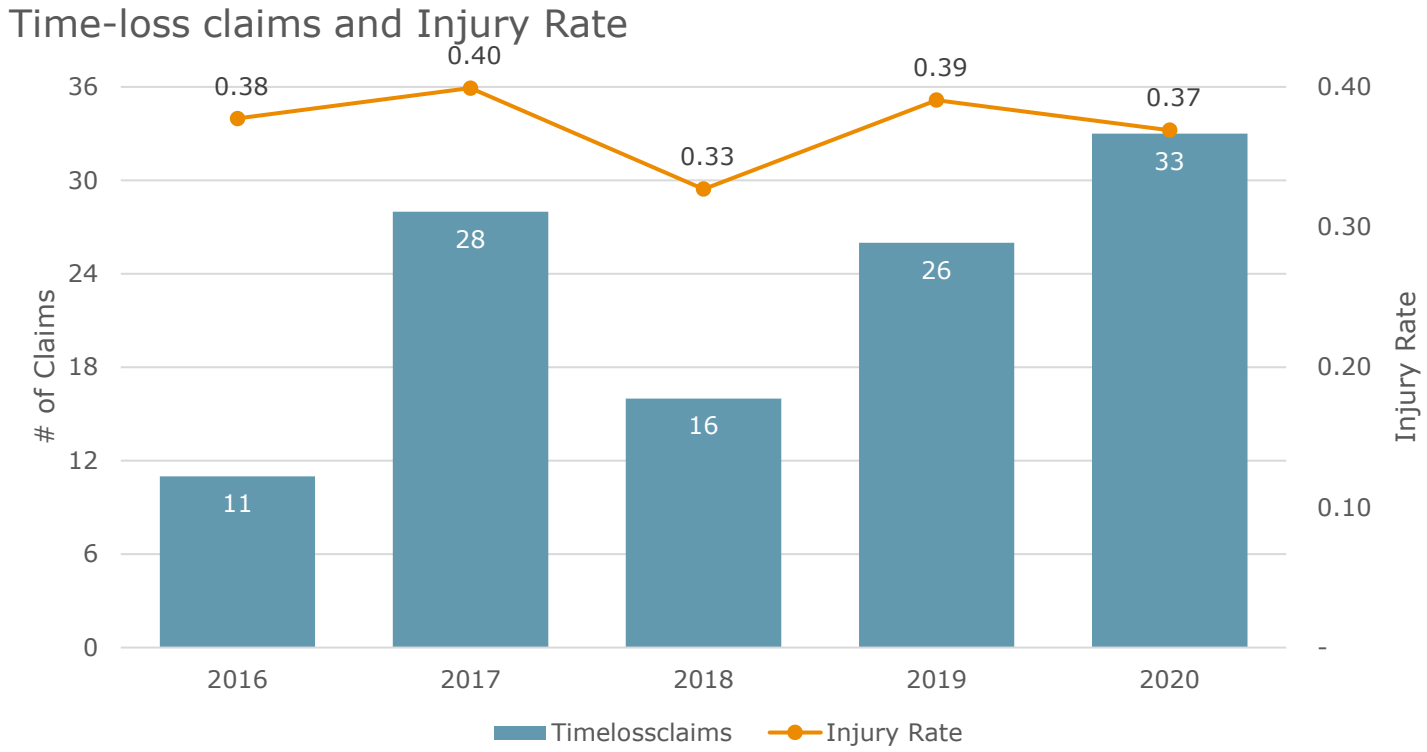
Penalties imposed



<Add insights>

CU 721038 – Oil or Gas Pipeline Construction or Repair

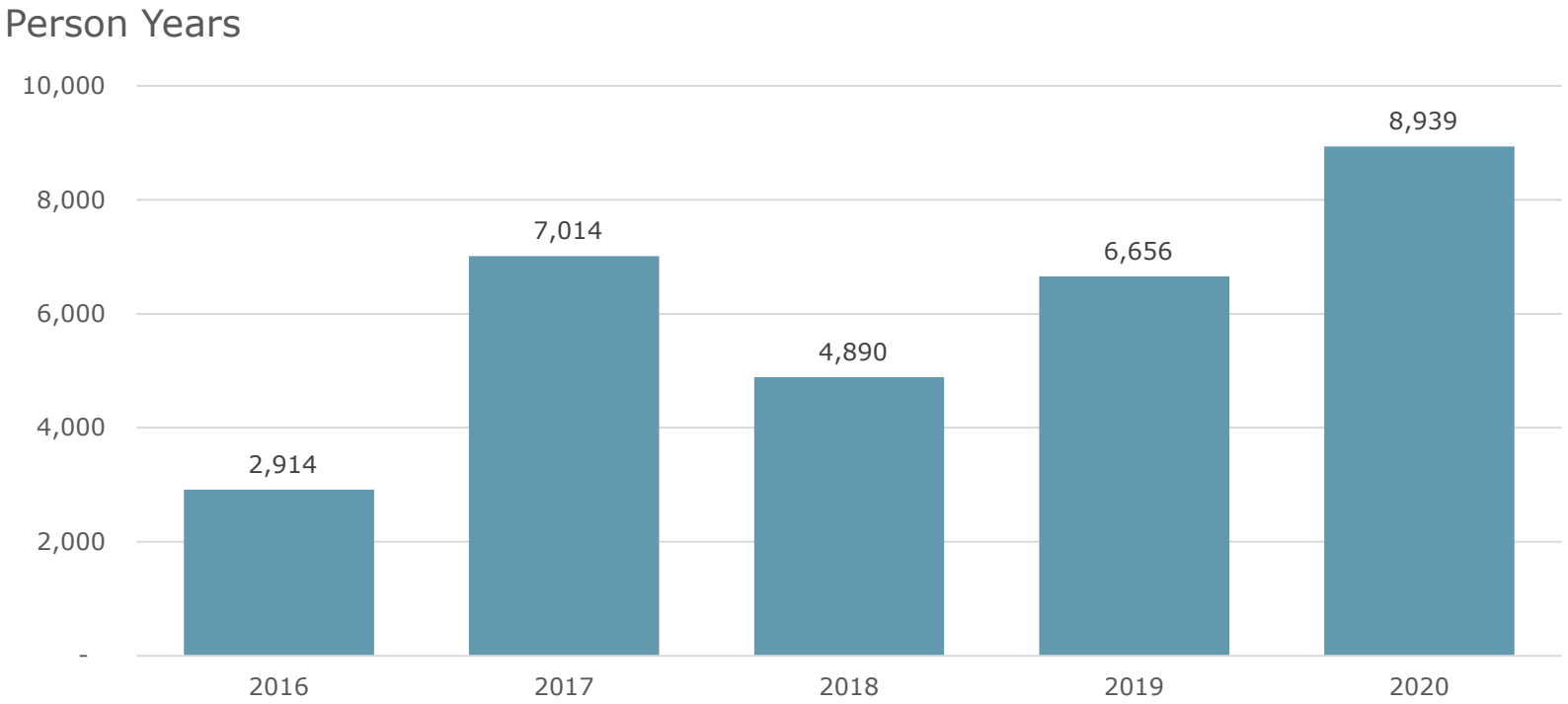
Injury Rate (Number of Time-loss Claims per 100 workers)



Injury rate has decreased 5% in 2020.

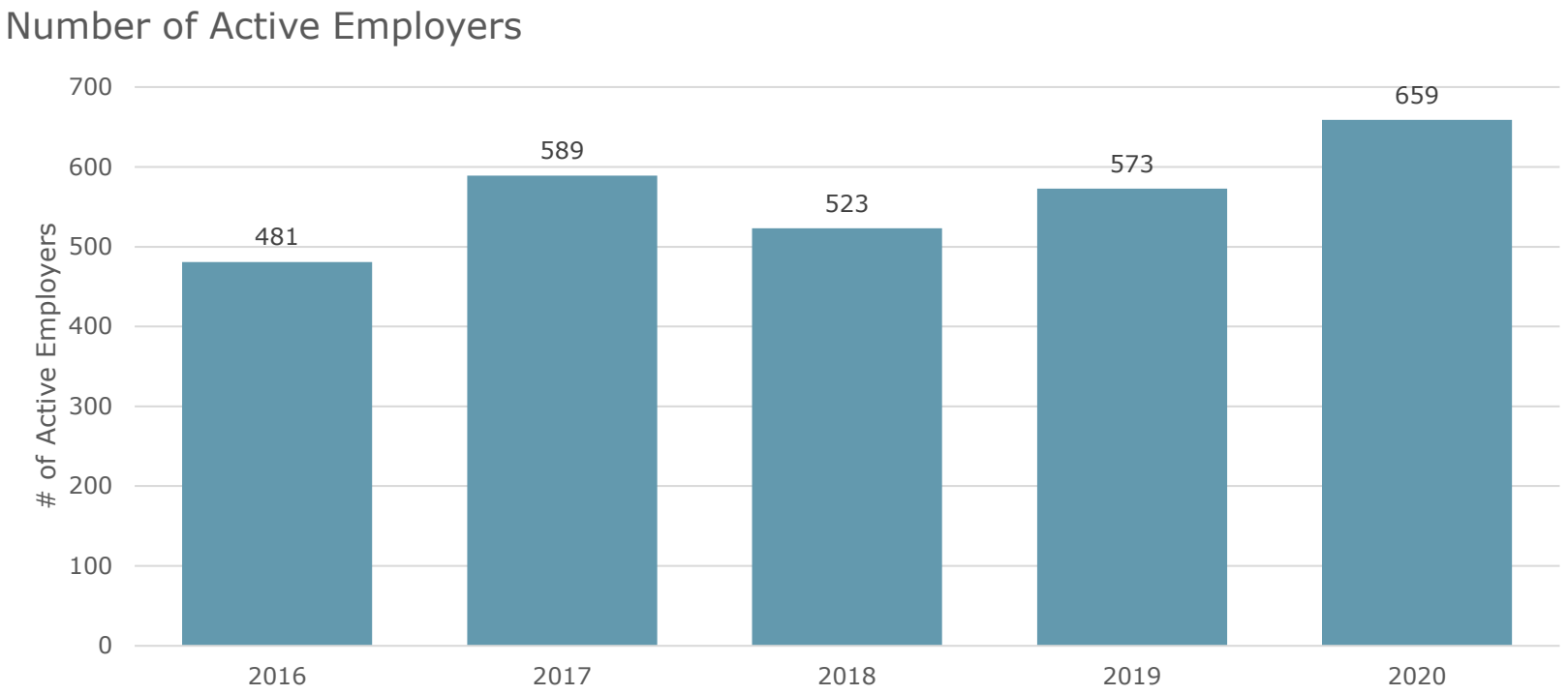
In 2020, the injury rate is about 4 time-loss claims per 1000 workers. The provincial average injury rate is 21 per 1000 workers

