

Towards 2020

*PROGRESS TOWARDS THE
2020 WORK-RELATED INJURY
REDUCTION TARGET*

November 2017

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1.0 Introduction



New Zealand has a target of reducing fatal and serious work-related injury by 25% by the year 2020, with an interim target of 10% by 2016.

This target reflects the ongoing commitment to reduce work-related harm following the 2010 Pike River Coal Mine Tragedy.

This report confirms that **New Zealand has met the 2016 interim target**, and presents progress towards the 2020 target through analysis of three work-related injury rates:

- fatal injuries (target indicator)
- serious non-fatal injuries (target indicator)
- injuries resulting in more than a week away from work (supplementary indicator)

Industry breakdowns are included for each indicator, as is the Māori-specific rate of serious non-fatal injury. Where available, WorkSafe's analytical data is included to indicate more recent progress. This is followed by a comparison of our progress with Australia and the United Kingdom - two countries that have influenced the approach taken by New Zealand following the recommendations of the Independent Taskforce on Workplace Health and Safety - and a discussion of what is being done to improve health and safety performance in New Zealand.

2.0

Progress towards the 2020 target

IN THIS SECTION:

- 2.1 Target indicators
- 2.2 The economic context
for workplace injury and
selection of indicators



This section summarises the indicators of New Zealand's progress towards the 2020 target of a 25% reduction in work-related fatal and serious injury. The most recent official data is for the 2016 calendar year, confirming that the 10% interim target has been met.

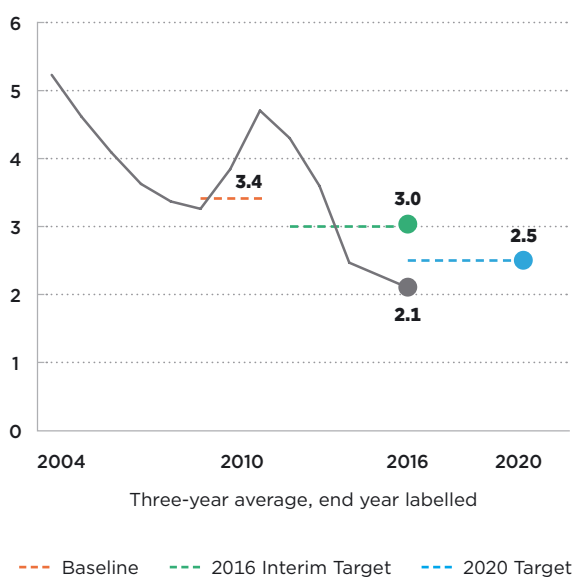
2.1 Target indicators

Encouragingly, both target indicators - the rates of fatal and serious non-fatal¹ injury - are lower than both the 2016 interim and 2020 target rates.

Although the supplementary indicator - the rate of work-related injury resulting in more than a week away from work - has reduced for the first time since 2011, it remains off track and higher than the baseline.

The target indicators are both calculated as age-standardised² rates per 100,000 full-time equivalent workers (FTEs), while the supplementary indicator is calculated per 1,000 FTEs and is not age-standardised.

Target indicator 1: Fatal work-related injury



Latest official data: 2014-2016 three-year average

2.1 fatal injuries
per 100,000 FTEs

39% LOWER
than the baseline³

The three years to 2016 saw the lowest official rate of fatal work-related injury since the series began in 2004. This rate is currently lower than both the 2016 interim and 2020 targets.

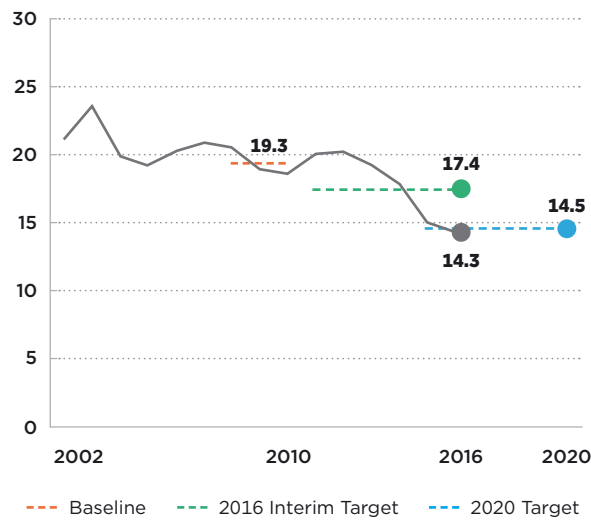
Source: Stats NZ, from WorkSafe notifications and ACC claims data

¹ Serious work-related injuries are those injuries resulting in hospitalisation with a high threat to life. See *Serious non-fatal injury* in Appendix 3 for further information.

² See *Age-standardisation* in the glossary for further information.

³ The baseline for fatal injury is the average rate for 2008-2010, excluding the 29 workers killed in the Pike River Coal Mine Tragedy (November 2010). These fatalities are included in the official indicator data.

Target indicator 2: Serious non-fatal work-related injury



Latest official data: 2016 calendar year

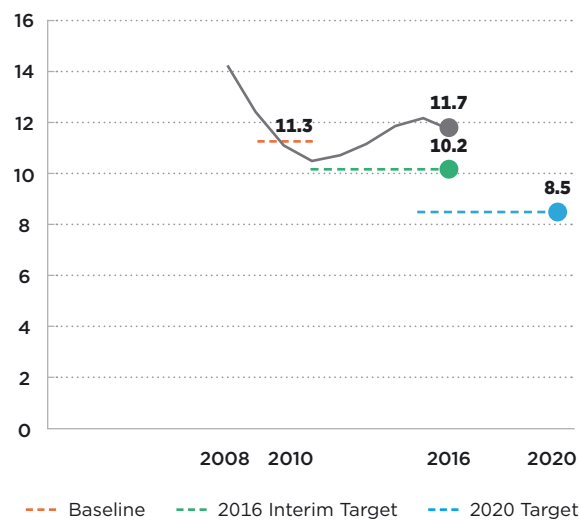
14.3 serious non-fatal injuries per 100,000 FTEs

26% LOWER than the baseline⁴

The official rate of serious non-fatal injury continues to decrease, as it has each year since 2011. The result for 2016 is the lowest since the series began and is lower than both the 2016 interim and 2020 targets.

Source: Stats NZ from ACC claims and Ministry of Health hospitalisation data

Supplementary indicator: Work-related injury resulting in more than a week away from work



Latest official data: 2016 calendar year

11.7 ACC weekly compensation claims for injury per 1,000 FTEs

4% HIGHER than the baseline⁵

This rate increased each year from 2011 to 2015, and although 2016 data shows a slight reversal in this trend, the indicator remains higher than the 2009-11 baseline.

Source: Stats NZ from ACC claims data

⁴ The baseline rate of serious non-fatal injury is the average rate for 2008-2010.

⁵ The baseline rate of injury resulting in more than a week away from work is the average rate for 2009-2011.

2.2 The economic context for workplace injury and selection of indicators

Evidence suggests that as the economy grows so too does the rate of reported work-related injury⁶.

A number of researchers have proposed that during economic booms, production pressures lead to longer working hours and greater exertion, resulting in fatigue and stress and therefore an increased risk of work-related injury. An increase in the number of inexperienced workers as workforce participation grows and utilisation of older, less reliable equipment are also thought to have an adverse effect on safety.

However, a comprehensive meta-analysis of injury and fatality data in 16 OECD countries⁷ reveals that higher injury rates during periods of growth or recovery are an outcome of greater *reporting* of injuries rather than changes in workplace risk⁸. This research demonstrates that **fatal accidents do not seem to be sensitive to economic conditions**. The target indicators – the rates of fatal and serious non-fatal injury – are therefore less susceptible to changes in economic conditions and are considered to be very robust indicators of actual rates of injury. The **decrease in both of these rates is very encouraging** and suggests the results of a greater focus on the mechanisms that lead to serious injury.

Injuries resulting in more than a week away from work range in severity from sprains and strains through to more severe injuries such as head and spinal injuries, which may have longer onset periods. The supplementary indicator is therefore harder to target through interventions, and as described above, is expected to reflect a wider and more complex range of economic factors more strongly than the target indicators. However, as a broader cross-section of work-related injury, this indicator does allow for more robust in-depth analysis – such as comparison of industries.

The economic outlook for New Zealand is for steady growth over the coming years, with growth in construction and continued - but slowing and more targeted - net immigration among the key features that are expected to affect labour market conditions, and therefore work-related injury rates⁹. These trends could impact the social and economic cost of deaths, injuries and ill-health arising from work, for which the most recent estimate is \$3.5 billion each year¹⁰.

⁶ Boone & Ours (2006), 'Are recessions good for workplace safety?' *Journal of Health Economics*, 25, 1069-1093.

⁷ Ibid.

⁸ Although changes in the relative share of high-incidence industries was found to have an effect.

⁹ www.treasury.govt.nz/budget/forecasts/prefu2017/prefu17.pdf

¹⁰ O'Dea D. and Wren J. (2012), 'New Zealand Estimates of the Total Social and Economic Cost of Injuries. For All Injuries, and the Six Priority Areas.' Report to New Zealand Injury Prevention Strategy. Wellington, New Zealand.

3.0

Target indicator 1: Fatal work- related injury



Target indicator 1: Fatal work-related injury

The official fatality rate is at its lowest since the data series began in 2004, and appears on track to meet the 2020 target.

