Towards 2020

PROGRESS TOWARDS THE GOVERNMENT'S WORKING SAFER FATALITY AND SERIOUS INJURY REDUCTION TARGET

May 2017

New Zealand Government

WORKSAFE NEW ZEALAND | MAHI HAUMARU AOTEAROA

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1.0
Introduction

The New Zealand Government has set a target to reduce work-related fatalities and serious injuries by at least 25% by the year 2020.

This target was set in 2013, reflecting the need for New Zealand to improve our unacceptably high fatality and serious injury rates to the point where our workplace health and safety system is among the best in the world.

This report presents New Zealand's progress towards the target through analysis of three work-related injury rates:

- fatal injuries (2002-04 to 2013-15)
- serious non-fatal injuries (2002 to 2015)
- injuries resulting in more than a week away from work (2008 to 2015, supplementary indicator)

Where available, WorkSafe-compiled estimates are included to indicate how more recent progress is tracking. 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 since the introduction of *Working Safer*[1] in 2013, and a discussion of what is being done to improve health and safety performance in New Zealand.

[1] 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

2.0 Progress towards the 2020 target

IN THIS SECTION:

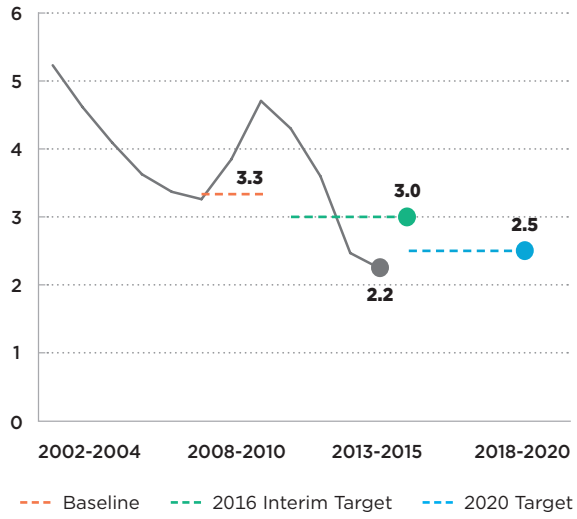
The three work-related injury rates indicate New Zealand's progress towards the Government's work-related fatality and serious injury reduction target – at least a 25% reduction from the baseline by 2020, with an interim target of 10% by 2016.[2] The most recent official data available for the indicators is for the 2015 calendar year.

2.1 Target indicators

Following 2015, a year in which New Zealand performed well by international comparison, the fatal injury rate is lower than both the 2016 interim and 2020 targets, and the rate of serious non-fatal injury is lower than the 2016 interim target.

After four consecutive years of increase, the supplementary indicator – the rate of injury resulting in more than a week away from work – remains above the interim target rate. 2015 data indicates that the rate of increase may be slowing.

Target indicator 1: Fatal work-related injury



Latest official data: 2013-2015 three-year average

2.2 fatal injuries per 100,000 FTEs

33% LOWER than the baseline[3]

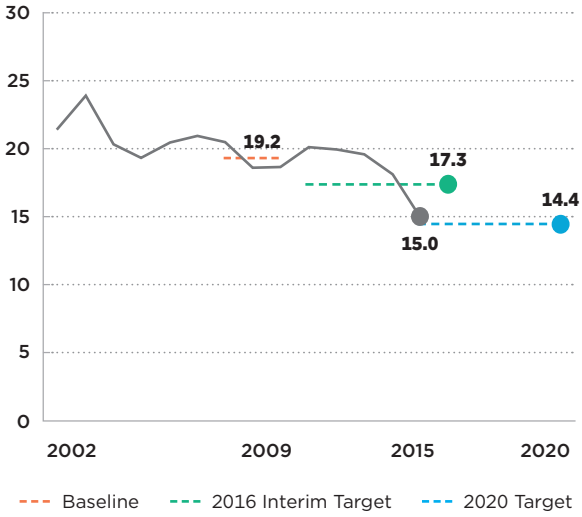
The official fatality rate is at its lowest since the data series began in 2002.

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

[2] Due to the different nature of the indicators, the baseline for each has been calculated in a different way. The latest provisional official data for all three indicators relates to the 2015 calendar year. See Appendix 3 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[4]



Latest official data: 2015 calendar year

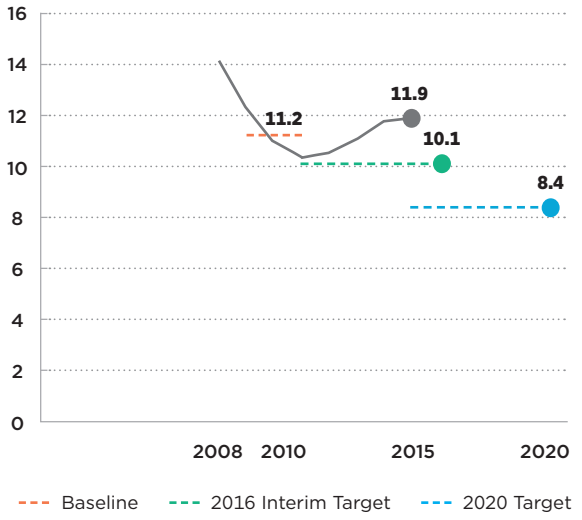
15.0 serious non-fatal injuries per 100,000 FTEs

22% LOWER than the baseline[5]

The rate of potentially fatal injury continues to decrease, as it has each year since 2011. The result for 2015 is the lowest since the series began.