Estimated Number of Workers (Person Years)



Estimated number of workers in CU 721038 has increased 34% in 2020

Number of Active Employers



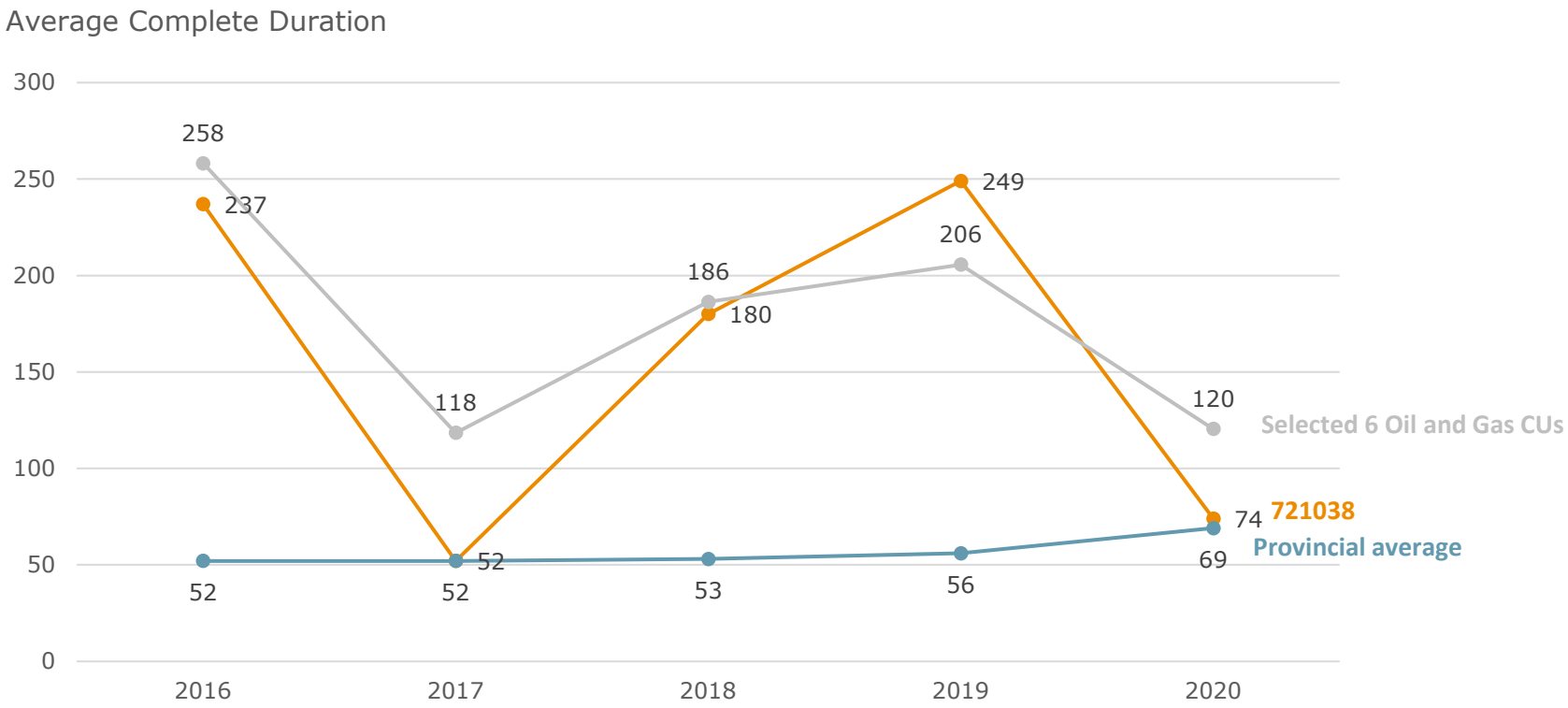
Number of active employers in CU 721038 increased 15% in 2020

Serious Injuries and Long Recover Sprains and Strains (LRSS)

Year	Time-loss claims	Serious Injury claims	SI %	Sprain & Strain (SS) claims	LRSS	% of SS that are long recovery
2016	11	5	45%	4	3	75%
2017	28	13	46%	11	6	55%
2018	16	6	38%	6	1	17%
2019	26	10	38%	17	10	59%
2020	33	7	21%	16	8	50%

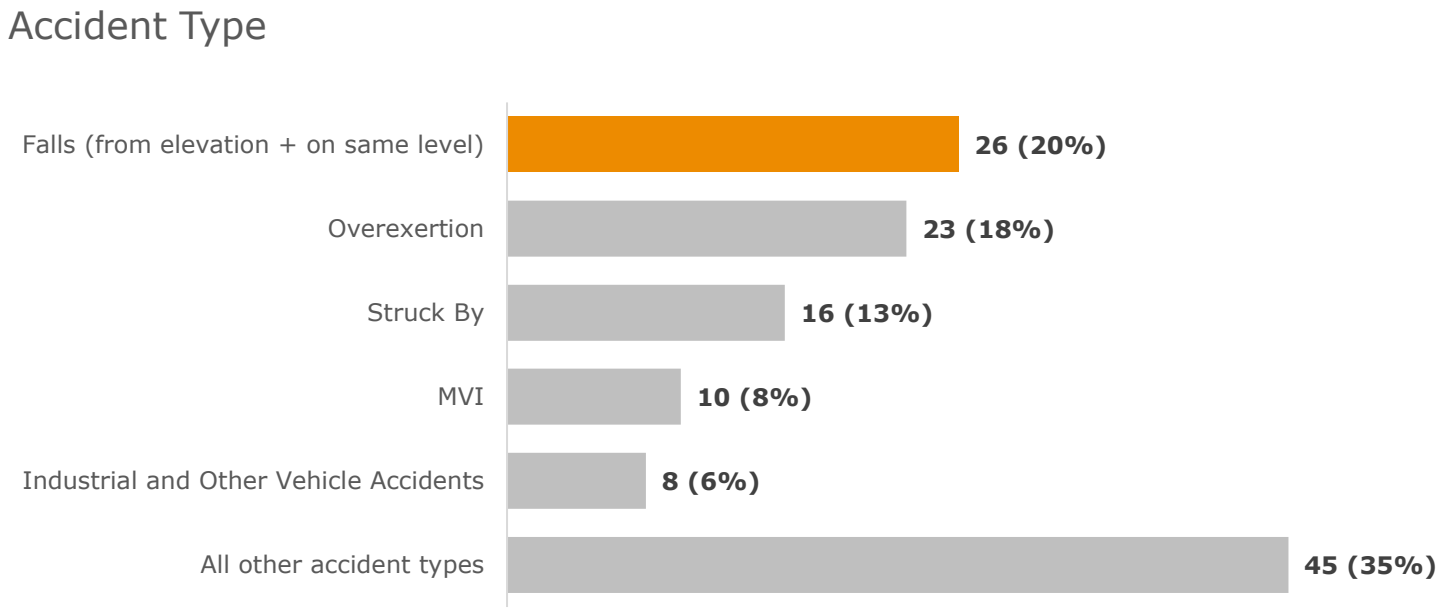
- The percentage of serious injury of CU 721038 is 21% in 2020, higher than provincial average (13%)
- In 2020, 50% of the Sprains and Strains (SS) claims are Long Recover Sprains and Strains (LRSS) claims

Average Complete Duration



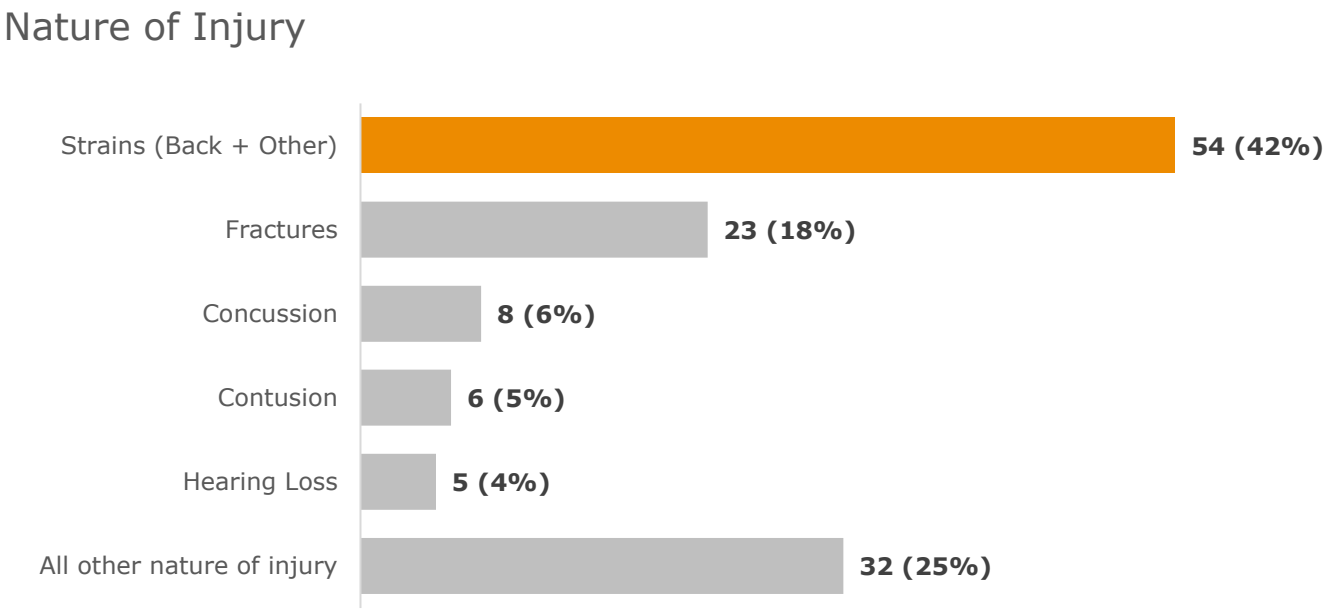
The average complete duration of CU 721038 is very volatile, it decreased more than 70% in 2020. It is lower than the Oil and Gas CU average but higher than the provincial average.