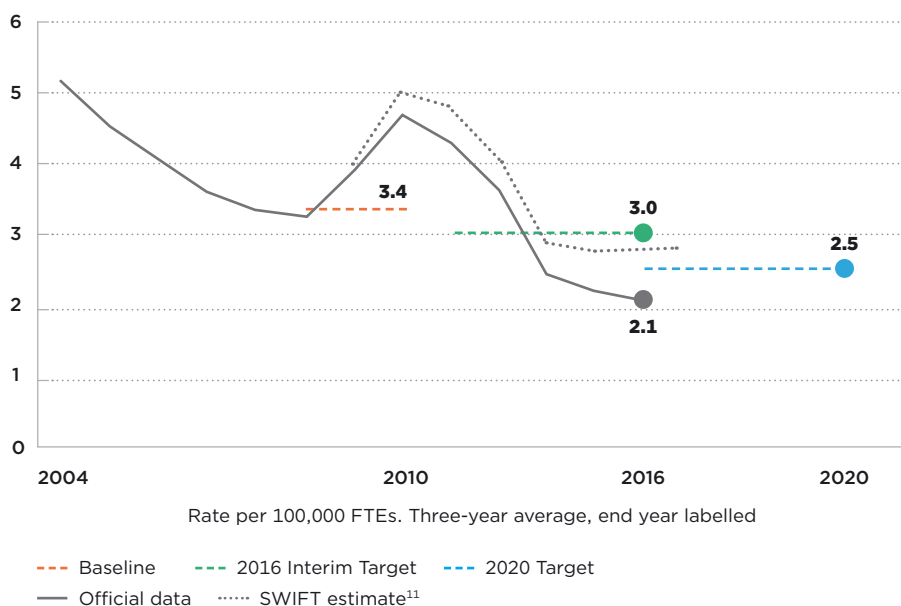


FIGURE 1:
Fatal work-related injury
Source: Stats NZ from WorkSafe notifications and ACC claims data

Progress towards target

Current result compared to:

Baseline (2008-10¹²): 39% lower

2016 interim target: 32% lower



Previous result (2015): 6% lower

2020 target: 18% lower

What does the data tell us?

At 2.1 fatal injuries per 100,000 full-time equivalent workers, the official fatality rate is at its lowest since the data series began in 2004. The latest rate covers the three-year period 2014-2016, during which 154 workers lost their lives to work-related injuries - an average of 51 deaths each year.

The official statistics include the 29 workers killed in the Pike River Coal Mine Tragedy (November 2010) and the 63 people killed at work in the 2011 Canterbury Earthquake (February 2011); these contribute to the peak between 2008 and 2013.

While too high, an average of 51 deaths in a year is a statistically small number within a working population of over two million FTEs. This results in a high degree of fluctuation from year to year, obscuring the real pattern of change over time. To account for this, the indicator is reported as a three-year average. Further, this indicator is age-standardised¹³ to account for changes in the age structure of the working population over time.

To determine whether the observed rates of injury actually reflect the underlying risk of injury, confidence intervals are calculated for each of the official series. These are presented in Appendix 2.

¹¹ See *System for Work-related Injury Forecasting and Targeting (SWIFT)* in the glossary for further information.

¹² The baseline for fatal injury is the average rate for 2008-2010, excluding the 29 workers killed in the Pike River Coal Mine Tragedy (November 2010). These fatalities are included in the official indicator data.

¹³ See *Age-standardisation* in the Appendix 3 for further information.

Outlook and further detail

WorkSafe's analytical data (SWIFT) provides more timely information on fatal injury. SWIFT uses ACC and WorkSafe notification data to provide intelligence on work-related injuries without relying on official statistics. While this is an invaluable analytical tool, it is not intended to provide a definitive estimate of the target indicator. As illustrated in Figure 1, the SWIFT rate of fatal injury appears higher than the official rate. This is due in part to the fact that WorkSafe cannot replicate the age-standardisation that Stats NZ applies to the official rate but there are other differences with the way fatalities are captured.

SWIFT data indicates an increase in the number of fatal injuries during the 2017 year, with 74 fatalities reported from this system during the twelve months to June 2017, up from 63 during the previous 12 months. **This suggests that there could be an increase in the official statistics in 2017, although this is not yet certain.**

The higher number of SWIFT fatalities observed in 2017 appears to be driven by fatal injuries in the *transport, postal & warehousing* sector, which has increased from 8 to 26. This sector encompasses a broad range of sub-sectors, including road, rail, air and marine transport as well as postal and warehousing activities. 13 of these SWIFT fatalities related to road traffic accidents.

Investigation is under way by Stats NZ and WorkSafe to better understand the cause of this increase; in particular, whether this is the result of improved collection of notification data for incidents outside WorkSafe's direct jurisdiction, such as road traffic fatalities, rather than an actual increase in the rate of harm. This analysis will inform future interventions and partnership with the sector.

Although there has not been a similar increase in the official data, the *transport, postal & warehousing* sector features prominently with the third highest fatal injury rate, behind only *agriculture* and *forestry* (figure 2). Of WorkSafe's priority sectors, *forestry* and *construction* have seen decreases in the rate of fatal injury over time, while *agriculture* has remained consistently high and *manufacturing* relatively low (figure 3, table 1). Care must be taken in interpreting trends in *forestry*, however. As a small industry (an average of 7,400 FTEs in 2016) the volatility of injury rates is particularly pronounced. Note that the rates presented in figures 2 and 3, and table 2 have not been age-standardised. Therefore the total rate differs from the official rate.

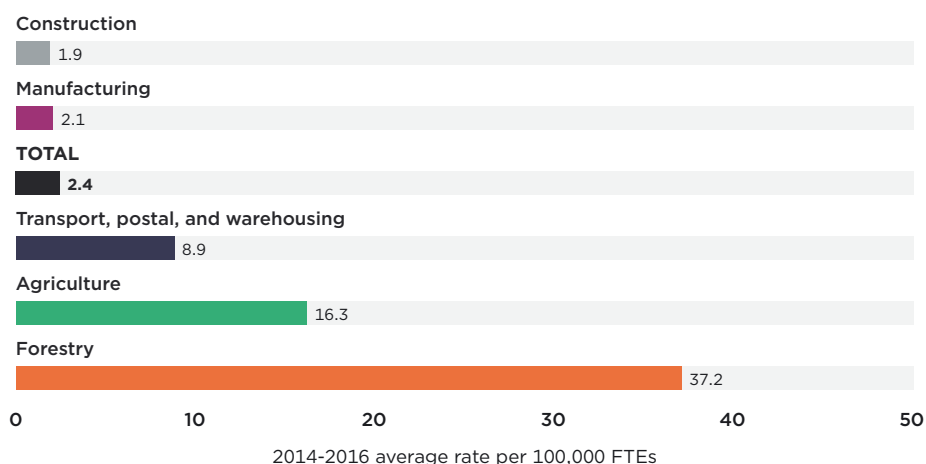


FIGURE 2:
Fatal work-related injury, selected industries

Source: Stats NZ, WorkSafe

3.0 Target indicator 1: Fatal work-related injury

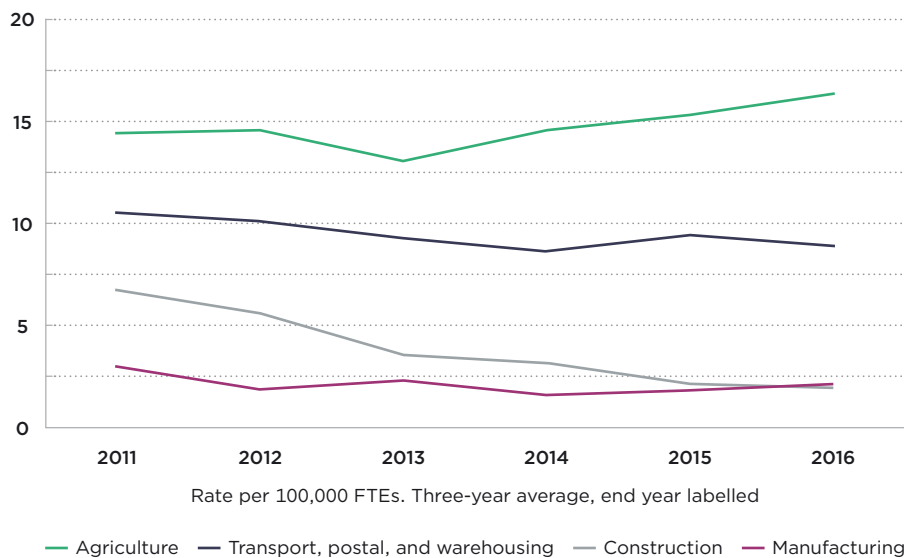


FIGURE 3:
Fatal work-related injury, selected industries
Source: Stats NZ, WorkSafe

	BASELINE	2011	2012	2013	2014	2015	2016 ¹⁴	2016 TARGET	2020 TARGET
Average number of fatalities		94	88	75	52	51	51		
Fatality rate (per 100,000 FTE), three year average	3.4	4.7	4.3	3.6	2.4	2.2	2.1	3.0	2.5

Source: Stats NZ

TABLE 1: Fatal work-related injury

	2011	2012	2013	2014	2015	2016
Agriculture	14.4	14.5	13.0	14.5	15.3	16.3
Forestry	70.0	68.9	98.1	80.3	61.0	37.2
Construction	6.7	5.6	3.5	3.1	2.1	1.9
Manufacturing	3.0	1.9	2.3	1.6	1.8	2.1
Transport, postal, and warehousing	10.5	10.1	9.3	8.6	9.4	8.9
TOTAL	5.0	4.6	3.9	2.6	2.5	2.4

Source: Stats NZ, WorkSafe

TABLE 2: Fatal work-related injury, selected industries (rate per 100,000 FTEs, three-year average)

Full data tables are presented in Appendix 1.

¹⁴ 2016 data is provisional.

4.0

Target indicator 2: Serious non- fatal work- related injury



Target indicator 2: Serious non-fatal work-related injury

The rate of potentially fatal injury continues to decrease, as it has each year since 2011. The result for 2016 is the lowest since the series began.