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: 2015 calendar year

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

6% HIGHER than the baseline[6]

Following a sharp decline between 2008 and 2011, each year since has seen a gradual increase in the rate of injury to the point where the indicator is higher than the target rate. Estimates suggest that the rate of increase is slowing.

Source: Stats NZ from ACC claims data

[4] 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.

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

[6] 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 injury**.[7] A number of researchers have investigated why it is that economic booms are associated with higher rates of injury.

Proposed explanations for this increase include that during a boom, production pressures lead to longer working hours and greater exertion, resulting in fatigue and stress. 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.

Recent studies have found that in boom times people are more likely to *report* injuries than they are during a recession. For example, a meta-analysis[8] of injury and fatality data in 16 OECD countries reveals that higher injury rates during periods of growth or recovery are an outcome of greater reporting of injuries rather than changes in workplace behaviour. This research demonstrates that **fatal accidents do not seem to be sensitive to economic conditions**, substantiating the idea that data on fatality and serious injury are less likely to be affected by economic boom or recession than other injury types.

This is consistent with the rationale behind the selection of the fatal and serious non-fatal injury rates as the official *Serious injury outcome indicators* – they are less susceptible to changes in economic conditions,[9] and as such 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 net immigration among the key features that are expected to affect the labour market conditions, and therefore work-related injury rates.[10] These trends could impact the economic cost of deaths, injuries and ill-health arising from work, which is currently estimated at $3.5 billion a year.[11]

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

[8] Ibid.

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

[10] www.treasury.govt.nz/budget/forecasts/hyefu2016/hyefu16.pdf

[11] 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 rate of work-related fatal injury has been trending down since the peak of 2009-11, and now appears on track to meet the 2020 target

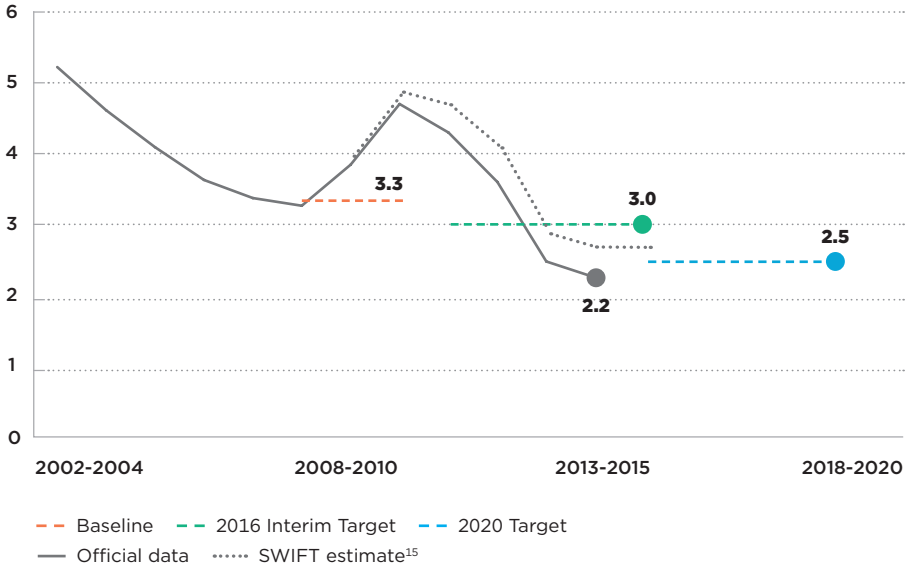


FIGURE 1: Fatal work-related injury rate (per 100,000 FTEs)

Progress towards target

Current result compared to:

Baseline (2008-10[12]): 33% lower

2016 interim target (2014-16): 26% lower

Previous result (2012-14): 10% lower

2020 target (2018-20): 11% lower

What does the data tell us?

The three years to 2015 saw the lowest number of work-related fatalities since this official series began, with an average of 51 workers losing their lives to work-related fatal injuries in each of these years.

As a result, the official rate of fatal injury – 2.2 per 100,000 full-time equivalent workers[13] – is the lowest since the series began.

The official rate includes 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.

This rate of injury is age-standardised, which 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.[14]

Because the number of fatalities is low compared with the working population, there is some natural volatility in the fatality rate over time. To account for this, the indicator is based on a three-year moving average.

[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] Previous rates were calculated per 100,000 *workers*, but 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.

[14] See *Age-standardisation* in the glossary for further information.

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.

Outlook

Analysis of WorkSafe compiled data (SWIFT[15]) can provide a more timely indication of the trend in the fatal injury rate.

