

Suicide Facts

Deaths and intentional
self-harm hospitalisations

2013

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Key points

Suicide 2013

Overview

- A total of 508 people died by suicide in New Zealand in 2013, accounting for 1.7% of all deaths.
- In 2013, the highest rates of suicide were for males, Māori (especially Māori youth), youth aged 15–24 years and those living in the most deprived areas.
- The age-standardised suicide rate has decreased by 27.4% from the peak rate of 15.1 deaths per 100,000 population in 1998 to 11.0 deaths per 100,000 population in 2013.

Sex

- There were 365 male suicides (16.0 per 100,000 males) and 143 female suicides (6.3 per 100,000 females) in 2013.
- For every female suicide, there were 2.5 male suicides.
- Over time, the suicide rate for females has remained relatively stable while the male suicide rate has fluctuated. In 2013, the male rate was 33.2% lower than its highest rate in 1995.

Age

- The highest rate of suicide in 2013 was in the youth age group (15–24 years), and the lowest rate was in adults aged 65 years and over.
- Over recent years, the suicide rate for adults aged 45–64 years has increased, while the rate for adults aged 25–44 years has decreased, closing the gap between these two age groups.

Youth (15–24 years)

- In 2013, the youth suicide rate was 18.0 deaths per 100,000.
- There were twice as many male youth suicides as female youth suicides in 2013.
- Suicide rates in 2013 showed a marked difference between Māori and non-Māori youth, a trend consistent with previous years.
- Over time, youth suicide rates for males and females of Māori ethnicity, have been consistently higher than rates for their non-Māori counterparts.

Ethnicity

- For the period 2009–2013 (aggregated), the highest rate of suicide was in the Māori ethnic group (16.0 per 100,000 Māori), followed by European and Other (11.5 per 100,000 Europeans and Others).
- Among males, the Māori suicide rate was nearly twice that for Pacific and more than three times that for the Asian ethnic group.
- From 2004 to 2013, Māori suicide rates were consistently higher (at least 1.2 times) than non-Māori rates each year.

Deprivation

- In 2013, the suicide rate increased with each level of neighbourhood deprivation; the rate of suicide in the most deprived areas (quintile 5) was twice the rate in the least deprived areas (quintile 1).
- For youth aged 15–24 years, the number of suicides was four times as high in the most deprived areas compared with the rate in the least deprived areas.

Urban/rural profile

- The suicide rate was slightly higher in the rural areas (12.5 per 100,000 rural population) than in the urban areas (10.8 per 100,000 urban population).

District health board (DHB) region

- During the period 2009–2013 (aggregated), Lakes, Bay of Plenty, MidCentral and South Canterbury DHBs had significantly higher suicide rates than the national rate.
- For youth aged 15–24 years, Bay of Plenty and South Canterbury DHBs had significantly higher rates than the national average, while Waitemata and Auckland DHBs had significantly lower rates.

Intentional self-harm hospitalisations 2013

2013 (including short-stay ED events)

- There were 7267 intentional self-harm hospitalisations in New Zealand in 2013, equating to a rate of 176.7 per 100,000 population.
- The female rate of intentional self-harm hospitalisation was more than twice the male rate (246.9 per 100,000 females compared with 107.1 per 100,000 males).
- The highest rate of intentional self-harm hospitalisations for females was in the 15–19 years age group (912.6 per 100,000), and for males, the highest rate was in the 20–24 years age group (229.8 per 100,000).
- There were 2866 hospitalisations for youth (15–24 years) in 2013 (456.0 per 100,000). Three-quarters of youth hospitalisations were female.
- The highest rates of intentional self-harm hospitalisations were in the European and Other ethnic group followed by Māori.
- The age-standardised rate for Māori was 197.7 per 100,000 Māori compared with 172.2 per 100,000 non-Māori.
- Intentional self-harm hospitalisation rates were highest in more deprived areas; the highest rate was for those residing in deprivation quintile 4 (226.3 per 100,000) and the lowest in quintile 1 (128.0 per 100,000).