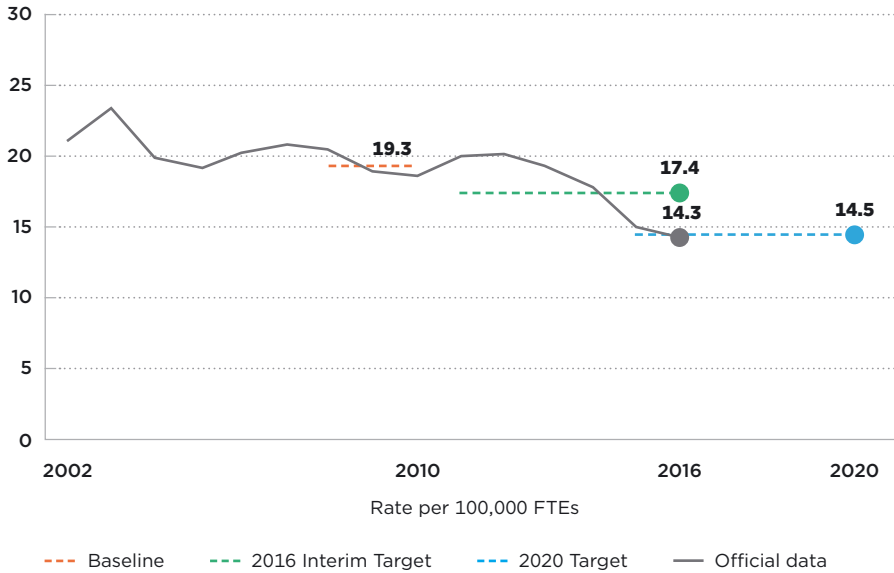


FIGURE 4
 Serious non-fatal work-related injury
 Source: Stats NZ from ACC claims and Ministry of Health hospitalisation data

Progress towards target

Current result compared to:

Baseline (2008-10 avg): 26% lower

2016 interim target: 18% lower



Previous year (2015): 5% lower

2020 target: 1% lower

What does the data tell us?

Serious non-fatal injuries are those that result in hospitalisation and carry a high threat-to life, but do not result in death¹⁵. The 346 serious non-fatal work-related injuries sustained in the 2016 year were the lowest since the series began. This indicator has reduced in each of the last four years, and is now ahead of the 2020 target rate for the first time.

As with the fatal injury rate, however, caution must be applied in interpreting this encouraging result. Although subject to natural volatility as with the fatal injury rate, the serious injury rate is presented annually rather than as a three year average. The good result in 2016 does not necessarily mean that the rate in 2017 will also be ahead of the target rate.

¹⁵ This indicator combines ACC work-related claims with Ministry of Health data to identify work-related hospitalisations with a high threat-to-life. See *Serious non-fatal injury* in Appendix 3 for further information.

Outlook

Unlike the other target indicators, WorkSafe currently has no analytical data for serious non-fatal injury. However, as the injury mechanisms behind fatal injury are likely to be similar to those for serious non-fatal injury, the increased fatalities observed in 2017 analytical data suggests an accompanying increase in serious non-fatal injuries.

As the data is derived from the Ministry of Health's National Minimum Dataset, serious non-fatal injury is the only indicator that provides work related injury data specifically for Māori.

Since 2004, the rate of serious non-fatal injury for Māori has been consistently higher than the overall rate. The latest figures for Māori are for the three years to 2016, and show a reduction of 17% since the 2008-10 baseline. However, during this time the overall rate has reduced at a greater rate, meaning the gap between Māori and the overall rate has increased to 44%, the largest since 2006-08 (52%).

In 2016, a quarter of Māori workers were in the *manufacturing, utilities and construction* industries, with Māori also more likely to be employed in *agriculture and transport, postal and warehousing*¹⁶. However, industry representation is only part of the story. Further analysis is required to understand the reasons for the continued discrepancy.

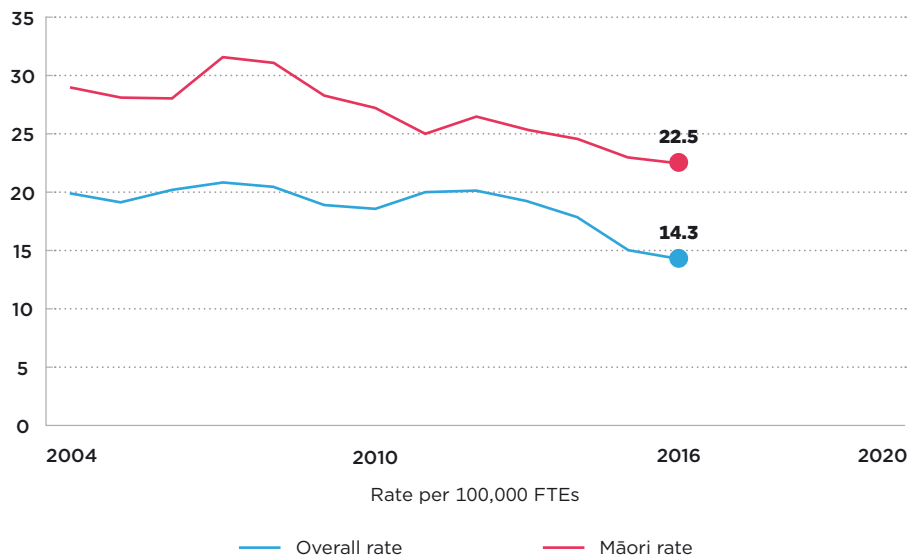


FIGURE 5:
Serious non-fatal
work-related injury.
Māori and overall rates
Source: Stats NZ

For the first time, Stats NZ have been able to provide an industry breakdown of serious non-fatal injury. This illustrates some differences to the industry breakdown for fatal injury. *Arts and recreation services* (including sports activities) features prominently and *transport, postal and warehousing* sector remains a significant contributor to serious non-fatal injuries.

The *electricity, gas, water and waste services* sector, while small, has a high rate of serious non-fatal injury. As with *forestry*, care must be taken in interpreting trends due to the pronounced volatility of injury rates in these sectors. Note that the rates presented in figures 6 and 7, and table 4 have not been age-standardised. Therefore the total rate differs from the official rate.

¹⁶ www.mbie.govt.nz/info-services/employment-skills/labour-market-reports/maori-labour-market/maori-in-the-labour-market-report/maori-in-the-labour-market-2011-2016/documents-and-images/maori-labour-market-sept-2016.pdf

4.0 Target Indicator 2: Serious non-fatal work-related Injury

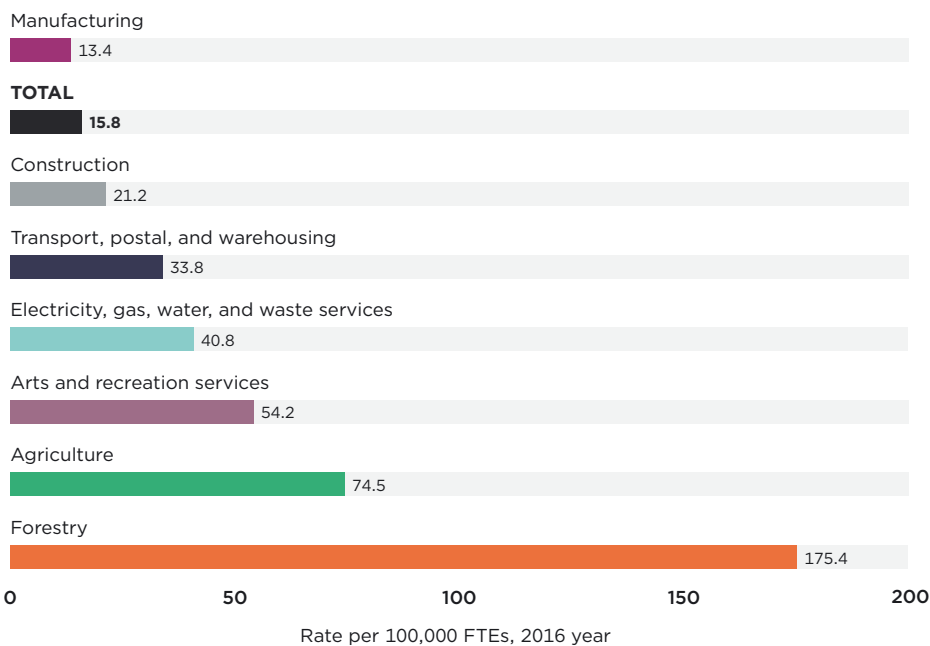


FIGURE 6: Serious non-fatal work-related injury, selected industries
Source: Stats NZ, WorkSafe

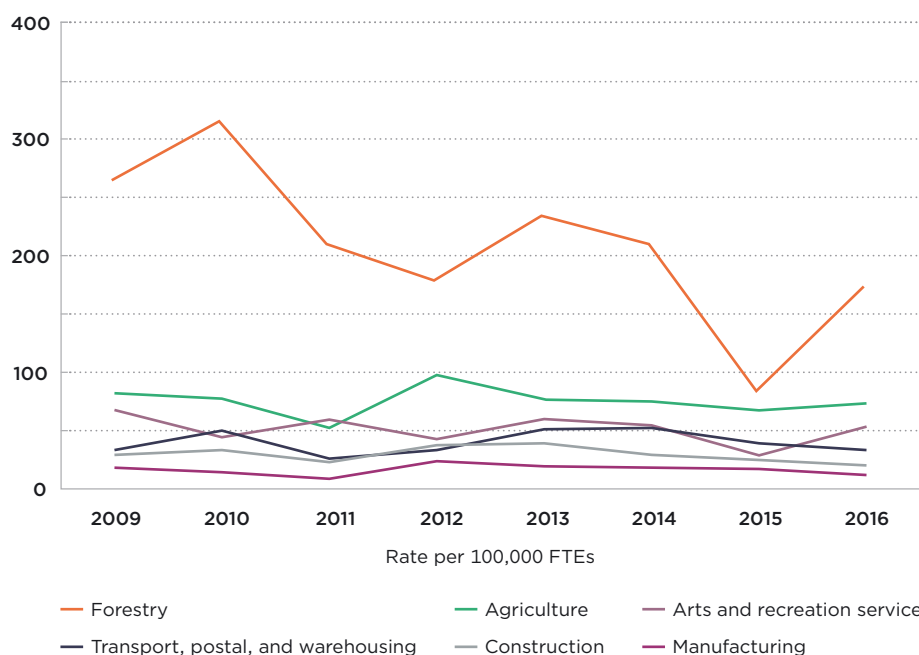


FIGURE 7: Serious non-fatal work-related injury, selected industries
Source: Stats NZ, WorkSafe

	BASELINE	2011	2012	2013	2014	2015	2016 ¹⁷	2016 TARGET	2020 TARGET
Estimated number of injuries		407	413	424	397	349	346		
Injury rate (per 100,000 FTE)	19.3	20.0	20.1	19.2	17.8	15.0	14.3	17.4	14.5
Māori rate of injury (per 100,000 FTEs, three-year average)		25.0	26.5	25.4	24.6	23.0	22.5		

Source: Stats NZ

TABLE 3: Serious non-fatal work-related injury

¹⁷ 2016 data is provisional.