As shown above, this estimate gives an impression of the overall trajectory, based on the best data available at this time.[16] This indicates that the fatal injury rate could be expected to begin to plateau over the coming year.

This estimate data also allows a breakdown by industry,[17] as shown below for priority sectors excluding Forestry.[18]

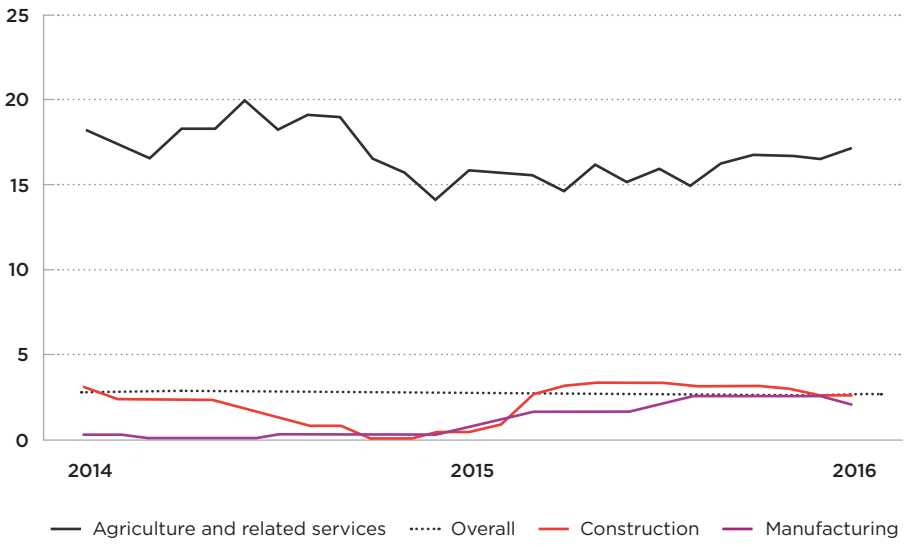


FIGURE 2: Estimated fatality rates by industry (per 100,000 FTEs, 12-month moving average)

As a significant employer, this result illustrates that the rate of risk in Agriculture and related services needs to be addressed if the overall rate of fatal injury is to be reduced.

The results of WorkSafe's *Health and Safety Attitudes and Behaviour Survey*[19] indicate that businesses in these sectors are improving their health and safety systems and practices. In 2016, 65% of those surveyed had made significant changes in the last 12 months, an increase from 50% in 2015 and 40% in 2014. These results demonstrate that although good progress has been made to reduce workplace harm, a continued focus on addressing the drivers of harm in high-incidence sectors is needed to ensure that the positive trend continues and is sustained to 2020 and beyond.

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

[16] Note that WorkSafe cannot reproduce the age-standardisation methodology; a consequence of this is that SWIFT rates appear higher than the official rates. This series should not be interpreted as a prediction of the official rate, but it is useful for understanding the future trend.

[17] In this case, Agriculture includes *Agriculture, Forestry and Fishing Support Services* but excludes *Fishing, Hunting and Trapping*, and *Forestry and Logging*, all of which are commonly grouped as one industry sector.

[18] Forestry, with fewer than 8,000 FTEs, has been excluded from this chart because the natural variation in the rate is too wide to present a meaningful trend. The WorkSafe estimate of Forestry fatalities for the 2016 year is 4, which equates to a rate of 59 per 100,000 workers. The three sectors shown here all have over 100,000 FTEs.

[19] www.worksafe.govt.nz/worksafe/research/research-reports/health-and-safety-attitudes-and-behaviours-survey

	BASELINE	2009-11	2010-12	2011-13	2012-14	2013-15[20]	2016 TARGET	2020 TARGET
Average number of fatalities		94	88	75	52	51		
Fatality rate (per 100,000 FTEs)	3.3	4.7	4.3	3.6	2.5	2.2	3.0	2.5

TABLE 1: Fatal work-related injury

	2014	2015	2016
Overall	2.9	2.7	2.7
Forestry	32.2	38.5	59.5
Agriculture and related services	18.2	15.9	17.2
Construction	3.1	0.5	2.6
Manufacturing	0.4	0.8	2.2

TABLE 2: Estimated annual fatal work-related injury rate (per 100,000 FTEs)

Full data tables are presented in Appendix 1.