Trends over time, 2004–2013 (excluding short-stay ED events)

- The rate of intentional self-harm hospitalisations rose by 4.6% in the period 2004–2013 (75.5 per 100,000 population in 2004 to 78.9 per 100,000 in 2013).
- The rate of intentional self-harm hospitalisation for females was at least 1.7 times the male rate each year in this 10-year period.
- Approximately one in three intentional self-harm hospitalisations were in the youth age group (15–24 years). Youth rates for females were consistently higher than for males during this 10-year period.
- The rates for all ethnic groups increased over this period.
- Since 2004, rates of intentional self-harm hospitalisations for Māori have been generally higher than rates for non-Māori over this period.

Introduction

Suicide and suicidal behaviours continue to be a major public health issue in New Zealand.

Every year, more than 500 New Zealanders take their lives, and many more are admitted to hospital for serious self-harm. These are not just numbers; they may be our friends, our neighbours, our work colleagues or our family members. Every suicide or act of intentional self-harm is an indication of profound emotional distress. The impact on family, friends and communities can be devastating, far reaching and long lasting. But suicide is preventable.

Numerous factors influence a person's decision to take their own life or to self-harm, and this leads to the number of suicides and self-harm hospitalisations varying considerably from year to year. It is difficult to quantify the precise effect that programmes such as suicide prevention-related initiatives and significant events have on suicide and suicidal behaviour.

Suicide prevention in New Zealand is guided by *The New Zealand Suicide Prevention Strategy 2006–2016* (Associate Minister of Health 2006) and the *New Zealand Suicide Prevention Action Plan 2013–2016* (Ministry of Health 2013). *Suicide Facts* and other annual data updates assist in monitoring and evaluating the progress and success of implementing the strategy and action plan.

This report presents data about suicide deaths and about intentional self-harm hospitalisations. Both chapters present numbers and rates by common demographic breakdowns, such as age, sex, ethnicity, district health board (DHB) of residence and neighbourhood deprivation. Key statistical information is presented through graphs and maps, with short summaries of key findings followed by relevant numbers and rates in tables. The online tables that accompany this report also provide the underlying data for graphs presented in the report as well as time-series data.

For the first time, the number of intentional self-harm hospitalisations for 2013 includes events where the admitted patients were discharged under an emergency department (ED) specialty after a short stay. This is possible because all DHBs started reporting these ED admissions consistently from 1 July 2012 onwards. For the purposes of providing data comparable with previous years, 2013 data presented in time trends and DHB aggregated data will exclude short-stay ED hospitalisations. Further information about data exclusions can be found in the Intentional self-harm hospitalisations chapter of this publication and in Appendix 1: Technical notes. Definitions of these terms are provided in Appendix 2: Definitions.

There are several points to note when considering the suicide and self-harm statistics presented in this report. The 2013 suicide data used in this report is provisional. In New Zealand, a death is only officially classified as suicide by the coroner on completion of the coroner's inquiry and, in some cases, there may be a significant delay in the time taken for the inquiry to be heard. Consequently, a provisional suicide classification may be made before the coroner has reached a finding. It is also important to recognise that the motivation for intentional self-harm varies, and therefore hospitalisation data for self-harm is not a measure of suicide attempts.

Although this report provides statistical suicide and intentional self-harm hospitalisation data, it does not attempt to explain causes of suicidal behaviour or causes of changes to suicide or intentional self-harm hospitalisation rates. Nor does it discuss measures to reduce suicide or intentional self-harm.

Suicide deaths

This chapter presents numbers and demographic profiles for people who died from suicide in 2013 and trends over time. In New Zealand, a death is only officially classified as suicide by the coroner on completion of the coroner's inquiry and, in some cases, there may be a significant delay in the time taken for the coronial inquiry to be completed. The 2013 suicide data used in this report is provisional as, at the time of data extraction, there were 23 deaths registered in 2013 that were still subject to coroners' findings and where the cause of death had not yet been determined. These deaths have not been included in this report, but some may be later classified as suicide, and so numbers of suicides for 2013 may differ slightly in future publications once the numbers for 2013 have been finalised. The Ministry of Health (the Ministry) will release the final data in their 2013 publication of mortality and demographic data.