	2009	2010	2011	2012	2013	2014	2015	2016
Agriculture	83.6	79.0	53.1	98.9	77.2	76.2	68.0	74.5
Forestry	267.1	316.9	212.2	181.7	236.3	212.2	87.7	175.4
Construction	29.6	34.4	24.6	37.7	40.2	30.2	26.7	21.2
Manufacturing	19.1	15.5	10.3	24.5	20.4	19.3	18.0	13.4
Transport, postal, and warehousing	35.0	50.8	27.7	34.4	53.2	52.8	41.0	33.8
Electricity, gas, water, and waste services	56.9	37.7	38.6	12.0	41.7	34.6	32.3	40.8
Health care and social assistance	1.7	3.2	4.2	4.7	3.4	3.8	2.8	4.2
Arts and recreation services	68.8	45.5	61.0	44.1	60.7	56.4	29.4	54.2
TOTAL	19.9	20.4	21.1	21.5	21.6	19.5	16.7	15.8

Source: Stats NZ, WorkSafe

TABLE 4: Serious non-fatal work-related injury, selected industries (rate per 100,000 FTEs)

Full data tables are presented in Appendix 1.



5.0
Supplementary
indicator:
Work-related
injury resulting
in more than
a week away
from work

Supplementary indicator: Work-related injury resulting in more than a week away from work

The rate of injury resulting in more than a week away from work has decreased for the first time since 2011, but remains higher than the original baseline.

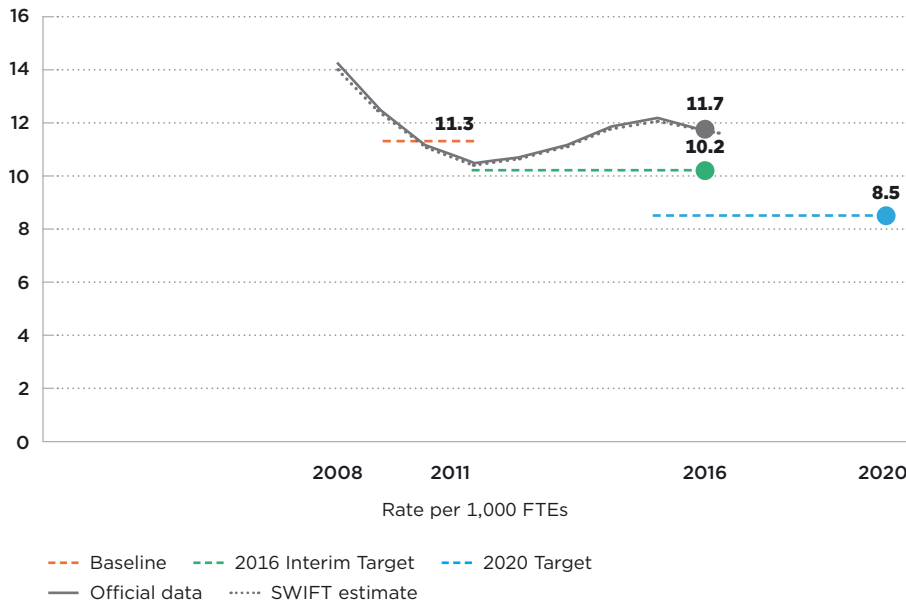


FIGURE 8:
Rate of work-related injury resulting in more than a week away from work
Source: Stats NZ from ACC claims data

Progress towards target

Current result compared to:

Baseline (2009-11 avg): 4% higher **2016 interim target:** 15% higher (X)
Previous year (2014): 4% lower **2020 target:** 38% higher

Following a sharp decline between 2008 and 2011, the subsequent four years have seen a gradual increase in the rate of injury to the point where the indicator is now higher than the target rate. Although there has been a 4% decrease in the rate in 2016, the indicator remains 15% higher than the 2016 interim target.

What does the data tell us?

Following a sharp decline between 2008 and 2011, the subsequent four years have seen a gradual increase in the rate of injury to the point where the indicator is now higher than the target rate. Although there has been a 4% decrease in the rate in 2016, the indicator remains 15% higher than the interim target.

The injury risks that are reflected in this rate have been brought into focus by ACC and WorkSafe’s joint Harm Reduction Action Plan, and are considered more difficult to reduce over time than serious injury¹⁸. These risks differ from those for fatal and serious injury, and cover a broader range, including slips, trips and falls, body stressing (musculoskeletal injuries and repetitive strain), and working in and around vehicles.

As noted in the Economic Context section, this indicator is considered less reliable than the target indicators because the rate of claims is more likely to be influenced by drivers other than injuries. Changes to entitlement thresholds, approaches to return to work following injury, and levels of awareness about entitlement can affect claim rates. Other drivers of this rate may include

¹⁸ www.worksafe.govt.nz/worksafe/about/who-we-work-with/our-plan-to-reduce-injury-and-harm-at-work

inexperienced workers entering the workforce and production pressure associated with economic growth. On this basis, the week away from work claim rate is expected to reflect changes in labour market conditions, as well as the underlying risk of injury. Despite this, it is a valuable analytical tool for analysing injuries by industry and other factors.

Other limitations of this indicator include the shorter history from which to draw trend information and the lack of age-standardisation of the data.

Outlook

WorkSafe’s analytical data for week away from work claims tracks closely to the supplementary indicator. Analytical data indicates that the rate of injuries resulting in more than a week away from work has continued to reduce to 11.6 per 1,000 FTEs at the end of March 2017.

As with serious non-fatal injury, for the first time Stats NZ has been able to provide a breakdown of official data by industry sector. Figure 10 demonstrates the progress made in *forestry*¹⁹, from 51.0 per 1,000 FTEs in 2011 to 21.2 in 2016. However, other sectors have not demonstrated the same progress. The *transport, postal & warehousing* sector has emerged as having the highest rate of this type of injury, increasing from 16.7 in 2012 to 24.3 in 2016.

Other than WorkSafe’s priority sectors, *arts & recreation services* and *healthcare & social assistance* – which is a priority focus for ACC in the Harm Reduction Action Plan – also feature.

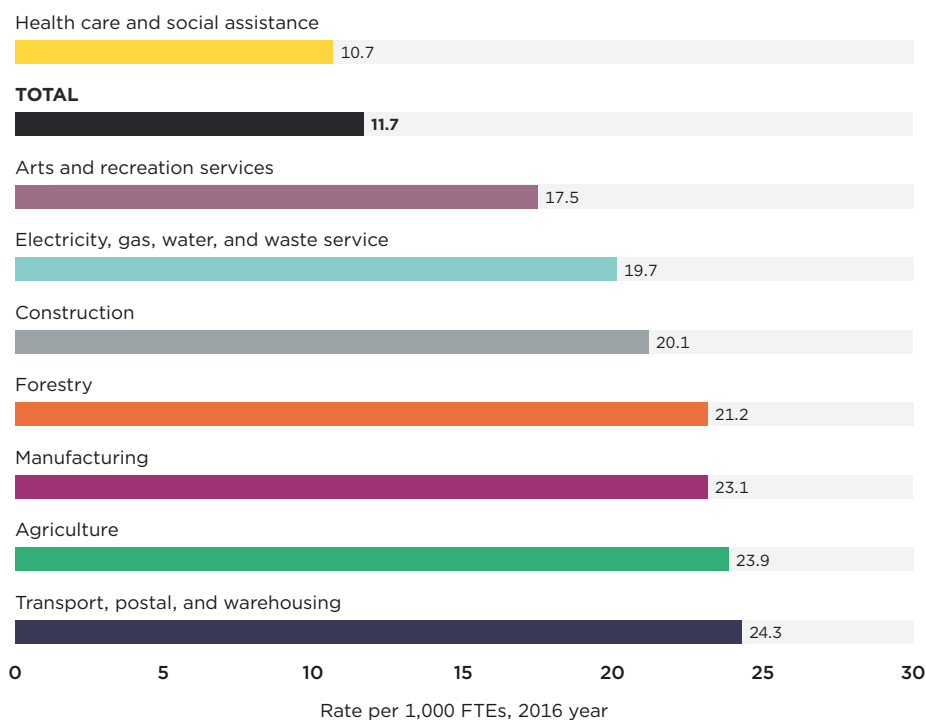


FIGURE 9: Injury resulting in more than a week away from work, selected industries

Source: Stats NZ, WorkSafe

¹⁹ The issues with volatility due to the relatively small size of the forestry sector are less of a problem for this indicator, due to the higher number of this type of injury.