[20] 2015 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 work-related serious non-fatal injuries has been gradually decreasing since 2011, and appears to be on track to meet the 2020 target

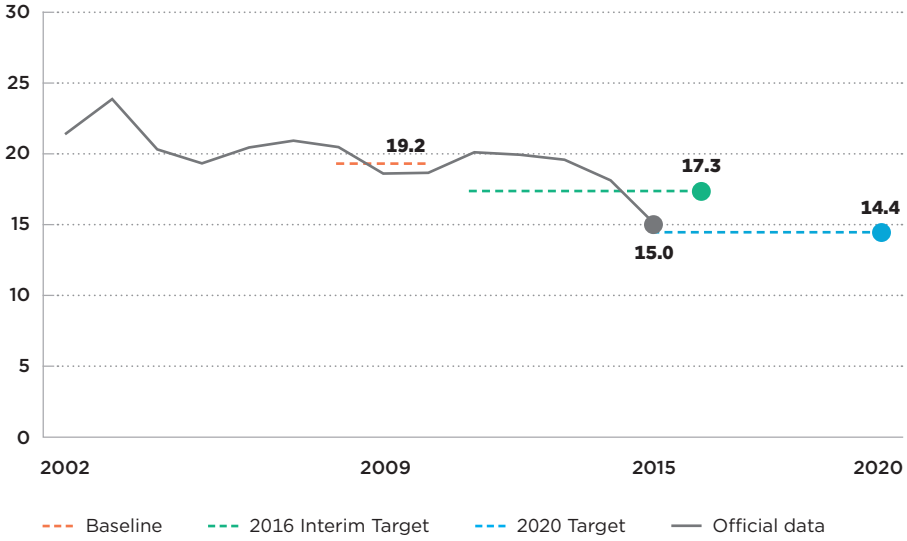


FIGURE 3
Serious non-fatal work-related injury rate (per 100,000 FTEs)

Progress towards target

Current result compared to:

Baseline (2008-10 avg): 22% lower

2016 interim target: 13% lower

Previous year (2014): 17% lower

2020 target: 4% higher

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 death.[21] The 349 serious non-fatal work-related injuries sustained in the 2015 year were the lowest since the series began, and is a 12% decrease from the 397 in 2014.

For the third year running the rate has reduced, and is now just 4% higher than the 2020 target rate.

As with the fatal injury rate, however, caution must be applied in interpreting this encouraging result. Although also subject to natural volatility as with the fatal injury rate, the serious injury rate is calculated year by year. The good result in 2015 does not necessarily mean that the rate in 2016 will also be ahead of the target rate.

[21] 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, estimate data is currently unavailable for the serious non-fatal injury rate. Work is underway with Stats NZ to explore options to create more timely analytical datasets for this indicator.

However, as the injury mechanisms behind fatal injury are similar to those for serious non-fatal injury, the plateauing of the fatal injury rate suggested by SWIFT data in 2016 indicates that we may also see a slowing of the decrease in the serious non-fatal indicator.

	BASELINE	2011	2012	2013	2014	2015[22]	2016 TARGET	2020 TARGET
Estimated number of serious non-fatal injuries		407	413	424	397	349		
Fatality rate (per 100,000 FTEs)	19.2	20.1	19.9	19.5	18.1	15.0	17.3	14.4

TABLE 3: Serious non-fatal work-related injury

Full data tables are presented in Appendix 1.

[22] 2015 data is provisional.

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

After four consecutive years of increase, the rate of injuries resulting in more than a week away from work is off track. Estimates indicate that this rate is beginning to slow

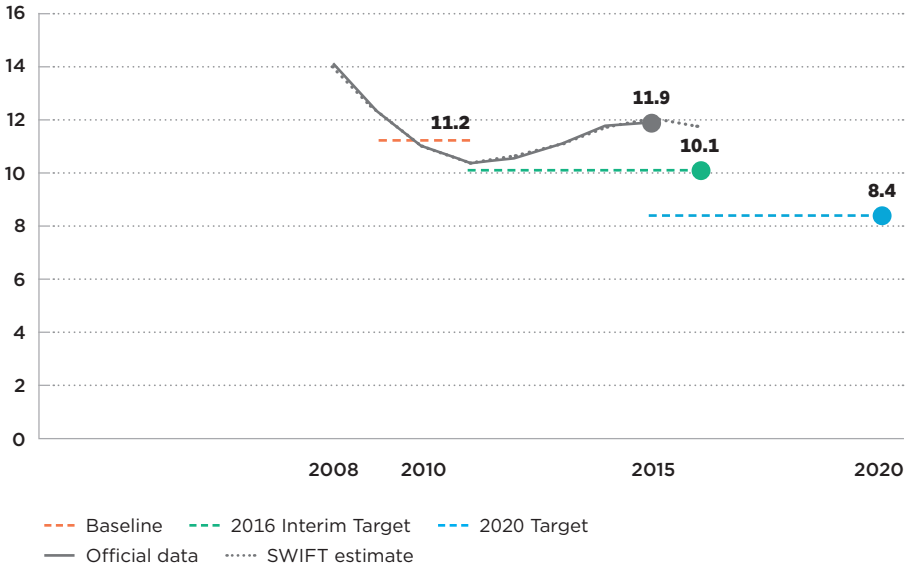


FIGURE 4: Rate of work-related injury resulting in more than a week away from work (per 1,000 FTEs)

Progress towards target

Current result compared to:

Baseline (2009-11 avg): 6% higher

2016 interim target: 18% higher

Previous year (2014): 1% higher

2020 target: 41% higher

Following a sharp decline between 2008 and 2011, each year since has seen a gradual increase in the rate of injury to the point where the indicator is now higher than the target rate.