Overview

A total of 508 people died in New Zealand by suicide in 2013. This equates to an age-standardised rate of 11.0 suicide deaths per 100,000 population. In 2013, suicide accounted for 1.7% of all deaths.

In 2013, higher rates of suicide were recorded in:

- males, particularly those aged 20–24 years, 45–49 years and 85+ years
- Māori (compared with non-Māori), especially Māori youth (aged 15–24 years)
- Māori males aged 20–44 years
- those living in the most deprived areas.

Comparable data first became available in 1948. Since then, the overall suicide rate reached its peak in 1998, at a rate of 15.1 suicide deaths per 100,000. The rate generally declined between 1998 and 2013, decreasing overall by 27.4% (Figure 1).

Sex

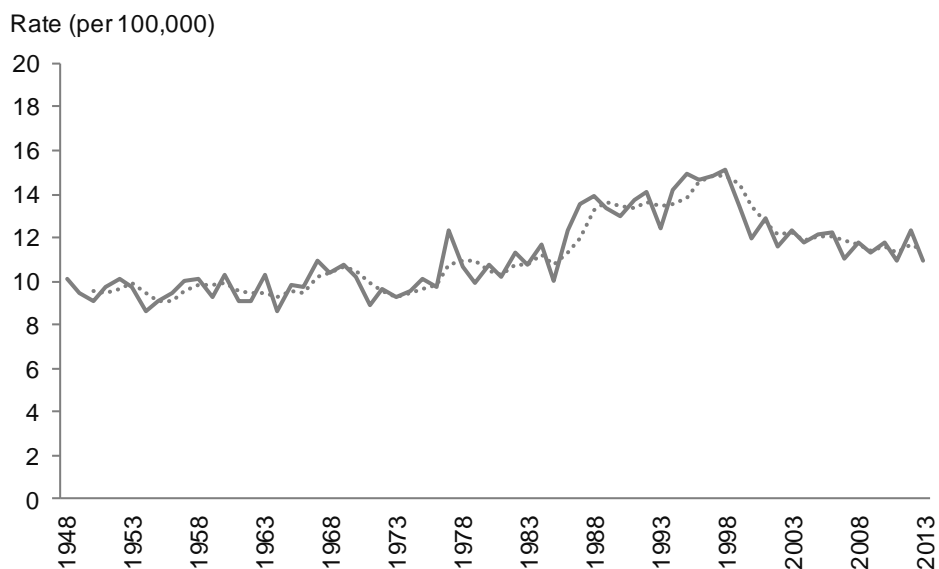
In 2013:

- 365 males died by suicide (16.0 deaths per 100,000 males)
- 143 females died by suicide (6.3 deaths per 100,000 females)
- suicide accounted for 2.4% of all male deaths and 1% of female deaths.

Since records began in 1948, the female rate has remained relatively unchanged, but the male rate has fluctuated. In 2013, the male rate was 33.2% lower than its highest rate in 1995 (23.9 deaths per 100,000 males). Over time, the male suicide rate has been consistently higher than the female suicide rate. However, with lower rates of male suicide in recent years compared with 20–25 years ago, there has been a narrowing of the gender gap (Figure 2).

Numbers and rates by sex and year (2004–2013) are provided in Table 1.

Figure 1: Age-standardised suicide rates, 1948–2013



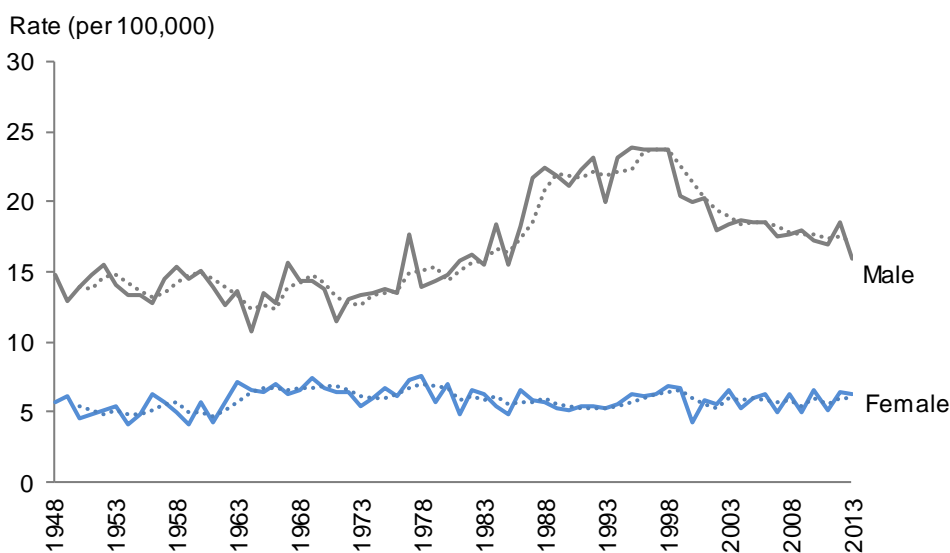
Notes:

The dotted line represents the three-year moving average.

Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand Mortality Collection

Figure 2: Age-standardised suicide rates, by sex, 1948–2013



Notes:

The dotted line represents the three-year moving average.

Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand Mortality Collection

Table 1: Number of suicide deaths and age-standardised suicide rate, by sex, 2004–2013

Year	Male		Female		Total		Sex rate ratio (Male:Female)
	Number	Rate	Number	Rate	Number	Rate	
2004	379	18.6	109	5.2	488	11.7	3.6
2005	380	18.6	131	6.0	511	12.2	3.1
2006	388	18.6	138	6.3	526	12.2	3.0
2007	371	17.4	116	5.0	487	11.0	3.5
2008	381	17.6	139	6.2	520	11.8	2.8
2009	393	17.9	117	5.0	510	11.3	3.6
2010	386	17.3	149	6.6	535	11.8	2.6
2011	377	17.0	116	5.1	493	10.9	3.4
2012	404	18.5	146	6.4	550	12.3	2.9
2013 ¹	365	16.0	143	6.3	508	11.0	2.5

Notes:

Rates are expressed per 100,000 population and age standardised to the World Health Organization (WHO) World Standard Population.

1 Provisional (see Appendix 2: Definitions).

Source: New Zealand Mortality Collection

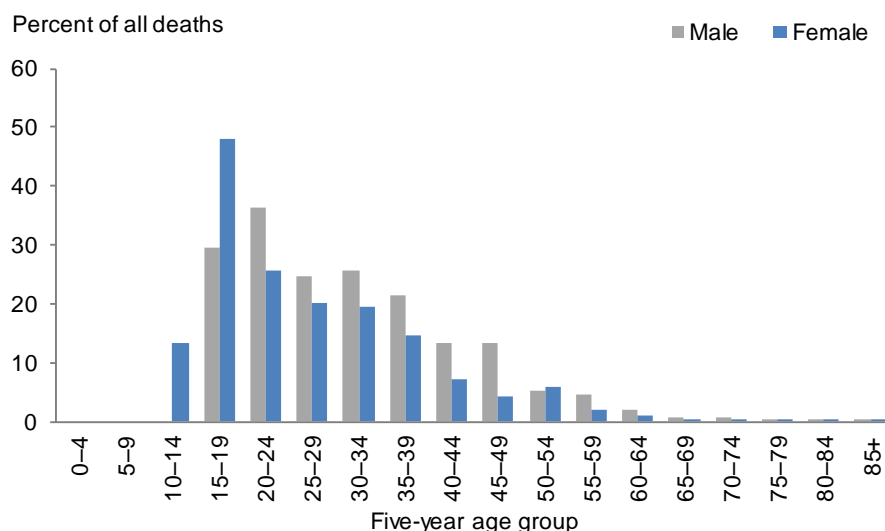
Age

This section focuses on suicides by five-year age groups for 2013 and broader life-stage age groups to show trends over time.

Suicide was the cause of death in the case of about one in three deaths for both males and females of youth age (15–24 years). For females aged 15–19 years, suicide accounted for nearly one in two of all deaths. Two suicide deaths were recorded in the 10–14 years age group for females (13.3% of all deaths among females aged 10–14 years) (Figure 3).