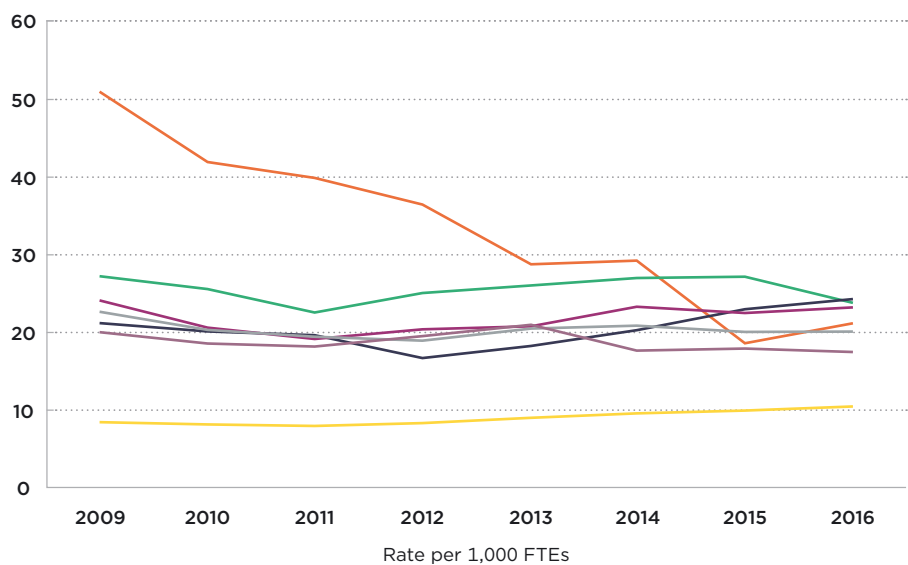


FIGURE 10:
Injury resulting in more than a week away from work, selected industries

Source: Stats NZ, WorkSafe

	BASELINE	2012	2013	2014	2015	2016 ²⁰	2016 TARGET	2020 TARGET
Estimated number of injuries		20,535	21,915	24,219	25,407	25,488		
Injury rate (per 1,000 FTE)	11.3	10.7	11.2	11.9	12.2	11.7	10.2	8.5

Source: Stats NZ

TABLE 5: Injury resulting in more than a week away from work

Full data tables including SWIFT data are presented in Appendix 1.

	2009	2010	2011	2012	2013	2014	2015	2016
Agriculture	27.3	25.6	22.6	25.1	26.0	27.1	27.2	23.9
Forestry	51.0	41.9	39.9	36.3	28.8	29.2	18.7	21.2
Construction	22.7	20.3	19.5	19.0	20.5	20.9	20.1	20.1
Manufacturing	24.1	20.6	19.2	20.4	20.9	23.4	22.5	23.1
Transport, postal, and warehousing	21.3	20.2	19.6	16.7	18.3	20.3	23.0	24.3
Electricity, gas, water, and waste services	22.6	17.0	16.7	15.3	17.6	15.2	16.1	19.7
Health care and social assistance	8.5	8.3	8.1	8.4	9.1	9.7	10.0	10.7
Arts and recreation services	20.1	18.6	18.3	19.5	20.9	17.8	17.9	17.5
TOTAL	12.4	11.1	10.5	10.7	11.2	11.9	12.2	11.7

Source: Stats NZ, WorkSafe

TABLE 6: Injury resulting in more than a week away from work, selected industries

²⁰ 2016 data is provisional.



6.0 International comparison

IN THIS SECTION:

- 6.1 Fatal injury
- 6.2 Injury resulting in more than a week away from work

The following international comparisons provide additional context for New Zealand's performance.

While steps have been taken to ensure comparability, not all differences between the reporting systems used by other countries can be accounted for. As such, the comparisons presented here should be interpreted as context, rather than a definitive assessment of relative performance.

6.1 Fatal injury²¹

That the fatal injury rates presented in this section are not three-year averages. As a result, the series presented here are more volatile than the official data, with these effects particularly pronounced for New Zealand, being a relatively small country. Further, these rates have not been age standardised and are calculated per 100,000 *workers*, rather than FTEs, so are not directly comparable with the official rates.

New Zealand's fatality rate continues to lag behind similar countries such as Australia, the United Kingdom and Scandinavian countries

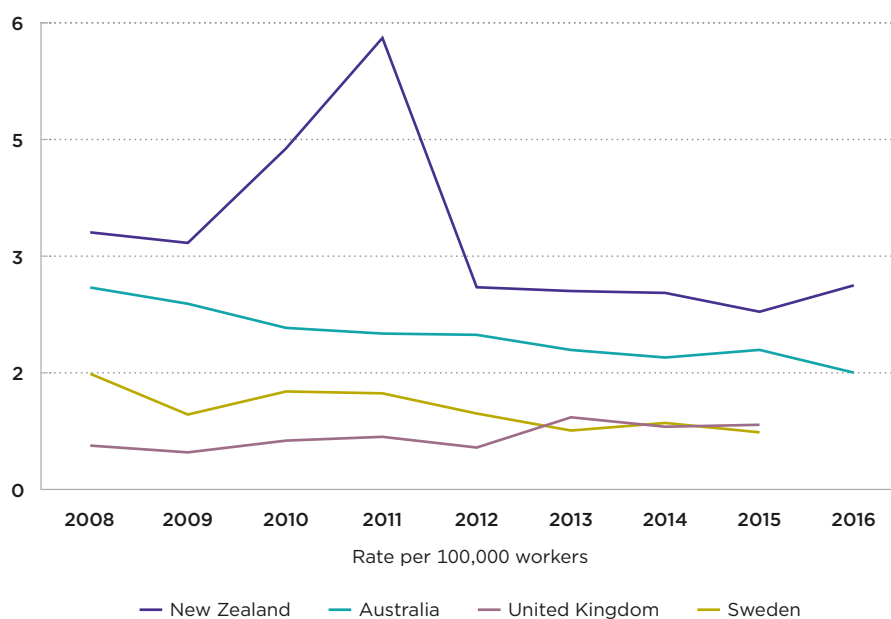


FIGURE 11:
Fatal work-related
injury, international
comparison

Source: WorkSafe

²¹ This international comparison was undertaken by WorkSafe following the methodology developed by EuroStat, the statistical office of the European Union. For further information on this analysis, refer to www.worksafe.govt.nz/worksafe/research/health-and-safety-data

The rate of work-related fatal injury in New Zealand remains higher than Australia and the United Kingdom. As noted by the Independent Taskforce on Workplace Health and Safety²², the United Kingdom has a robust and well established health and safety model (the Robens model), which is held as an exemplar of a 'world class' health and safety system. New Zealand and Australia have both followed this approach. However, the Taskforce observed that although the Robens approach was followed in New Zealand, it was implemented poorly.

A certain amount of the difference in the health and safety performance of these countries reflects the make-up of our respective economies. As shown below, when adjusting for industry composition New Zealand and Australia display similar rates of fatal injury. Both continue to lag behind the United Kingdom and Sweden²³.

Adjusted for industry composition, New Zealand and Australia exhibit similar rates of fatal injury, but continue to lag behind world-class jurisdictions



FIGURE 12:
Fatal work-related injury, international comparison (industry adjusted)

Source: WorkSafe

This analysis demonstrates that New Zealand has a higher rate of work-related fatal injury regardless of industry composition. Without a concerted, system-wide effort, New Zealand will continue to lag behind otherwise comparable countries.

²² www.hstaskforce.govt.nz/documents/executive-report-of-the-independent-taskforce-on-workplace-health-safety.pdf

²³ The rates presented in this section show the work-related fatal injury rates of Australia, New Zealand and the United Kingdom adjusted as if their economies were structured as per the European Union (EU-28) average.

	2008	2009	2010	2011	2012	2013	2014	2015	2016
New Zealand	3.3	3.2	4.3	5.8	2.6	2.6	2.5	2.3	2.6
Australia	2.6	2.4	2.1	2.0	2.0	1.8	1.7	1.8	1.5
United Kingdom	0.6	0.5	0.6	0.7	0.6	0.9	0.8	0.8	
Sweden	1.5	1.0	1.2	1.3	1.0	0.8	0.9	0.7	

Source: WorkSafe

TABLE 7: Fatal work-related injury, international comparison (rate per 100,000 workers)

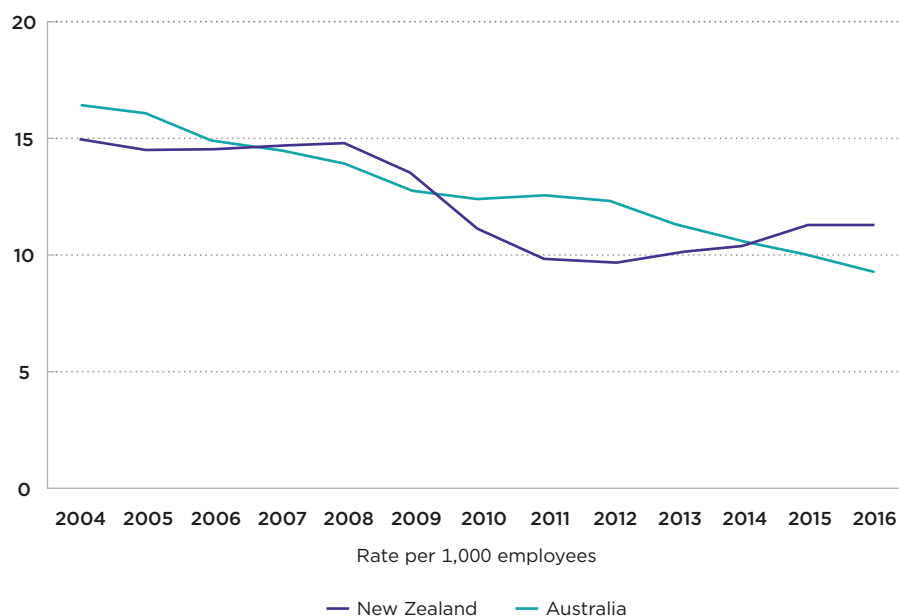
	2008	2009	2010	2011	2012	2013	2014	2015	2016
New Zealand	3.6	3.9	3.7	6.2	3.0	3.1	2.9	2.6	3.3
Australia	4.1	3.6	3.2	3.2	3.3	2.7	2.5	2.8	2.3
United Kingdom	1.0	1.6	1.6	1.8	1.4	1.9	1.6		
Sweden	2.4	1.9	2.1	2.3	1.4	1.2	1.5		