Top 5 Accident Types



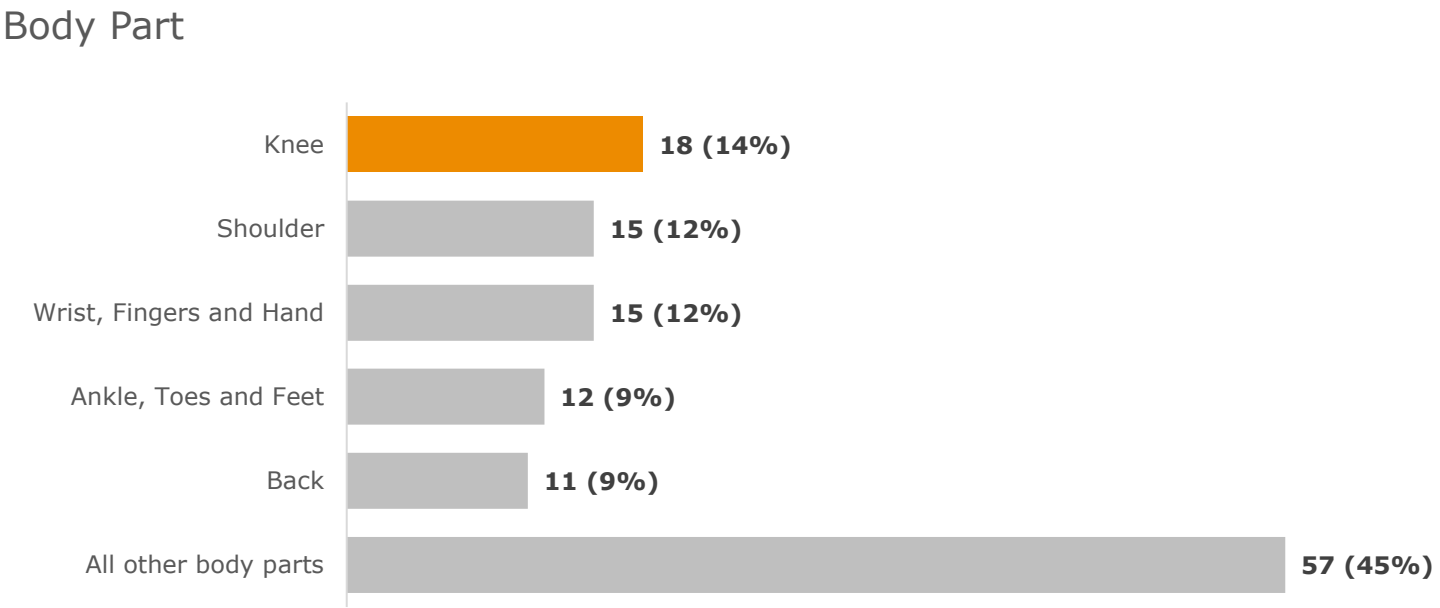
- Falls (from elevation + on same level) is the top accident type which accounts for 20% of all time-loss claims in CU 721038.
- Overexertion is the second biggest accident type which accounts for 18% of all time-loss claims.

Top 5 Nature of Injury



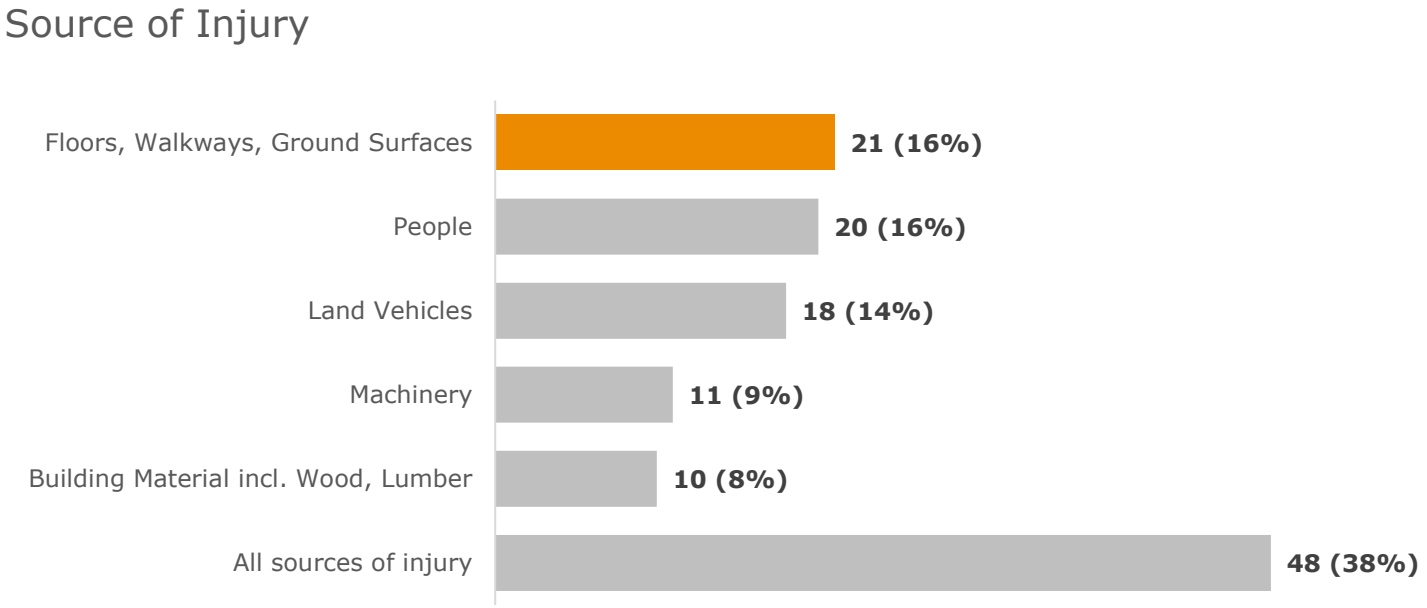
- The most common nature of injury is Strains (Back + Other) (42%) followed by Fracture (18%)

Top 5 Body Part



The most commonly injured body part is Knee (14%), followed by Shoulder (12%), and Wrist, Fingers, and Hand (12%)

Top 5 Source of Injury



The most common source of injury is Floors, Walkways, Ground Surfaces (16%), followed by People (16%) and Machinery (14%)

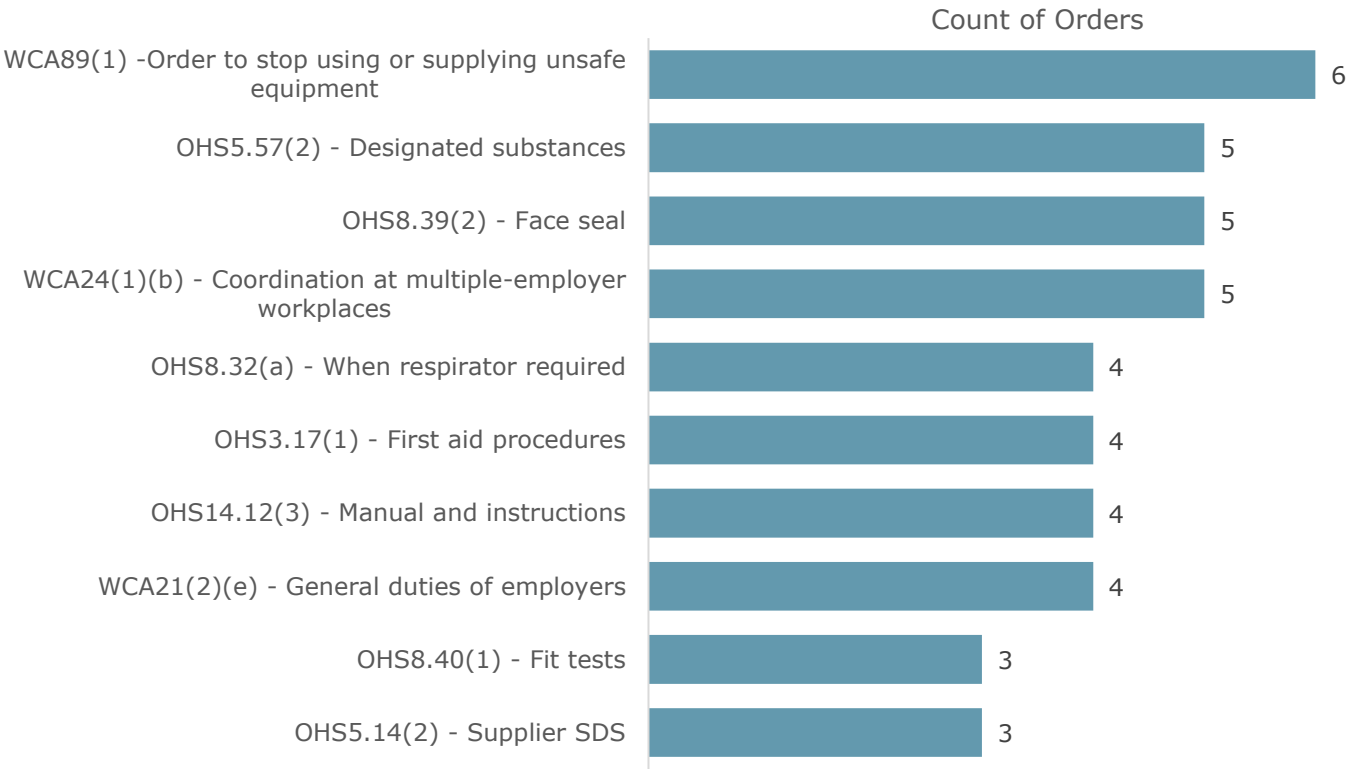
Time-loss Claims by Age Group

Worker Age Group	Female	Male	Unknown	Total	Age %
15 to 24	2	17		**19**	**15%**
25 to 34	2	32		**34**	**27%**
35 to 44	4	25		**29**	**23%**
45 to 54	3	17		**20**	**16%**
55 to 64	1	20		**21**	**16%**
65+		5		**5**	**4%**
Total	**12**	**116**	**0**	**128**	**100%**