The numbers and rates of suicide by age group and suicides as a percentage of all deaths are provided in Table 2.

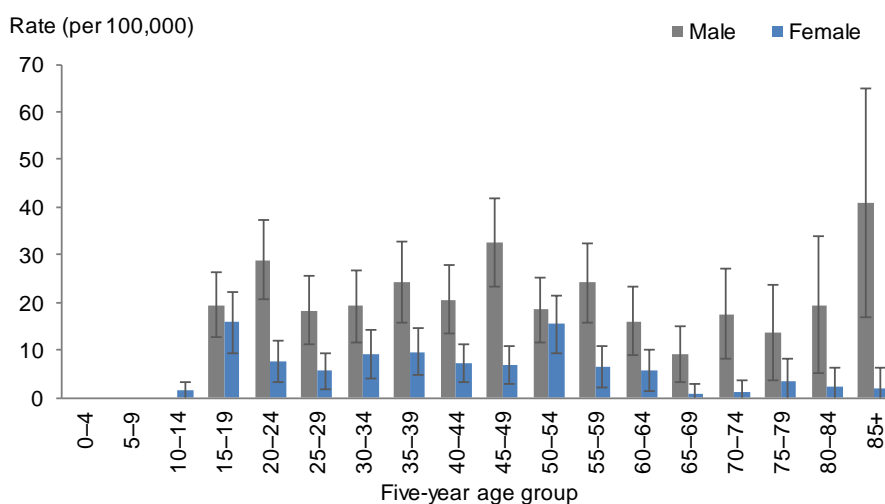
Figure 3: Suicide as a percentage of all deaths, by age group and sex, 2013



Source: New Zealand Mortality Collection

Males had higher rates of suicide than females for every five-year age group where a male suicide was recorded. The highest rates among males were for those aged 45–49 years and 85+ years. The highest rates amongst females were for those aged 15–19 years and 50–54 years (Figure 4).

Figure 4: Age-specific suicide rates, by five-year age group and sex, 2013



Notes:

Rates are expressed per 100,000 population.

Error bars represent 95% confidence intervals. If two confidence intervals do not overlap, there is considered to be a statistically significant difference between the two groups being compared.

Source: New Zealand Mortality Collection

Table 2: Number of suicide deaths, age-specific suicide rates and suicides as a percentage of all deaths, by five-year age group and sex, 2013

Age group (years)	Male			Female			Total		
	Number	Rate	% of all deaths	Number	Rate	% of all deaths	Number	Rate	% of all deaths
0–4	0	–	0.0	0	–	0.0	0	–	0.0
5–9	0	–	0.0	0	–	0.0	0	–	0.0
10–14	0	–	0.0	2	1.4	13.3	2	0.7	7.1
15–19	31	19.3	29.5	24	15.7	48.0	55	17.6	35.5
20–24	46	28.8	36.5	12	7.7	25.5	58	18.4	33.5
25–29	25	18.4	24.8	8	5.6	20.0	33	11.8	23.4
30–34	25	19.2	25.5	13	9.2	19.4	38	14.0	23.0
35–39	32	24.3	21.3	14	9.7	14.6	46	16.6	18.7
40–44	31	20.7	13.5	12	7.2	7.1	43	13.6	10.8
45–49	49	32.6	13.3	11	6.8	4.3	60	19.2	9.6
50–54	28	18.5	5.2	25	15.4	5.7	53	16.9	5.5
55–59	32	24.2	4.4	9	6.4	1.8	41	15.1	3.4
60–64	19	16.1	2.0	7	5.7	1.0	26	10.8	1.6
65–69	9	9.0	0.7	1	1.0	0.1	10	4.9	0.5
70–74	13	17.5	0.8	1	1.2	0.1	14	9.1	0.5
75–79	7	13.7	0.4	2	3.4	0.1	9	8.2	0.3
80–84	7	19.4	0.3	1	2.2	0.0	8	9.7	0.2
85+	11	40.9	0.3	1	2.1	0.0	12	16.1	0.1
Total	365	16.0	2.4	143	6.3	1.0	508	11.0	1.7

Notes:

Rates are expressed per 100,000 population.