Source: WorkSafe

TABLE 8: Fatal injury, international comparison (industry adjusted rate per 100,000 workers)

6.2 Injury resulting in more than a week away from work

New Zealand and Australia's rates of work-related injury resulting in a week away from work follow similar paths over time, although New Zealand has seen an increase in recent years

**FIGURE 13:** Injury resulting in more than a week away from work, international comparison

Source: SafeWork Australia

Each year, SafeWork Australia publishes a Comparative Performance Monitoring Report, which provides analysis of work-related health and safety with a focus on the workers' compensation schemes operating in Australia and New Zealand²⁴. This allows a comparison between New Zealand and Australia's rates of injury resulting in more than a week away from work.

²⁴ www.safeworkaustralia.gov.au/sites/swa/statistics/pages/comparativeperformancemonitoring

As can be seen from this series, both jurisdictions have seen a decrease since 2004. However, New Zealand's progress has been less linear, and as noted in the discussion of the supplementary indicator above, has seen an increase since 2012. As New Zealand has a smaller population than Australia, it is to be expected that this data will be more subject to fluctuation over time.

Key points to note

To improve comparability, this data differs from the supplementary indicator rate as follows:

- self-employed workers are excluded – the denominator for the rate is employees²⁵
- the period has been adjusted to the year to 30 June, rather than 31 December
- occupational disease claims have been included (these are excluded from the supplementary indicator)
- injuries sustained on public roads have been excluded.

Unlike the international fatal injury comparison, this data has not been adjusted to account for differences in New Zealand and Australia's economies – a consequence of this is that this comparison does not account for the relative numbers of workers in high-rate sectors such as *agriculture* and *manufacturing*

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
New Zealand	14.9	14.5	14.5	14.7	14.8	13.5	11.2	9.9	9.7	10.1	10.4	11.3	11.3
Australia	16.4	16.0	14.9	14.5	13.9	12.8	12.4	12.5	12.3	11.3	10.6	10.0	9.3

Source: SafeWork
Australia

TABLE 9: Injury resulting in more than a week away from work, international comparison (rate per 1,000 employees).

²⁵ Rather than FTEs (target indicators) or workers (international fatal injury rate comparison).

7.0

What is being done to improve health and safety performance in New Zealand?



The work-related injury reduction target reflects the unacceptable levels of acute harm faced by workers across New Zealand.

Although progress has been made to improve health and safety, New Zealand's level of acute and chronic harm remains high by international standards. Without a concerted, system-wide effort, New Zealand will continue to lag behind similar countries, such as Australia, the United Kingdom and Scandinavian countries.

There is evidence of a relatively smooth transition to the Health and Safety at Work Act 2015 (HSWA)²⁶, which came into effect on 1 April 2016. Alongside the improved injury rates presented in this report, we are seeing more employers spending time on health and safety²⁷, and positive shifts in health and safety leadership, worker engagement and risk management across WorkSafe's priority sectors. Despite these improvements, risky behaviour – such as continuing to work when sick or injured – is still common and employers tend to have a more positive view than workers²⁸. While more employers and workers report that worker participation practices are occurring, there is still a way to go to ensure engagement with workers is authentic and that workers' views contribute to decision-making²⁹.

Real progress will require all parts of the health and safety system to work together, including businesses and industry, workers and their unions.

Workers are at the heart of health and safety. As the person most intimately acquainted with the risks associated with their job, workers must be supported and empowered to speak up about risk and have permission to make change.

Industry groups – such as the Forest Industry Safety Council, the Construction Safety Council and the Agricultural Leaders' Health and Safety Action Group – are developing and establishing sector-specific interventions and guidance. WorkSafe is building influence as a system leader, working with ACC and industry to deliver harm prevention programmes that target the drivers of harm in our priority sectors. As part of WorkSafe's targeted programme to reduce the risk of respiratory disease, WorkSafe engaged with nine precast concrete companies which employ nearly 1,000 workers in Manukau in order to improve identification and management of risks associated with dust, including silica.

²⁶ worksafe.govt.nz/hswa

²⁷ The proportion of employers spending “significant time and resources on workplace safety regulation” has increased between 2012 (44%) and 2016 (71%) (Business Operations Survey, Stats NZ); 65% of employers made significant changes to their health and safety practices in 2016, up from 40% in 2014 (Attitudes and Behaviour Survey, WorkSafe)

²⁸ 44% (down from 59% in 2014) of workers said they worked when sick or injured from ‘time to time’ or ‘a lot’, compared to 21% (down from 29% in 2014) of employers (Attitudes and Behaviour Survey, WorkSafe)

²⁹ 90% of workers said that key worker participation practices were in place, up from 86% in 2014; 53% of workers agree that workers are always told how their views have been considered in making health and safety improvements, while 79% of employers say their business always lets workers know their views have been considered (Attitudes and Behaviour Survey, WorkSafe)

Maruiti 2025 is WorkSafe's strategy to address the disproportionate harm faced by Māori workers. With ACC and Ngāti Porou a marae-based approach has been developed, following kaupapa Māori to provide a safe environment for forestry workers to build confidence and knowledge. A highlight in 2016/17 was the delivery of the first Te Ao Maruiti health and safety forestry learning pilot at Taumata o Mihi Marae in Ruatoria. WorkSafe intends to roll this initiative out, working in partnership with the Māori community, to improve health and safety for Māori workers in similar and related industries.

The further analysis signalled in this report will inform the planned refresh of the Harm Reduction Action Plan in 2019. There is still work to be done to bed-in the reforms set out in Working Safer³⁰ and to ensure that further refinements to the regulatory framework are fit-for-purpose, practical and focussed on the long-term improvements New Zealand needs to make.

The Government is looking ahead to ensure a clear strategic direction and approach over the coming decade, and beginning to establish a broader knowledge base of the drivers and lead indicators of system-wide health and safety. Work is underway to develop the Government's 10-year Health and Safety at Work Strategy which sets the vision, goals and priorities for the health and safety system. The Strategy will focus on reducing harm through improved system integration and clarified roles for all system participants, focussing on the risks that matter most – including work-related health and at-risk workers - and wider society seeing the value of good health and safety.

³⁰ www.mbie.govt.nz/info-services/employment-skills/workplace-health-and-safety-reform/document-and-image-library/working-safer-key-documents/safety-first-blueprint.pdf

Appendices

IN THIS SECTION:

Appendix 1: Data tables

Appendix 2: Confidence intervals

Appendix 3: Glossary

Appendix 1: Data tables

Fatal work-related injury

YEAR	FATAL INJURY COUNT (3-year average)	FATAL INJURY RATE (3-year average per 100,000 FTEs)	SWIFT RATE ESTIMATE (3-year average per 100,000 FTEs)
2004	89	5.2	
2005	83	4.5	
2006	77	4.1	
2007	70	3.6	
2008	67	3.3	
2009	66	3.2	
2010	77	3.9	4
2011	94	4.7	5
2012	88	4.3	4.8
2013	75	3.6	4.1
2014	52	2.4	2.9
2015	51	2.2	2.8
2016	51	2.1	2.8

Source: Stats NZ, from WorkSafe notifications and ACC claims data; WorkSafe's System for Work-related Injury Forecasting and Targeting (SWIFT)

Fatal work-related injury by industry (3-year average rate per 100,000 FTEs)

INDUSTRY GROUP	2011	2012	2013	2014	2015	2016
Agriculture, forestry, and fishing	15.7	16.3	16.9	17.2	16.5	15.6
Agriculture	14.4	14.5	13.0	14.5	15.3	16.3
Forestry	70.0	68.9	98.1	80.3	61.0	37.2
Mining	93.7	93.2	0.0	0.0	10.4	17.4
Manufacturing	3.0	1.9	2.3	1.6	1.8	2.1
Electricity, gas, water, and waste services	8.8	8.3	6.1	3.7	5.1	6.5
Construction	6.7	5.6	3.5	3.1	2.1	1.9
Wholesale trade	0.3	0.7	0.7	1.2	1.6	1.9
Retail trade	0.6	0.6	0.8	0.6	0.5	0.2
Accommodation and food services	1.1	0.7	0.7	0.7	0.3	1.3
Transport, postal, and warehousing	10.5	10.1	9.3	8.6	9.4	8.9
Information media and telecommunications	9.7	9.5	9.5	0.0	0.0	0.0
Financial and insurance services	7.6	7.6	7.3	0.0	0.0	0.0
Rental, hiring, and real estate services	3.2	3.3	1.1	0.0	0.0	1.9
Professional, scientific, and technical services	1.3	0.9	0.4	0.2	0.4	0.2
Administrative and support services	0.0	0.0	1.1	1.1	1.6	0.5
Public administration and safety	2.9	2.6	1.2	1.4	1.1	0.8
Education and training	1.9	1.6	1.6	0.2	0.2	0.0
Health care and social assistance	1.6	1.6	1.5	0.2	0.2	0.2
Arts and recreation services	9.0	6.5	5.4	4.1	1.9	2.7
Other services	4.5	3.5	3.0	0.4	0.8	0.8
TOTAL	5.0	4.6	3.9	2.6	2.5	2.4