What does the data tell us?

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 injury.[23] 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 above, being based on ACC claims data, this indicator is considered less reliable than the official series 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

[23] www.acc.co.nz/PRD_EXT_CSMP/groups/external_ip/documents/reference_tools/wpc139179.pdf

entitlement can affect claim rates. Other drivers of this increase potentially include inexperienced workers entering the workforce and production pressure associated with economic growth. On this basis, the increased claim rate is expected to reflect changes in labour market conditions, as well as the underlying risk of injury.

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

Strengths of this indicator include the close correlation of SWIFT with official data – which gives a high level of confidence in the slowing in the rate of ACC claims over the first half of 2016.

Further, SWIFT allows analysis by industry. The following table shows the rates of injury for WorkSafe's priority areas in 2015 and 2016.

	SEPT 2015	SEPT 2016
Agriculture	21.8	20.2
Forestry	15	16.5
Construction	20	19.7
Manufacturing	19.4	19.7

TABLE 4: Rate of work-related injury resulting in more than a week away from work by industry (per 1,000 FTEs, 12-month moving average)

	BASELINE	2012	2013	2014	2015[24]	2016	2020
Estimated number of injuries		20,537	21,916	24,137	24,993		
Week away from work injury rate (per 1,000 FTEs)	11.2	10.6	11.1	11.8	11.9	10.1	8.4

TABLE 5: Work-related injury resulting in more than a week away from work

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

[24] 2015 data is provisional.

6.0 International comparison

IN THIS SECTION:

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

While measures have been taken to ensure comparability, not all differences can be accounted for. As such, these comparisons should be interpreted as context, rather than a definitive assessment of relative performance.

6.1 Fatal injury[25]

Rates of fatal work-related injury in New Zealand and Australia remain higher than in the United Kingdom. However, both countries are making progress in reducing this

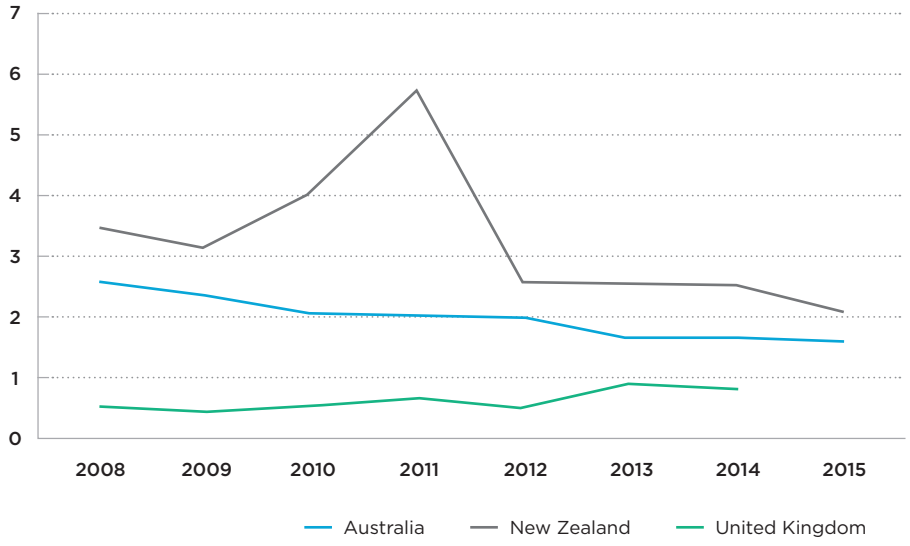


FIGURE 5: International comparison of fatal work-related injury rates (per 100,000 workers)

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 Safety*,[26] 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.

[25] 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

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

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 lag behind the United Kingdom.

The *Independent Taskforce* noted in 2010 that although the Robens approach was followed in New Zealand, it was not implemented properly. As the more recent reforms in New Zealand (and Australia) are embedded, it is expected that this gap will continue to close.

Adjusted for industry composition, New Zealand and Australia exhibit similar rates of fatal injury