Percentages are calculated using provisional 2013 mortality data.

Source: New Zealand Mortality Collection

Suicide rates for life-stage age groups

This section focuses on suicide deaths by four life-stage age groups: 15–24 years (youth), 25–44 years, 45–64 years and 65 years and over.

In 2013, the suicide rates were highest for youth (18.0 per 100,000) and those aged 45–64 years (15.8 per 100,000) (Table 3).

Table 3: Age-specific suicide rates, by life-stage age group, 2013

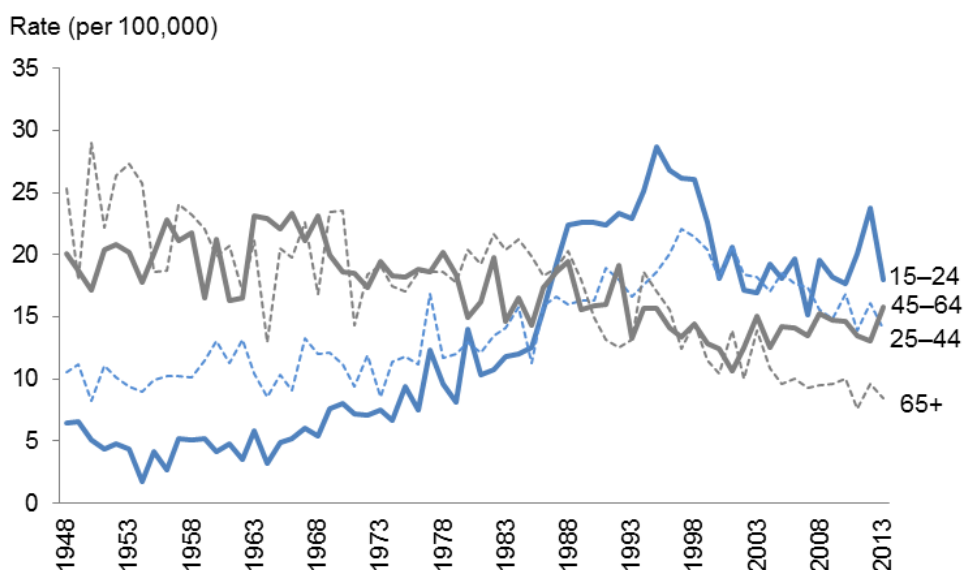
Age group (years)	Male		Female		Total	
	Number	Rate	Number	Rate	Number	Rate
15–24	77	24.1	36	11.7	113	18.0
25–44	113	20.6	47	7.9	160	14.0
45–64	128	23.2	52	8.9	180	15.8
65+	47	16.3	6	1.8	53	8.5

Note: Rates are expressed per 100,000 population.

Source: New Zealand Mortality Collection

New Zealand's suicide rates by life-stage group have varied over time. In 1948, the difference between the four life-stage age groups was distinct, with the suicide rate increasing with age. By the early 1990s, this trend had almost reversed, with youth showing the highest rates of suicide and those aged 65 years and over having the lowest rates. In more recent years, those aged 65 years and over have continued to show the lowest rates, while rates for those aged between 25–44 years and 45–64 years have started to converge (Figure 5).

Figure 5: Age-specific suicide rate, by life-stage age group, 1948–2013



Notes:

Rates are expressed per 100,000 population.

Rates have not been provided for the 5–14 years age group because the small number of deaths by suicide in this age group makes it difficult to draw meaningful conclusions about changes over time.

Source: New Zealand Mortality Collection

Youth aged 15–24 years

In 2013, for youth age 15–24 years:

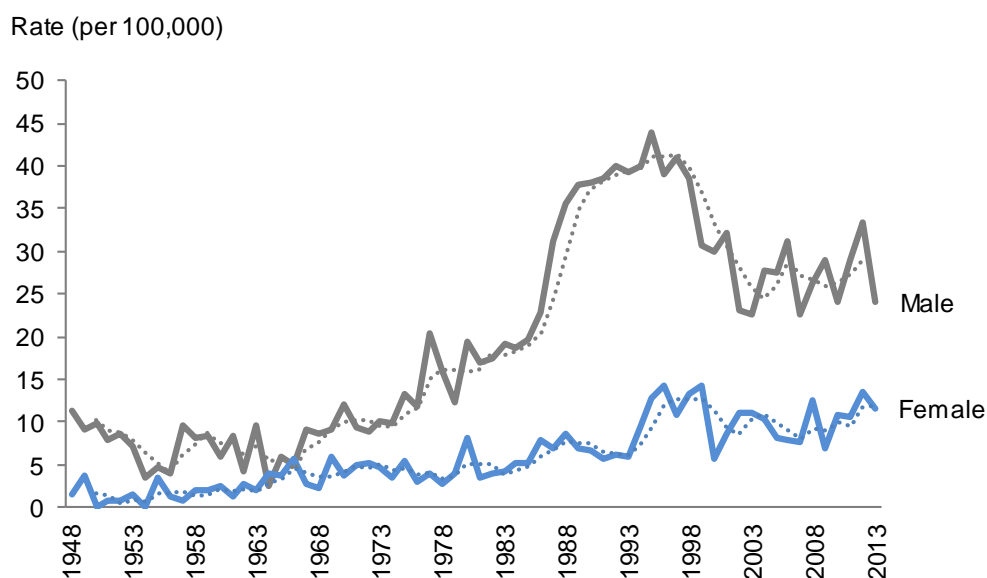
- the suicide rate was 18.0 deaths per 100,000 youths
- suicide accounted for nearly 35% of all youth deaths (33.3% of all male youth deaths and 37.1% of all female youth deaths)
- rates were significantly higher among male youth than female youth (24.1 per 100,000 males compared with 11.7 per 100,000 females) (Figure 6).

The youth suicide rate has decreased since its peak in 1995. In 2013, the youth rate was 37.4% lower than in 1995 (Figure 5).

Male youth suicide rates began to rise noticeably in the early 1970s, then rose sharply from the mid-1980s, reaching a peak of 44.1 suicides per 100,000 male youth population in 1995. Since then, the rate has trended downwards; the 2013 rate was 45% lower than the peak in 1995. Female youth suicide rates also showed a general increase over time to a peak in 1996. The rates have remained variable since then (Figure 6).

Numbers and age-specific rates for youth by sex and year (2004–2013) are provided in Table 4.

Figure 6: Age-specific suicide rates for youth (15–24 years), by sex, 1948–2013



Notes:

The dotted line represents the three-year moving average.

Rates are expressed per 100,000 population.

Source: New Zealand Mortality Collection

Table 4: Age-specific suicide rates for youth (15–24 years), by sex, 2004–2013

Year	Male		Female		Total	
	Number	Rate	Number	Rate	Number	Rate
2004	83	27.7	30	10.5	113	19.3
2005	84	27.6	24	8.2	108	18.1
2006	95	31.1	24	8.0	119	19.7
2007	70	22.5	23	7.6	93	15.2
2008	83	26.4	38	12.5	121	19.5
2009	93	29.0	21	6.8	114	18.1
2010	79	24.1	34	10.9	113	17.7
2011	96	29.0	33	10.6	129	20.1
2012	106	33.5	42	13.6	148	23.7
2013 ¹	77	24.1	36	11.7	113	18.0

Notes:

The dotted line represents the three-year moving average.

Rates are expressed as deaths per 100,000 population.