- The most common age group is 25-34 (27%).
- Young worker (15 – 24 years old) injuries account for 15% of all time-loss injuries

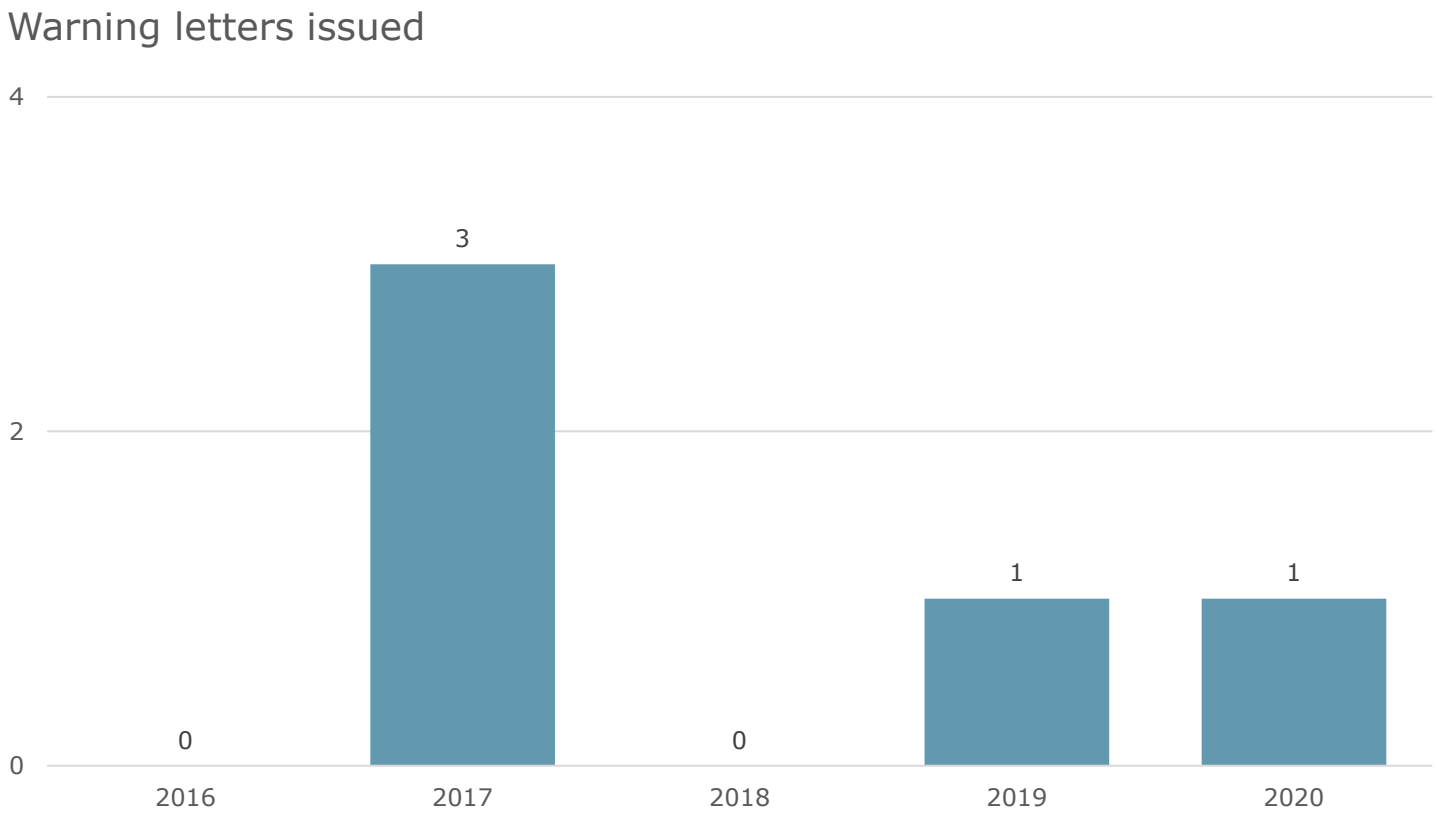
Top 10 Orders Issued

By Regulation Paragraph



<Add insights>

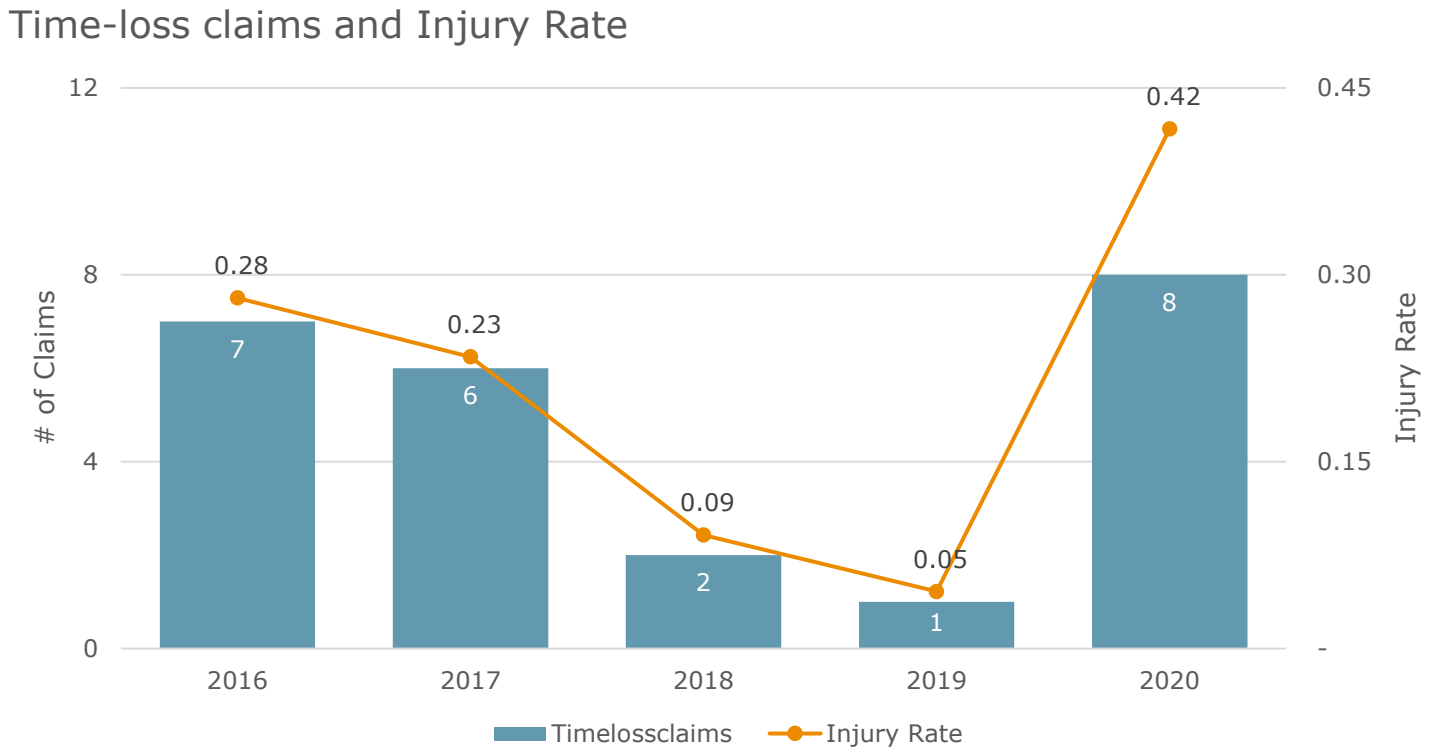
Warning letters issued



<Add insights>

CU 767005 – Oil or Gas Transmission (oil or gas pipeline)