Source: Stats NZ, WorkSafe

Serious non-fatal injury

YEAR	INJURY COUNT	INJURY RATE (PER 100,000 FTES)	MĀORI INJURY COUNT (THREE-YEAR AVERAGE)	MĀORI INJURY RATE (PER 100,000 FTES, THREE-YEAR AVERAGE)
2002	352	21.1		
2003	404	23.4		
2004	359	19.8	58	29
2005	361	19.1	58	28
2006	391	20.2	61	28
2007	411	20.8	71	32
2008	408	20.5	73	31
2009	376	18.9	67	28
2010	387	18.6	63	27
2011	407	20.0	58	25
2012	413	20.1	63	27
2013	424	19.2	61	25
2014	397	17.8	60	25
2015	349	15.0	58	23
2016	346	14.3	57	22

Source: Stats NZ from ACC claims and Ministry of Health hospitalisation data

Serious non-fatal injury by industry (rate per 100,000 FTEs)

YEAR	2009	2010	2011	2012	2013	2014	2015	2016
Agriculture, forestry, and fishing	80.5	79.0	54.1	91.7	77.2	74.7	62.0	70.4
Agriculture	83.6	79.0	53.1	98.9	77.2	76.2	68.0	74.5
Forestry	267.1	316.9	212.2	181.7	236.3	212.2	87.7	175.4
Mining	30.4	29.8	28.6	29.9	15.6	0.0	0.0	46.5
Manufacturing	19.1	15.5	10.3	24.5	20.4	19.3	18.0	13.4
Electricity, gas, water, and waste services	56.9	37.7	38.6	12.0	41.7	34.6	32.3	40.8
Construction	29.6	34.4	24.6	37.7	40.2	30.2	26.7	21.2
Wholesale trade	7.5	3.0	2.9	17.9	13.7	10.2	5.1	8.0
Retail trade	4.0	5.8	3.5	10.5	4.9	4.8	4.7	5.2
Accommodation and food services	4.4	10.0	5.3	9.5	4.0	5.3	7.0	6.3
Transport, postal, and warehousing	35.0	50.8	27.7	34.4	53.2	52.8	41.0	33.8
Information media and telecommunications	0.0	2.6	2.6	2.6	2.6	0.0	0.0	0.0
Financial and insurance services	6.3	1.7	6.5	3.1	3.0	0.0	1.5	3.0
Rental, hiring, and real estate services	18.1	39.7	19.6	16.0	34.2	30.6	29.1	2.7
Professional, scientific, and technical services	3.9	5.8	2.6	1.3	6.0	4.1	4.6	4.2
Administrative and support services	12.3	7.5	8.7	13.7	8.2	4.6	13.7	4.3
Public administration and safety	7.3	9.5	7.7	7.1	7.1	7.5	4.2	9.3
Education and training	3.9	6.3	2.4	2.5	7.4	1.8	2.9	3.8
Health care and social assistance	1.7	3.2	4.2	4.7	3.4	3.8	2.8	4.2
Arts and recreation services	68.8	45.5	61.0	44.1	60.7	56.4	29.4	54.2
Other services	14.1	13.4	6.6	12.7	15.8	8.0	6.7	10.4
TOTAL	19.9	20.4	21.1	21.5	21.6	19.5	16.7	15.8

Source: Stats NZ, WorkSafe

Injury resulting in more than a week away from work

YEAR	CLAIM COUNT	CLAIM RATE (per 1,000 FTEs)	SWIFT RATE ESTIMATE (claims per 1,000 FTEs)
2008	27,163	14.2	14
2009	23,399	12.4	12.3
2010	21,075	11.1	11
2011	20,229	10.5	10.4
2012	20,535	10.7	10.7
2013	21,915	11.2	11.1
2014	24,219	11.9	11.8
2015	25,407	12.2	12.2
2016	25,488	11.7	11.8

Source: Stats NZ, from ACC claims data; WorkSafe's System for Work-related Injury Forecasting and Targeting (SWIFT)

Injury resulting in more than a week away from work by industry (rate per 1,000 FTEs)

YEAR	2009	2010	2011	2012	2013	2014	2015	2016
Agriculture, forestry, and fishing	25.5	23.6	21.4	23.2	23.7	24.5	24.4	21.0
Agriculture	27.3	25.6	22.6	25.1	26.0	27.1	27.2	23.9
Forestry	51.0	41.9	39.9	36.3	28.8	29.2	18.7	21.2
Mining	16.1	11.8	11.9	13.5	14.1	11.4	8.5	12.6
Manufacturing	24.1	20.6	19.2	20.4	20.9	23.4	22.5	23.1
Electricity, gas, water, and waste services	22.6	17.0	16.7	15.3	17.6	15.2	16.1	19.7
Construction	22.7	20.3	19.5	19.0	20.5	20.9	20.1	20.1
Wholesale trade	7.5	6.3	6.1	7.5	8.6	8.9	10.5	8.4
Retail trade	9.2	8.3	7.5	7.8	7.9	8.3	9.1	8.7
Accommodation and food services	9.3	7.8	6.8	7.0	7.6	8.7	9.2	8.9
Transport, postal, and warehousing	21.3	20.2	19.6	16.7	18.3	20.3	23.0	24.3
Information media and telecommunications	2.8	2.2	2.0	1.4	1.0	1.1	0.9	1.0
Financial and insurance services	1.1	1.2	1.3	1.0	0.9	1.3	1.3	1.2
Rental, hiring, and real estate services	8.3	8.6	8.5	7.7	9.4	9.3	8.5	8.5
Professional, scientific, and technical services	1.7	2.0	1.9	1.8	2.0	2.1	2.2	1.8
Administrative and support services	7.7	7.0	6.4	5.9	5.3	5.3	5.7	6.0
Public administration and safety	6.1	5.2	5.9	6.1	7.0	6.8	6.0	4.6
Education and training	3.0	3.2	2.7	3.0	3.0	3.4	3.9	3.3
Health care and social assistance	8.5	8.3	8.1	8.4	9.1	9.7	10.0	10.7
Arts and recreation services	20.1	18.6	18.3	19.5	20.9	17.8	17.9	17.5
Other services	8.6	7.1	7.7	7.2	7.0	7.2	7.4	7.7
TOTAL	12.4	11.1	10.5	10.7	11.2	11.9	12.2	11.7

Source: Stats NZ, WorkSafe

Fatal injury, international comparison

YEAR	New Zealand	Australia	France	Netherlands	United Kingdom	Sweden	Ireland	USA	EU (28)
2008	3.3	2.6	1.5	1.5	0.6	1.5	2.4	3.6	2.4
2009	3.2	2.4	3.0	1.1	0.5	1.0	2.0	3.3	2.0
2010	4.3	2.1	2.8	0.9	0.6	1.2	2.3	3.4	2.1
2011	5.8	2.0	3.1	0.5	0.7	1.3	2.7	3.4	2.1
2012	2.6	2.0	3.2	0.5	0.6	1.0	2.3	3.2	2.0
2013	2.6	1.8	3.1	0.5	0.9	0.8	2.1	3.2	1.8
2014	2.5	1.7	3.2	0.6	0.8	0.9	2.5	3.3	1.8
2015	2.3	1.8	3.2	0.5	0.8	0.7	2.5	3.2	
2016	2.6	1.5							

Source: WorkSafe

Fatal injury, international comparison (industry adjusted)

YEAR	New Zealand	Australia	France	Netherlands	United Kingdom	Sweden	Ireland	USA	EU (28)
2008	3.6	4.1	3.0	3.0	1.0	2.4	2.8	2.4	2.4
2009	3.9	3.6	3.0	2.1	1.6	1.9	2.6	2.6	2.0
2010	3.7	3.2	2.7	1.6	1.6	2.1	3.7	3.7	2.1
2011	6.2	3.2	3.0	0.7	1.8	2.3	4.2	4.2	2.1
2012	3.0	3.3	3.1	0.7	1.4	1.4	3.4	3.4	2.0
2013	3.1	2.7	2.9	0.8	1.9	1.2	2.7	2.7	1.8
2014	2.9	2.5	3.1	1.0	1.6	1.5	3.1	3.1	1.8
2015	2.6	2.8	3.2						
2016	3.3	2.3							

Source: WorkSafe

Injury resulting in more than a week away from work,
international comparison

YEAR	NEW ZEALAND (per 1,000 employees)	AUSTRALIA
2004	14.9	16.4
2005	14.5	16.0
2006	14.5	14.9
2007	14.7	14.5
2008	14.8	13.9
2009	13.5	12.8
2010	11.2	12.4
2011	9.9	12.5
2012	9.7	12.3
2013	10.1	11.3
2014	10.4	10.6
2015	11.3	10.0
2016	11.3	9.3

Source: SafeWork Australia *Comparative Performance Monitoring Report* www.safeworkaustralia.gov.au/sites/swa/statistics/pages/comparativeperformancemonitoring

Appendix 2: Confidence intervals

The following charts present the 95% confidence intervals for the *Serious Injury Outcome Indicators*. This indicates the range of values we might expect to see 95 out of 100 times, based on the official results and the use of survey data as the denominator.

This is useful for comparing an observed rate with a previous observation, or with a target. For example, as the upper confidence limit for the fatality rate in 2016 is 2.4, we can be quite confident that the actual rate is lower than 3.0 (the 2016 interim target) and 2.5 (the 2020 target).

Similarly, the 2016 lower confidence limit for the rate of Maori serious non-fatal injury (26.0) is higher than the upper confidence limit if the overall rate (15.9). This means that it is statistically accurate to say that the rate of serious non-fatal injury for Maori is higher than for the overall population.