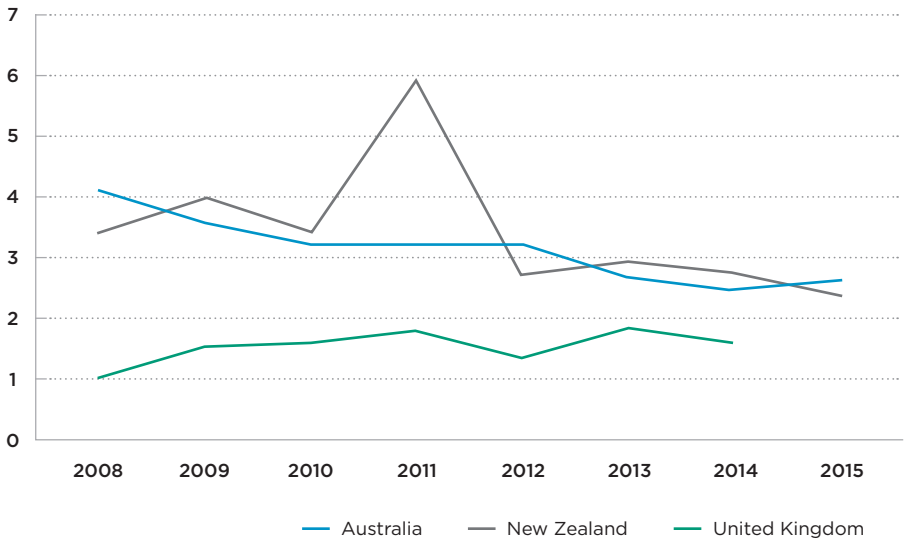


FIGURE 6: Industry-adjusted international comparison of fatal work-related injury rates (per 100,000 workers)

The fatal injury rates presented above have been adjusted to account for differences in industry composition.[27] Unlike the official target indicator, reported in the previous section, these rates in this section have not been age-standardised, and are presented as fatal injuries per 100,000 workers, rather than FTEs.

	2008	2009	2010	2011	2012	2013	2014	2015
New Zealand	3.5	3.2	4.1	5.8	2.6	2.6	2.6	2.1
Australia	2.6	2.4	2.1	2.0	2.0	1.7	1.7	1.6
United Kingdom	0.6	0.5	0.6	0.7	0.6	0.9	0.8	

TABLE 6: International comparison of fatal work-related injury rates (per 100,000 workers)

	2008	2009	2010	2011	2012	2013	2014	2015
New Zealand	3.4	4.0	3.4	5.9	2.7	2.9	2.8	2.4
Australia	4.1	3.6	3.2	3.2	3.2	2.7	2.5	2.6
United Kingdom	1.0	1.6	1.6	1.8	1.4	1.9	1.6	

TABLE 7: Industry-adjusted international comparison of fatal work-related injury rates (per 100,000 workers)

[27] 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.

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

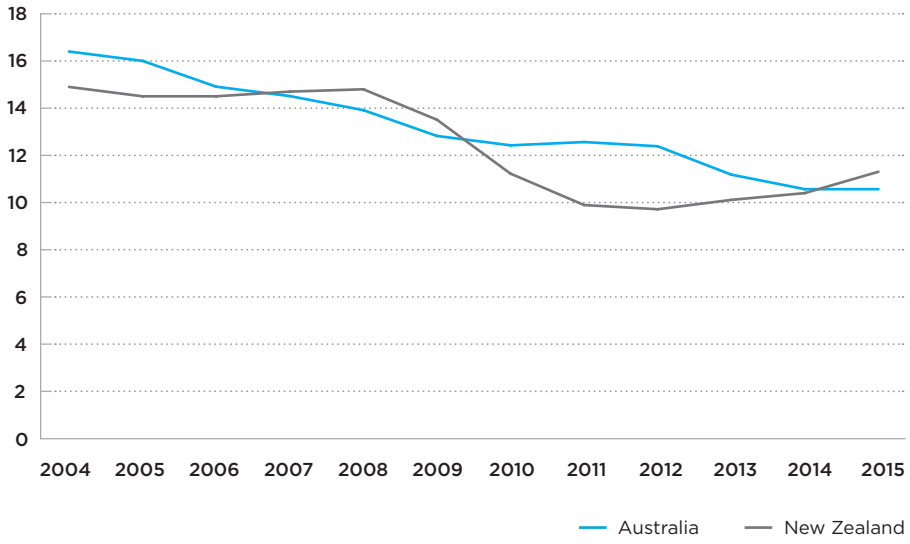


FIGURE 7: International comparison of work-related injury resulting in more than a week away from work (rate per 1,000 employees)

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 Zealand.[28] This allows a comparison between New Zealand and Australia's rates of injury resulting in more than a week away from work.

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 over the last three years. 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 *employees*[29]
- 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
- 'a week' is defined as five working days.

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.

[28] www.safeworkaustralia.gov.au/sites/swa/statistics/pages/comparativeperformancemonitoring

[29] Rather than FTEs (target indicators) or Workers (international fatality rates).

Of note is SafeWork Australia's finding that Agriculture, Forestry and Fishing (25.4 per 1,000 employees) and Construction (19.5) have particularly high rates of claims for this type of injury. These findings are similar to those observed in WorkSafe's SWIFT analysis.

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
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
Australia	16.4	16.0	14.9	14.5	13.9	12.8	12.4	12.5	12.4	11.2	10.5	10.5

TABLE 8: International comparison of work-related injury resulting in more than a week away from work (rate per 1,000 employees)

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

The Government's target of reducing work-related fatalities and serious injury by at least 25% by 2020 reflects its priority of addressing acute harm across New Zealand.

Significant work on acute, chronic and catastrophic harm is underway across the health and safety system. The introduction of the *Health and Safety at Work Act 2015*[30] represented one of the most significant changes to health and safety in New Zealand in over 20 years. The new law provides the catalyst to transform health and safety at work and has heightened awareness of risks and responsibilities, creating a platform for sustained change.