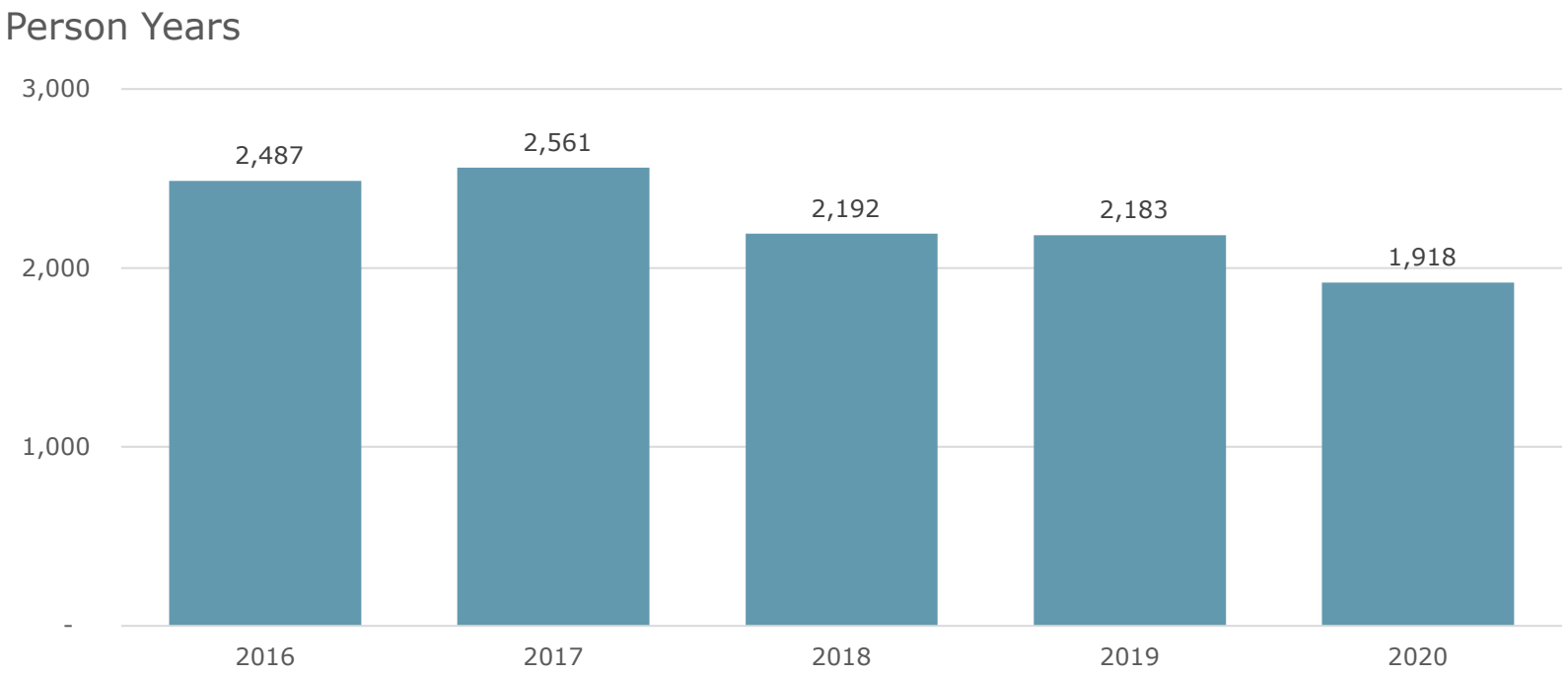
Injury Rate (Number of Time-loss Claims per 100 workers)



Injury rate has increased 740% in 2020.

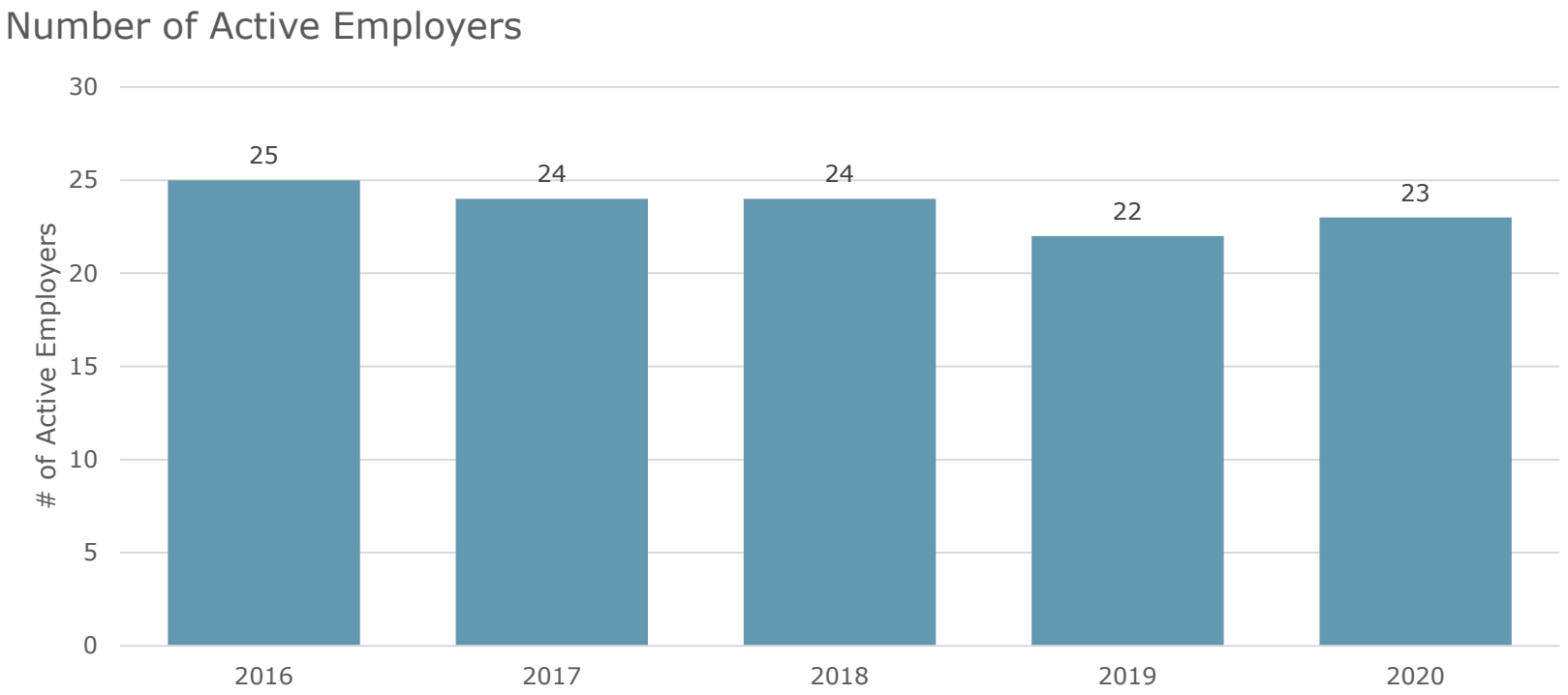
In 2020, the injury rate is about 4 time-loss claims per 1000 workers. The provincial average injury rate is 21 per 1000 workers

Estimated Number of Workers (Person Years)



Estimated number of workers in CU 767005 has decreased 12% in 2020

Number of Active Employers



Number of active employers in CU 767005 increased 5% in 2020

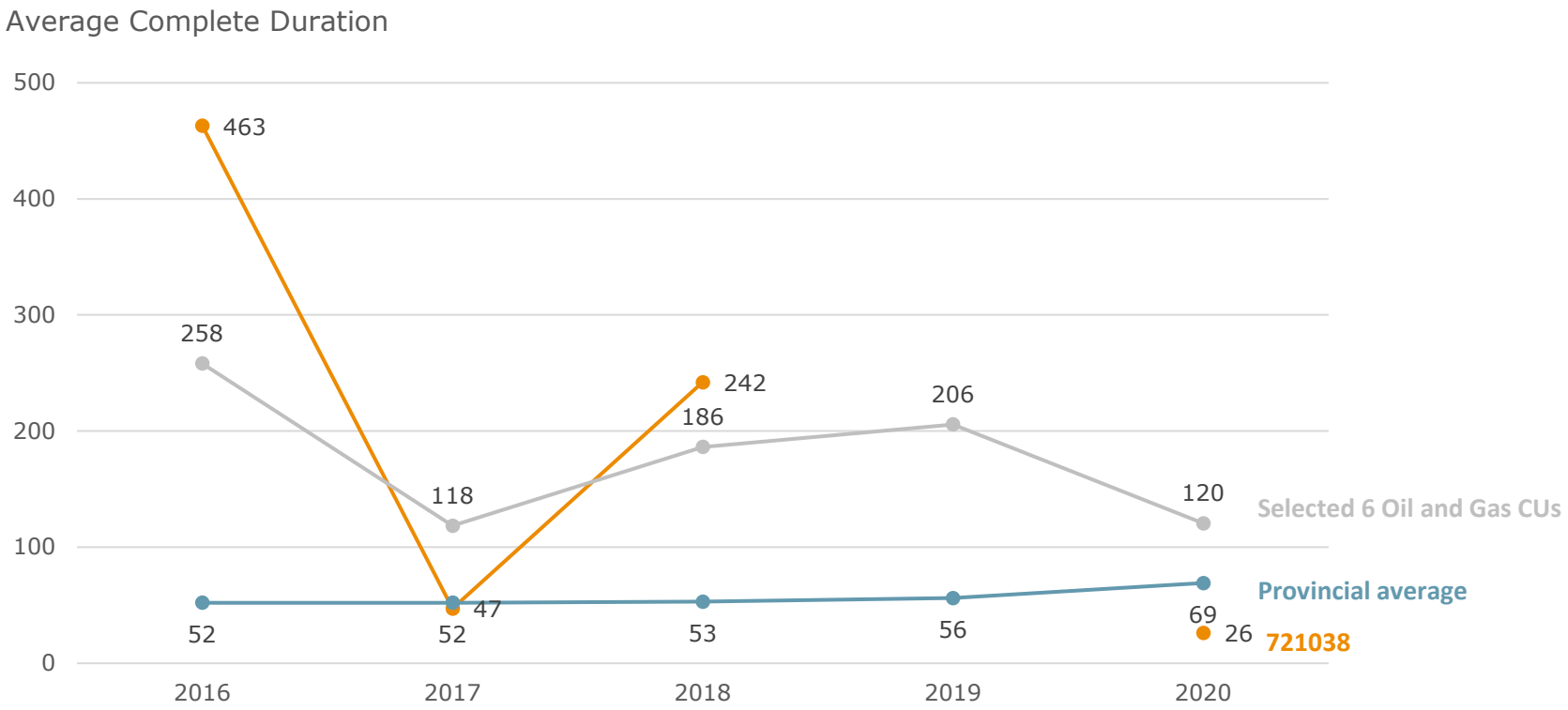
Serious Injuries and Long Recover Sprains and Strains (LRSS)