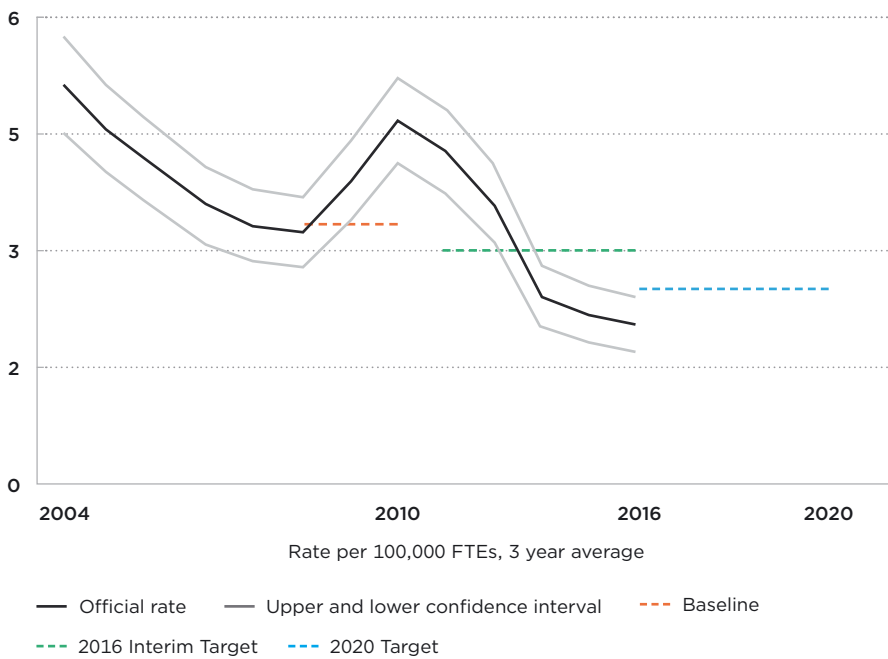


FIGURE 14:
Fatal injury confidence interval

Source: Stats NZ

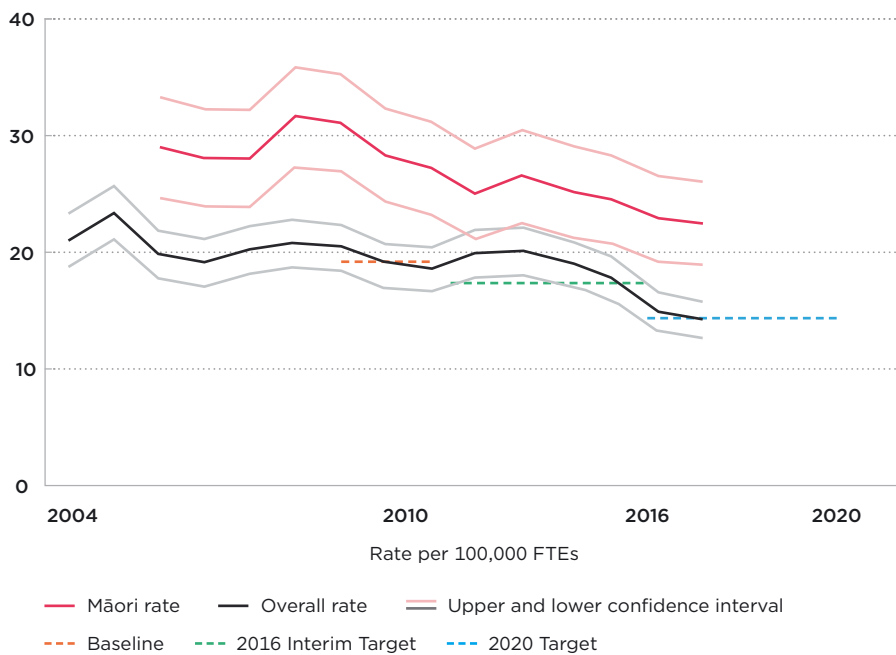


FIGURE 15:
Serious non-fatal injury confidence interval

Source: Stats NZ

Appendix 3: Definitions

For further technical detail on the work-related injury data for New Zealand, refer to the:

- *Aide memoire*³¹ published by WorkSafe
- *Serious injury outcome indicators technical report*³² published by Stats NZ.

Serious injury outcome indicators

The serious injury outcome indicators (SIOs) are the official statistics used for monitoring injury trends. They are published annually by Stats NZ. They include two work-related injury indicators: (1) fatal injury; and (2) serious non-fatal injury.

The fatal injury indicator combines WorkSafe notifications and Accident Compensation Corporation (ACC) claims for fatal injury to workers over the age of 15 (excluding deaths related to occupational disease). It uses a three-year moving average to capture trends over time. This is similar to the approach taken by Australia.³³

The serious non-fatal injury indicator combines ACC claims with Ministry of Health data to identify work-related hospitalisations with a high threat-to-life. Using a high threat-to-life threshold increases the validity of the indicator because most people with injuries that have a high probability of death will go to hospital, and therefore be captured in the data.

The SIOs are used as the official measures of fatal and serious non-fatal work-related injury, as they are the most robust and comprehensive indicators available. Stats NZ, provides quality control, accordance with international standards, and independence.

Compensation claims to ACC

Stats NZ publishes annual ACC work-related claims data. These include claims in the work account plus work-related claims in the motor vehicle account.

Stats NZ publish this data on claims for more than a week away from work as part of the *Work-related injuries at a glance* product.³⁴ Not all injuries appear in the ACC claims data. For example, if the person did not seek treatment for their injury, if they sought treatment but did not make a claim, or if the claim was declined, then it would not appear in the claims data.

Why rates not numbers?

The target aims to reduce the risk of injury. Rates are a proxy for risk. The rates divide the number of people injured by the number of people in employment. For example, if there is high unemployment and the number of people injured at work goes down because there are fewer people at work, the target will not be met unless safety has also improved. Stats NZ uses the Household Labour Force Survey (HLFS) for employment estimates.

³¹ www.worksafe.govt.nz/worksafe/research/health-and-safety-data

³² www.stats.govt.nz/browse_for_stats/health/injuries/serious-injury-outcome-tech-report-2015.aspx

³³ www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/933/Australian-WHS-Strategy-2nd-Progress-Report.pdf

³⁴ www.stats.govt.nz/browse_for_stats/health/injuries.aspx

Age-standardisation

The serious injury outcome indicators (SIOIs) are age-standardised rates. Age-standardisation adjusts the rate of injury to account for changes in the age structure of the population over time. This increases the focus on safety rather than changing demography. This is particularly important in the New Zealand injury priority area of falls (which includes non-work-related falls) because older people are much more likely to experience serious injury following a fall. Age-standardisation helps separate out the age-specific risk of falls from the age distribution of the population. If the number of people seriously injured from falls increases, age-standardisation helps identify whether this is because the risk of falls for older people has increased or because the number of older people in the population has increased.

Why is there a time lag?

The SIOIs are robust as they blend data from multiple sources, with clear definitions, methods and processes for inclusion. While comprehensive, the SIOIs have a 10-month time lag before release of provisional data, and 22-month lag before this provisional data is considered final. This time is needed to investigate whether a death was due to an injury or natural causes (eg a heart attack), to decide whether the injury or death was work-related, and to combine and clean data from multiple sources. Numbers can change as new information comes to light, for example someone might die from a work-related injury many months after the injury first occurred.

Work-related health

The target indicators do not cover work-related health. WorkSafe has a strategic commitment to increasing its focus on the management of work-related health and, to achieve this, there is a clear and strong need to broaden knowledge of work-related health through the collection, collation, analysis and use of informative data and intelligence.

At present, the capture and reporting of work-related health data is generally poor. A lack of obvious cause and effect and a delay in health effects make it difficult to get good information and the necessary systems to capture data either do not easily allow for it to happen or are not currently in place.

Under WorkSafe's Strategic Plan for Work-Related Health 2016 – 2026, *Healthy Work*, WorkSafe is focusing on expanding the systems in place to capture, report and intelligently use data relating to prevalence of work-related ill-health, exposure to work-related health risks, approaches to risk management, and related attitudes and behaviours.

Baseline

Due to the different nature of the indicators, the baseline for each has been calculated in a different way. Similarly, the timeliness of the data available to report on the indicators varies. The latest official data relates to the 2015 calendar year, and is provisional.

The baseline rate of fatal injury excludes the 29 workers killed in the Pike River Coal Mine Tragedy (November 2010) and the 63 people killed at work in the 2011 Canterbury Earthquake (February 2011). These fatalities are included in the official rate.

Denominator

The denominator for injury rates should be a measure of exposure to risk of work-related injury. The gold standard would be a direct measure of exposure, although such data is rarely available, especially for the full population of workers. Second best would be hours worked, followed by FTEs, followed by the number of people in employment.

Previous rates were calculated per 100,000 *people in employment*; in 2016 the denominator was changed to FTEs to better reflect actual exposure to risk – part-time employees have a lower exposure to work-related injury because they work fewer hours.

Industry standardisation

Industry standardisation weights the observed rates to improve comparability between countries that have different industry compositions. In this case, the observed fatal workplace injury rates for Australia, New Zealand and the United Kingdom have been weighted using the European Union (EU-28) as a reference point.

Provisional data

Data published remains provisional until sufficient time has passed to allow for cases still under investigation and other issues to be resolved. There is a trade-off between timeliness and completeness, the release of provisional data allows this to be balanced.

Serious non-fatal injury

A serious non-fatal injury case is defined as one that is hospitalised and has a probability of death (at admission) of at least 6.9 percent.

SWIFT

ACC work-related injury claims data is combined with WorkSafe's fatality notifications in WorkSafe's System for Work-related Injury Forecasting and Targeting (SWIFT). This enables more timely estimation of the fatal work-related injury and week away from work injury rates.

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