WorkSafe is leading the implementation of the Government's *Working Safer*[31] reforms, working with other agencies to create safer and healthier workplaces. The *Healthy Work*[32] strategy and *Harm Reduction Action Plan* demonstrate a strategic approach to reducing harm in New Zealand workplaces, drawing on the strengths of WorkSafe and ACC. These strategies set the vision, focus and actions that will lift health and safety performance. WorkSafe is putting in place targeted harm reduction programmes and evidence-based interventions to address the drivers of workplace harm, particularly in priority sectors.

Lifting health and safety performance is not a job for government alone. Achieving long-term change requires all parts of the health and safety system working collectively, including workers, business, industry and unions. Work is underway to influence training and education opportunities to address critical capability gaps across the workforce – practitioners, managers, business leaders and workers.

Stronger emphasis is being placed on leveraging the influence of business leaders, working with industry bodies and unions to embed worker-focused initiatives. Recent initiatives from industry and workers include the launch of the Agricultural Leaders' Health and Safety Action Group[33] in November 2016, to share knowledge and provide support across the sector to make farming safer. The Forest Industry Safety Council[34] has been working in collaboration with industry, the government, workers and their union to progress a range of initiatives across the plantation forestry sector. The Canterbury Rebuild Safety

[30] www.worksafe.govt.nz/worksafe/hswa

[31] 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

[32] www.worksafe.govt.nz/worksafe/information-guidance/work-related-health/documents-and-images/healthy-work-overview.pdf

[33] ww.zeroharm.org.nz/news/forum-pleased-to-support-new-agricultural-leaders-health-and-safety-action-group

[34] www.fisc.org.nz

Charter[35] continues to maintain a strong focus on health and safety, which will inform the approach to the expected construction boom in Auckland.

It will take time to achieve sustained change. There is still work to be done to bed-in improvements and to ensure that further refinements are targeted to health and safety outcomes. The Government is looking ahead to ensure a clear strategic direction and approach over the coming years, and a broader knowledge base of the drivers and lead indicators of system-wide health and safety is developing.

This future work will play an important role in continuing progress to transform health and safety at work. The Government remains firmly committed to creating safe, healthy and productive workplaces across New Zealand.

[35] www.safetycharter.org.nz

Appendices

IN THIS SECTION:

Appendix 1: Data tables

Indicator 1: fatal work-related injuries

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)
2002-2004	89.0	5.2	
2003-2005	82.7	4.6	
2004-2006	77.0	4.1	
2005-2007	70.0	3.6	
2006-2008	67.0	3.4	
2007-2009	65.7	3.3	
2008-2010	77.3	3.8	4.0
2009-2011	94.3	4.7	4.9
2010-2012	88.0	4.3	4.7
2011-2013	74.7	3.6	4.1
2012-2014	52.0	2.5	2.9
2013-2015	50.7	2.2	2.7
2014-2016			2.7

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

Indicator 2: Serious non-fatal work-related injuries

YEAR	INJURY COUNT	INJURY RATE (per 100,000 FTEs)
2002	352	21.4
2003	404	23.8
2004	359	20.2
2005	361	19.3
2006	391	20.3
2007	411	20.9
2008	408	20.5
2009	376	18.6
2010	387	18.7
2011	407	20.1
2012	413	19.9
2013	424	19.5
2014	397	18.1
2015	349	15.0

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

Supplementary indicator: Work-related injuries 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	14.1	14.0
2009	23,399	12.3	12.3
2010	21,075	11.0	11.0
2011	20,229	10.4	10.4
2012	20,537	10.6	10.7
2013	21,916	11.1	11.1
2014	24,137	11.8	11.8
2015	24,993	11.9	12.1

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

International Industry-adjusted fatal work-related injury rate

YEAR	NEW ZEALAND (per 100,000 workers)	AUSTRALIA	UNITED KINGDOM
2008	3.4	4.1	1.0
2009	4.0	3.6	1.6
2010	3.4	3.2	1.6
2011	5.9	3.2	1.8
2012	2.7	3.2	1.4
2013	2.9	2.7	1.9
2014	2.8	2.5	1.6
2015	2.4	2.6	

Source: WorkSafe analysis of international work-related fatality data www.worksafe.govt.nz/worksafe/research/health-and-safety-data

International comparison: fatal work-related injury rate

YEAR	NEW ZEALAND (per 100,000 workers)	AUSTRALIA	UNITED KINGDOM
2008	3.5	2.6	0.6
2009	3.2	2.4	0.5
2010	4.1	2.1	0.6
2011	5.8	2.0	0.7
2012	2.6	2.0	0.6
2013	2.6	1.7	0.9
2014	2.6	1.7	0.8
2015	2.1	1.6	

Source: WorkSafe analysis of international work-related fatality data www.worksafe.govt.nz/worksafe/research/health-and-safety-data

International comparison: Rate of work-related injuries for more than a week away from work

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	12.4
2013	10.1	11.2
2014	10.4	10.5
2015	11.3	10.5