Year	Time-loss claims	Serious Injury claims	SI %	Sprain & Strain (SS) claims	LRSS	% of SS that are long recovery
2016	7	3	43%	3	0	0%
2017	6	1	17%	3	1	33%
2018	2	0	0%	1	0	0%
2019	1	3	300%*	0	0	0%
2020	8	1	13%	4	0	0%

- The percentage of serious injury of CU 767005 is 13% in 2020, same as the provincial average (13%)
- In 2020, none of the Sprains and Strains (SS) claim is Long Recover Sprains and Strains (LRSS) claim

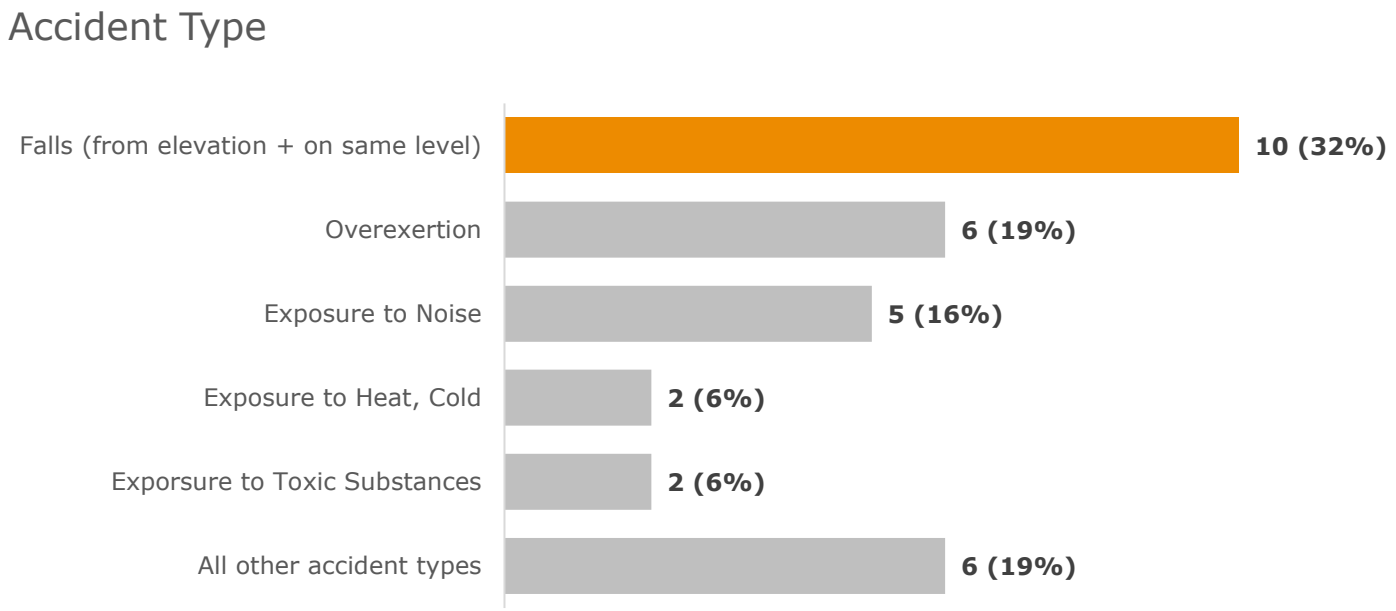
* 2 work related death

Average Complete Duration



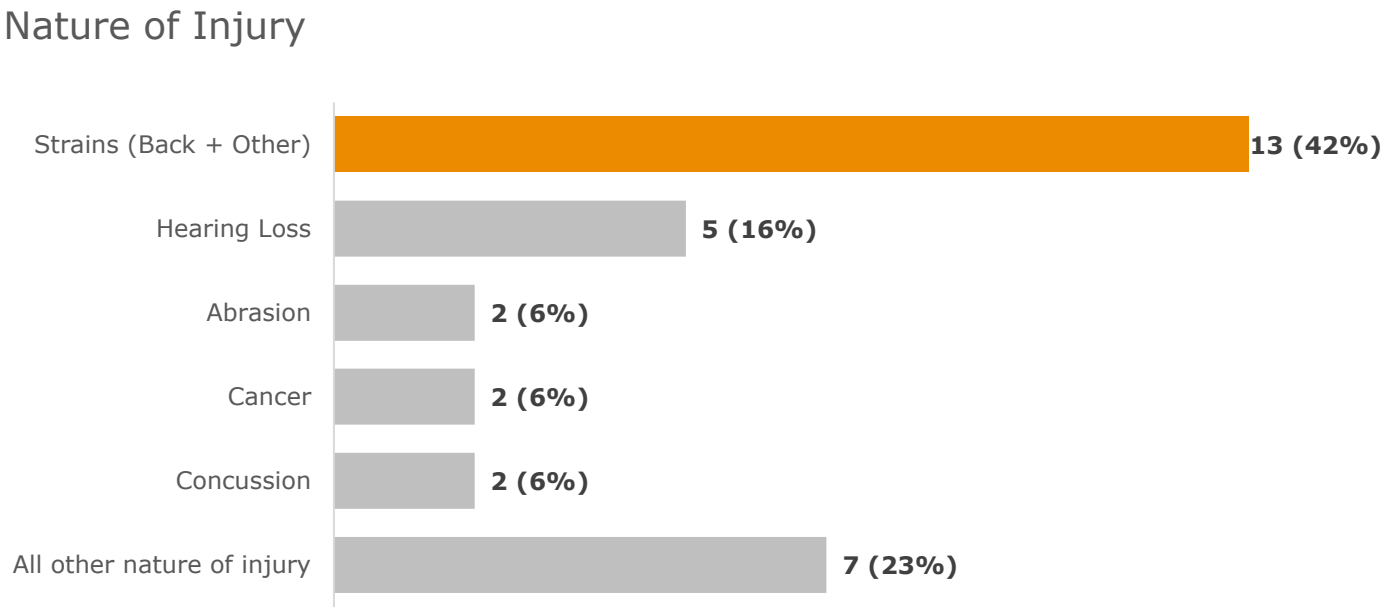
The average complete duration of CU 767005 is very volatile, it was 26 days in 2020. It is lower than the Oil and Gas CU average and the provincial average.

Top 5 Accident Types



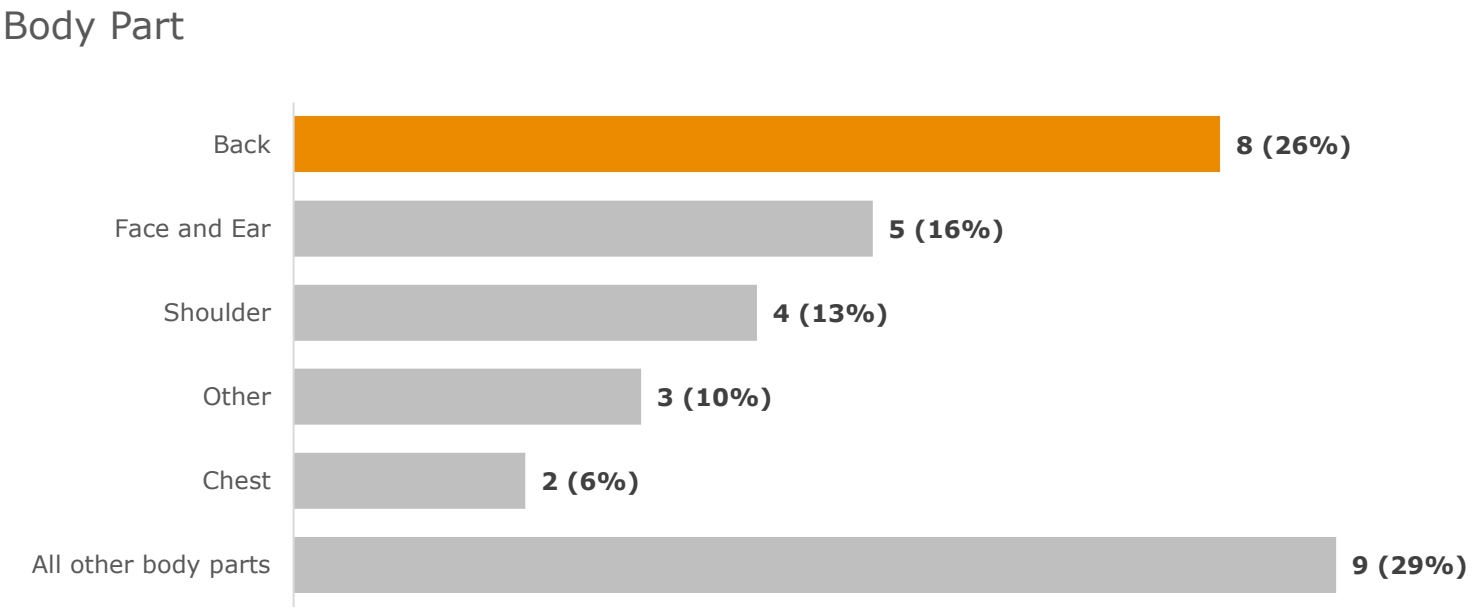
- Falls (from elevation + on same level) is the top accident type which accounts for 32% of all time-loss claims in CU 767005.
- Overexertion is the second biggest accident type which accounts for 19% of all time-loss claims.

Top 5 Nature of Injury



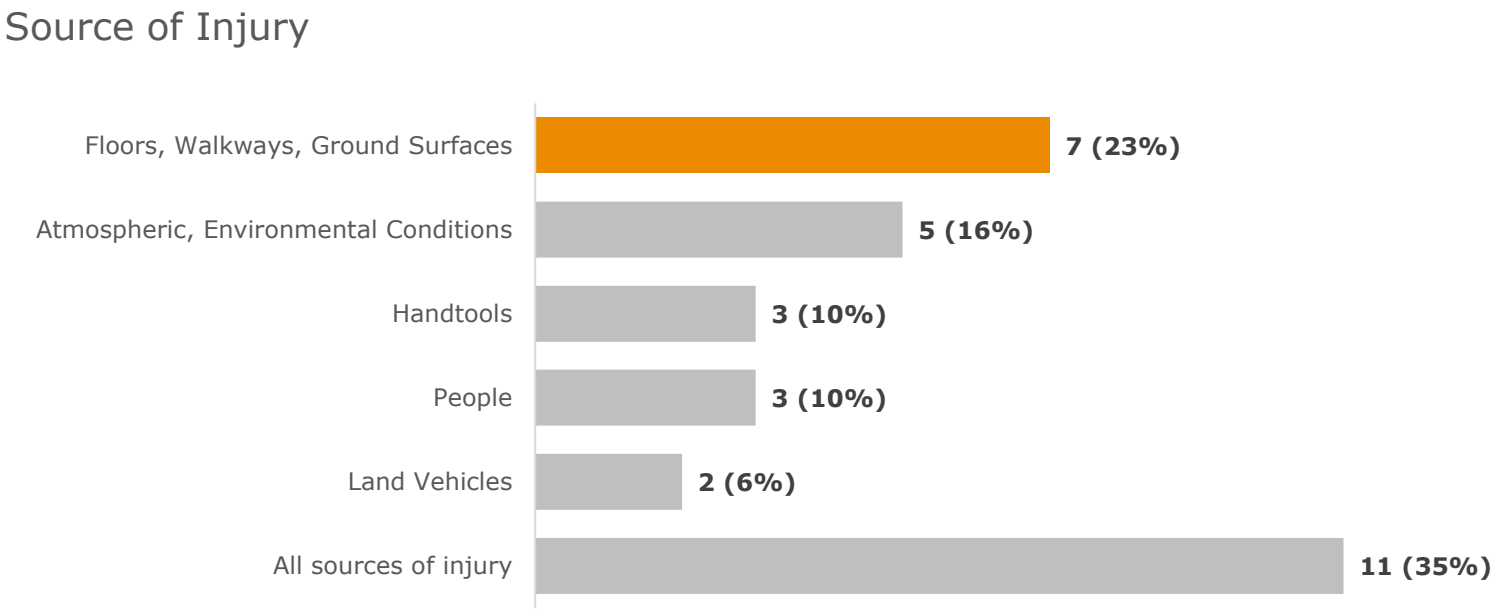
- The most common nature of injury is Strains (Back + Other) (42%) followed by Hearing Loss (16%)

Top 5 Body Part



The most commonly injured body part is Back (26%), followed by Face and Ear (16%), and Shoulder (13%)

Top 5 Source of Injury



The most common source of injury is Floors, Walkways, Ground Surfaces (16%), followed by Atmospheric, Environmental Conditions (16%) and Hand tools (10%)

Time-loss Claims by Age Group

Worker Age Group	Female	Male	Unknown	Total	Age %
15 to 24		1		**1**	**3%**
25 to 34		5		**5**	**16%**
35 to 44		3		**3**	**10%**
45 to 54	2	8		**10**	**32%**
55 to 64		8		**8**	**26%**
65+		4		**4**	**13%**
Total	**2**	**29**	**0**	**31**	**100%**

- The most common age group is 45-54 (32%).
- Young worker (15 – 24 years old) injuries account for 3% of all time-loss injuries

Definitions

- Injury Rate - The number of time-loss claims per 100 person-years of employment.
- # Long Recovery Sprains and Strains - The number of short-term or long-term disability claims that represent a sprain, strain, carpal tunnel, or rheumatism medical diagnosis with a long recovery period (10+ weeks). Excludes work-related death claims.
- Serious Injury Claims - The number of time-loss claims that represent either a serious medical diagnosis, or a potentially-serious medical diagnosis with a long recovery period of 50+ days paid (10+ weeks off work). Includes all work-related death claims.
- STD/LTD/Fatal Claims - The number of claims with costs related to at least one of the following benefits types: short-term disability benefits (STD), long-term disability benefits (LTD), or survivor benefits (Fatal).
- Time-loss Claims - The number of claims with costs related to at least one of the following benefits types: short-term disability benefits (STD), long-term disability benefits (LTD), or survivor (Fatal) benefits and where the first STD/LTD/Fatal payment date is within the year of injury or the three months following the year of injury.

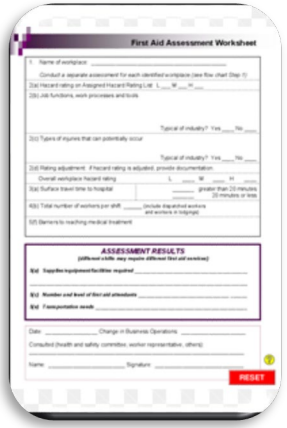
Field Issues

-Compliance Issues
-Injuries and Fatal's and near misses

Compliance-First Aid Services, Supplies and Equipment and Written Procedures

What is needed based upon a site assessment of the workplace (5 items to consider) and no less than the Tables in Schedule 3-A

The employer **MUST** also develop written First aid Procedures (6 items displayed in conspicuous locations at the worksite).
Note: special procedures are required if air transport is the primary means of transport



See the complete Guidelines for First aid:

https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-guidelines/guidelines-part-03#998F33D891434F2D915491565A68E1F9

-see the conditions for using an MTC in place of a dressing station or First aid room, also an MTC MUST be attached to the vehicle chassis OHSR 3.16-17 & 17.10 / attached to vehicle frame in accordance Manufactures specs

-First aid attendants lacking adequate COVID and Blood Borne pathogens

- Note: recent incident with an injured worker high lights to transport to the local hospital ASAP don't wait for BC Ambulance

Compliance-Flash Fires and Controlling Ignition Sources

Recent incidents with Flash fires/explosion indicate that the **RISK is not being adequately assessed and Controlled**:

-This means **assessing all potentials** for the generation and release of **flammable vapors**.

-What are you planning to do (scope of work)? What permits are needed, what equipment is needed?

-How could vapors be generated and released during the work?

-How are we monitoring the hazardous atmosphere? What type of monitors are we using?

-Are ignition sources being adequately controlled including static electricity?

-**This is more than checking the boxes on a checklist!**

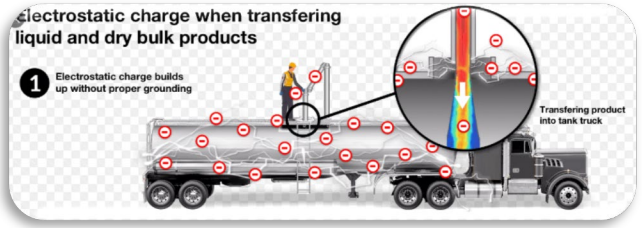
OHSR 23.5, 5.27, 5.28 WCAct 21 and WCAct 24

Compliance-Grounding and Bonding

Oil and Gas sites-**critical issue to controlling ignition sources**.

-Employers and workers knowing the difference

-Providing **appropriate grounding onsite** whether a temporary work location of permanent



-**Testing** the ground-different instrument from checking bonding-also proper calculations required to ensure the ground is adequate).

-Location of the **bonding attachment points** so that operators are fully aware of where and how to attach their equipment to the grounding and bonding system

-Operators then **validating** the bond-testing with an appropriate OM meter (also what is the maximum allowable resistance when testing)

-**Training / education of workers** in what's required and what are hazards associated with failing to do a proper job and what to do if the system at site is not adequate. ***OHSR 5.27, 5.28, 23.6, 23.74***

Occupational Disease – ECP's

-**Occupational Disease** continues to expand in impacts and scope (occupational Disease fatalities continue to eclipse traumatic injury claims each year)-**As of October 2021 142 fatalities- 57/40% traumatic injury and 85/60% Disease**

-Areas for monitoring and ECP development: Silica, Lead, ***Solar***, Hydrocarbon based drilling fluids, Diesel Exhaust, Benzene, Mercury, Hearing Loss, NORMS, H2S and all designated substances require ECP's **(sensitizers like SPC 888 for pipe coating)**

-Welders & welders helpers need to be wearing appropriate respiratory protection

MSI risk assessments and risk control ***OHSR 4.47-53***

(Part 5.48-5.59 for an outline of what is required around site surveys, monitor and development of ECP's)

Compliance-Use of Scavengers to clean produced water of H2S

-**Toxic Process Gases** – CHLO2 (Chlorine Dioxide) being used in a cleaning scavenger for H2S liquids **(Part 6.116-6.127 for CHLO2 Risk assessment, specific ECP, Training/Education, separate enclosure for CHLO2 equipment, ventilation, emergency shutdown and ventilation, Monitors and Alarms)**

As well as using Hydrogen Peroxide-H2O2 is highly reactive when mixed with organics, Oxidizer and when mixed with Oxygen is highly flammable AND EXPLOSIVE **OHSR 23.5 risk assessment and appropriate SWP**

Compliance- Contractor Service Providers brought to site

-**Producers:** What is in place to ensure that when you bring contract services to site that they are compliant with the OHSR and WCAct requirements? and are you providing adequate hazardous product SDS information for the workers conducting the work at your sites?