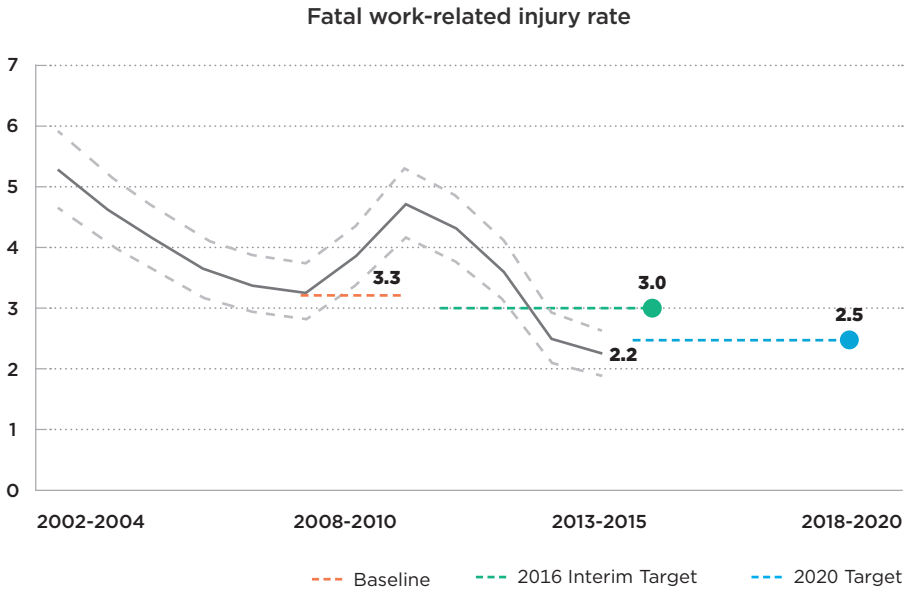
Source: SafeWork Australia *Comparative Performance Monitoring Report* www.safeworkaustralia.gov.au/sites/swa/statistics/pages/comparativeperformancemonitoring

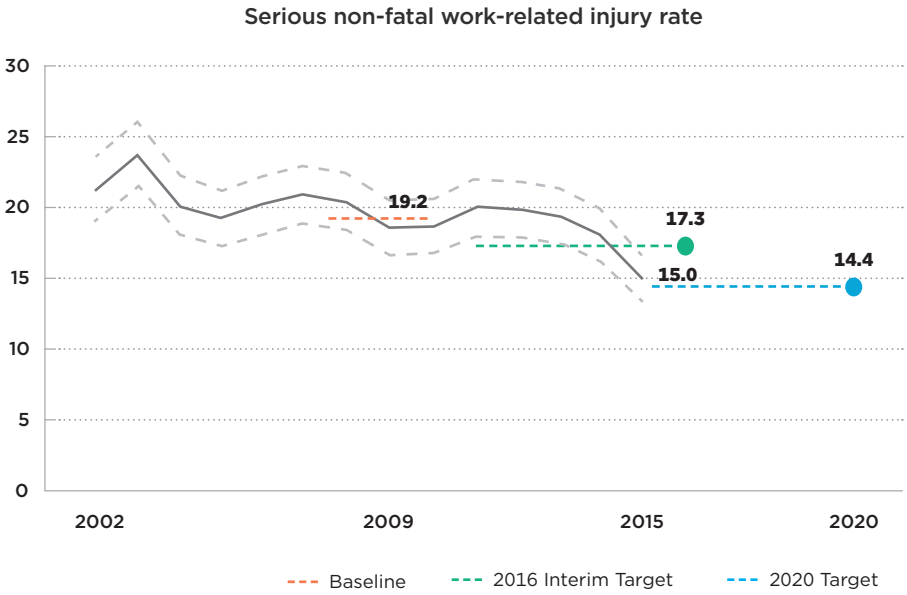
Appendix 2: Confidence intervals

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 2015 is 2.6, we can be quite confident that the actual rate is lower than 3.0 (the 2016 interim target), but we cannot definitively say that the actual rate is below 2.5 (the 2020 target).

This emphasises that we must maintain focus on driving down the rates of injury to ensure the Government's target is met.





Appendix 3: Definitions

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

- *Aide memoire*[36] published by WorkSafe
- *Serious injury outcome indicators technical report*[37] published by Stats NZ,

Serious injury outcome indicators

The serious injury outcome indicators (SIOIs) 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.[38] 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 SIOIs 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. The SIOIs are produced by Stats NZ, which provides both 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.

WorkSafe uses a customised dataset of ACC work-related claims involving weekly compensation payments (for more than a week away from work) to produce the third indicator for monitoring progress towards the target. Stats NZ will publish this data as part of the forthcoming *Work-related injuries at a glance* product.[39] 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.

[36] www.worksafe.govt.nz/worksafe/research/health-and-safety-data

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

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

[39] 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. 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.

Appendix 4: Glossary

TERM	DEFINITION
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	System for Work-related Injury Forecasting and Targeting. 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.

Notes

Notes

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