Common areas of deficiency include:

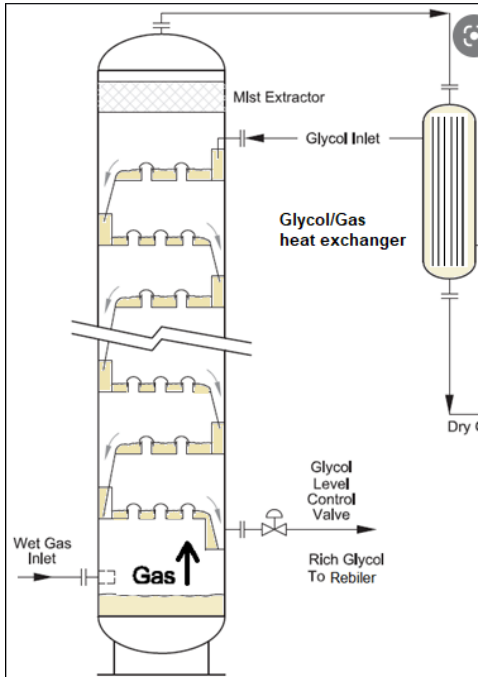
-High pressure line restraint not adequately anchored at both ends, not restraining the full length of the piping, lack of documentation available for workers for the installation and inspection of the restraint systems, mix and matched systems

-Inadequate consideration of pressures-trapped in valves and lines

-Emergency egress systems on service and drilling rigs- certifications, inspections of equipment out of date, equipment lines not anchored or installed correctly

-SDS for produced water being used at site not

WCAct 24,25, OHSR 23.69, 23.39



Oil and Gas Incidents of concern for 2021

Incident Drilling Rigs and Walking legs

Guarding applied to the feet on a Drilling Rig

Incidents/Field Issues Oil and Gas

Overview of recent incidents at Oil and Gas sites in 2021: **incidents:** Unattended crane flop over miss-adventure- no injuries

-Excavation failure extensive hydraulic pressure -no injuries

-Turn around work in a processing tower- hoisting a plate not using a proper lifting device, plate falls 20 ft striking a worker and amputating a finger

-Worker on a Pipeline Constr. building a road was run over by a dozer suffering amputation of both legs and degloving of one of their hands

-Worker on a Pipeline Constr. Site attempted to stop a side boom which is backing up from striking a pickup. Worker slips and falls and is partially run over

Compliance Issues/Field Issues
Oil and Gas Pipeline Construction cont.'

-Attachments on mobile equipment lacking Load rating and certifications

-Cab Guards for pipe haulers or other goods that may penetrate the operators cab

-Excavations near improvements / Peng Certified/lacking safe access

-Traffic Control- TCP's not wearing appropriate PPE for the job (no hoodies and ball caps under hard hats) (Part 18 and Part 8 including the Provincial Traffic Control Manual)

-DT assessment along access roads and the Pipeline Corridor (DT and LOD = Current work and reflect the activity currently being done (DTA only good for one seasonal cycle)

-Not using RR channels for PDR road access

-Tracked equipment lacking Grousers/Cleats on frozen ground

Additional Areas to Consider

-Mental Health Safety-fastest growing area of Occupational Health concerns and issues, what are you doing to support your workers especially in these trying times?

Oil and Gas High Risk Initiatives 2021-2023

Updates for 2022

Oil and Gas Initiative 2021-2023

What will WSBC be focusing upon over the next 3 years?

Oil and Gas 2021-2023 Initiative Focus

Background

Problem

The Oil and Gas Initiative is designed to focus on areas of concern within the oil and gas sector that is generating their serious injury claims.

Primary goal

Prevent serious and fatal injuries in the following areas:

-Fire and explosions across the oil and gas sector, with particular emphasis upon well servicing and waste disposal

-Control of hazardous energy

-Pressure management/Control which includes flow piping systems

-Manual free falling **(Supervision to the level of Risk)**

-Pipeline construction (mechanisms of injury)

-Occupational exposures

Oil and Gas 2021-2023 Initiative Focus Continued

Focus

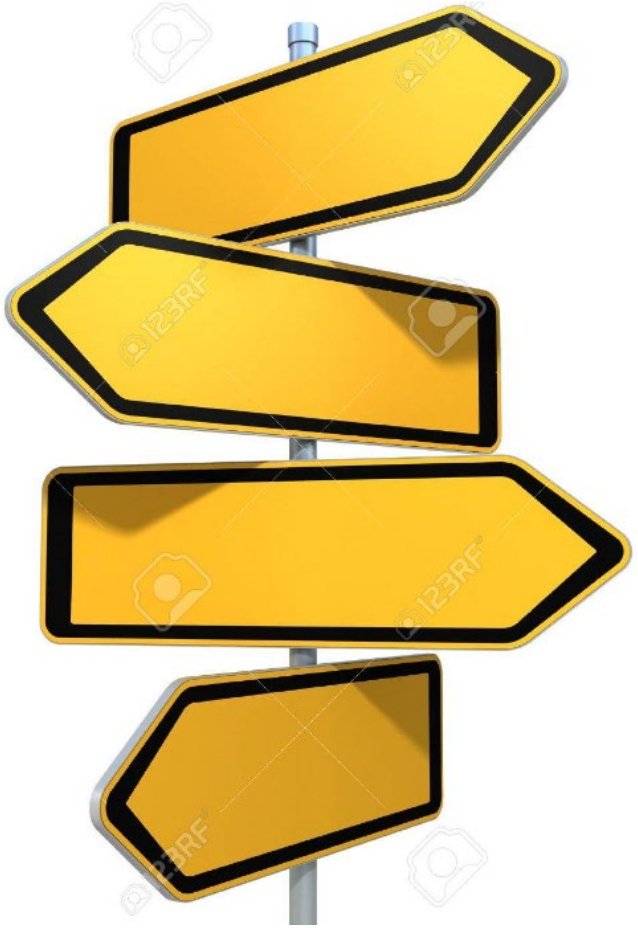
3 year time frame

-Conduct targeted inspections within the focus areas

-Support the development tools and resources relating to safe work procedures in high risk operations

-Support and partner with Energy Safety Canada and industry trade associations to see that their initiatives align with mitigation measures relating to strategic focus areas

-Deliver key messaging and information to employers and workers through the HSA and sector associations



OHSR Regulations changes and other updates

Additional Resources- Regulation change Documents

Changes in:

Sept 1, 2021

-Part 6 restricted entry intervals for pesticide application

-Part 8 Hi-vis apparel

-Part 8 safety Headgear

-Part 16 mobile equipment

Changes in Effect December 1, 2021

-Combustible and flammable liquids (Parts 1, 5, 22, and 23)

-Ionizing radiation — dose limits for the lens of the eye (Part 7)

-Traffic control (Part 18)

-Certification of concrete pump operators (Part 20)

-Blasting operations (Part 21)

-Arborists (Part 26)

-Logging truck load securement (Part 26)

-Housekeeping amendments (Parts 14, 24, and 25)

Each section of the OHSR has a Primer designed to assist with understanding the amendment

Communicable Disease Prevention and PHO Camp orders

- **PHO Industrial Camp Orders are still in place in Northern Health:**

covid-19-pho-order-industrial-camps.pdf (gov.bc.ca) the camp orders applies to any employers that are providing accommodation for workers that reside in a camp. The order has 13 MUST Do's:

1. Develop and implement a Communicable disease plan (posted onsite)
2. Appoint a communicable disease prevention coordinator (the order outlines their duties).
3. Ensure that the facilities are designed, modified, infrastructure and services enable workers to comply with their duties
4. Maintain high standards of camp hygiene
5. Have available/plan for medical support personnel to assist in managing outbreaks and clusters
6. Symptomatic workers can consult a health professional
7. Arrange for testing of symptomatic workers
8. Not allow symptomatic workers into the workplace
9. Have an appropriate place to isolate workers that are infected or exposed
10. Ensure that isolated workers have their needs met (food, water, communication, medication etc.)
11. Notify the MHO if an unauthorized workers leaves isolation
12. In the event of an outbreak or cluster worker with the medical health officer as needed to reduce the transmission risks, implement any requested controls, daily reporting to the MHO, ensure security of personal info collected.
13. **Facilitate access to Vaccine services (clinics or mobile NH unit)**

Recent Crane Failure

- **A recent Incident of Multiple worksite Fatalities in BC this past Summer:**
- Tower Crane Failure in Kelowna-4 site workers were fatally injured when the Tower crane being dismantled failed and fell onto the building and an adjacent office complex. One worker in the Office complex was crushed to death by the building debris. Five workers in total succumbed to their injuries (two of the workers were brothers).

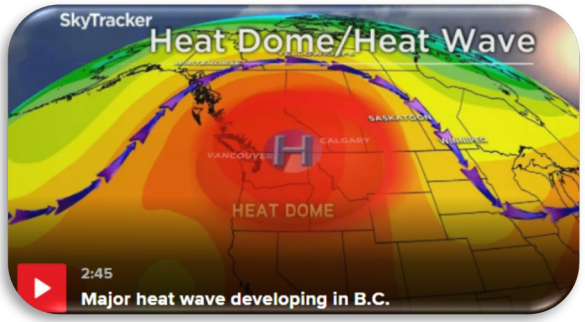
- **What does this challenge us to consider?**
- Examine **ALL** of our Crane and hoisting work with a critical eye.
- What are our main risks and vulnerabilities and what are our Controls?
- What do the manufactures of the cranes we are using say about the safe erection and dismantling of the unit, are we following their instructions or the instructions of a Peng, If we can't follow those instructions do, we STOP re-examine, consult and make a new plan before we move ahead.
- Please think about all the places and activities where cranes are used- do we have systems to check operator certification, annual certification and inspection of the crane use within the manufacturers specs?
- https://www.worksafebc.com/en/resources/health-safety/checklist/mobile-crane-inspection-checklist?lang=en&origin=s&returnurl=https%3A%2F%2Fwww.worksafebc.com%2Fen%2Fsearch%23sort%3DRelevancy%26q%3Dcrane%2520inspection%2520checklist%26f%3Alanguage-facet%3D%5BEnglish%5D&highlight=crane%20inspection%20checklist

In 2022 Emergency Response Planning Review and Updates

- **Recent Catastrophic Events in BC** – Extreme Wildfire Season, Prolonged Heat dome and the recent Atmospheric Rivers dumping record rainfalls and massive flooding with major damage to Provincial Infrastructure in southern BC.

- These have all been headlines in BC this past summer and the rain and flooding continues in Southern.

- The request to ALL employers- review your ERP's, are they comprehensive for your area and the work you are doing? Conduct a review and look at local and regional experience and history (100-200 year cycles), do you have a plan, are you and your staff equipped and trained to do what needs to be done in a timely effective manner
- Emergency Response Planning: 12 Tips for an Effective Emergency Response Plan | WorkSafeBC



Questions?