1 Provisional (see Appendix 2: Definitions)

Source: New Zealand Mortality Collection

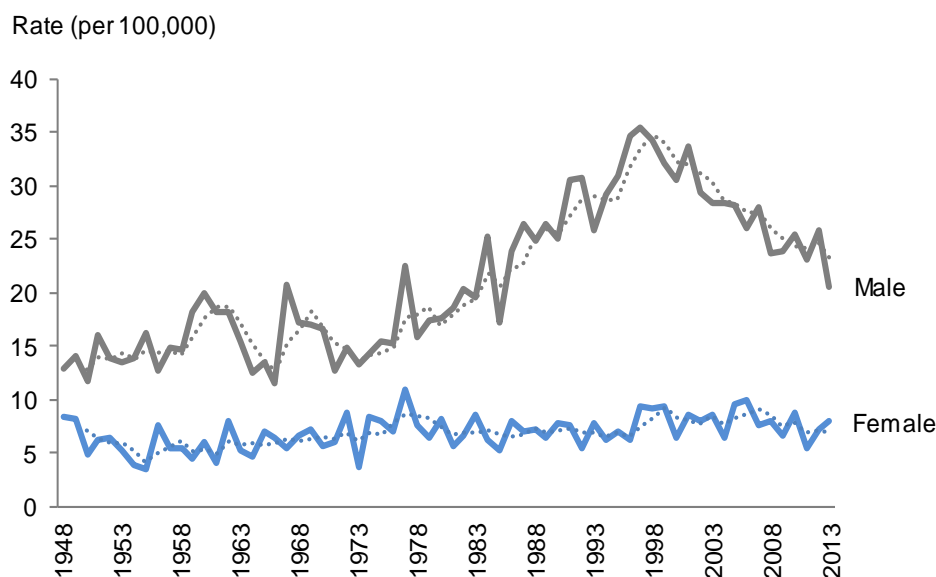
Adults aged 25–44 years

In 2013, for adults aged 25–44 years:

- the suicide rate was 14.0 per 100,000 population in this age group
- the male suicide rate was 20.6 per 100,000 males in this age group
- the female suicide rate was 7.9 per 100,000 females in this age group (Table 3).

Suicide rates for males aged 25–44 years have fallen by 41.7% since the peak in 1997. In contrast, the female rate has remained relatively constant since official records began in 1948 (Figure 7).

Figure 7: Age-specific suicide rates for adults (25–44 years), by sex, 1948–2013



Notes:

The dotted line represents the three-year moving average.

Rates are expressed per 100,000 population.

Source: New Zealand Mortality Collection

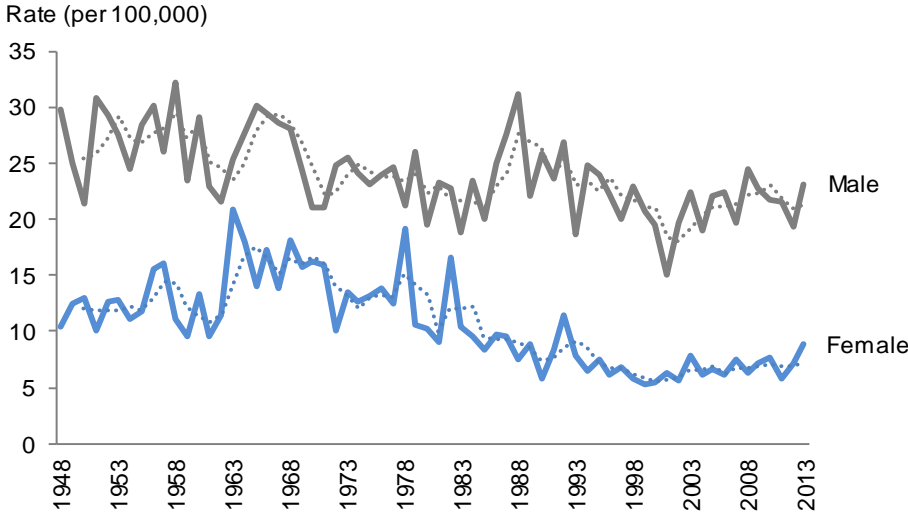
Adults aged 45–64 years

In 2013, for adults aged 45–64 years:

- the suicide rate was 15.8 per 100,000 population in this age group
- the male rate was 23.2 per 100,000 males in this age group
- the female rate was 8.9 per 100,000 females in this age group (Table 3).

Over time, suicide rates for males aged 45–64 years have remained variable, although between 1948 and 2013, an overall downward trend is evident, with a decrease of 22.3%. Female rates for this age group were variable between 1948 and 1994, after which time, rates were more stable (Figure 8).

Figure 8: Age-specific suicide rates for adults (45–64 years), by sex, 1948–2013



Notes:
 The dotted line represents the three-year moving average.
 Rates are expressed per 100,000 population.
 Source: New Zealand Mortality Collection

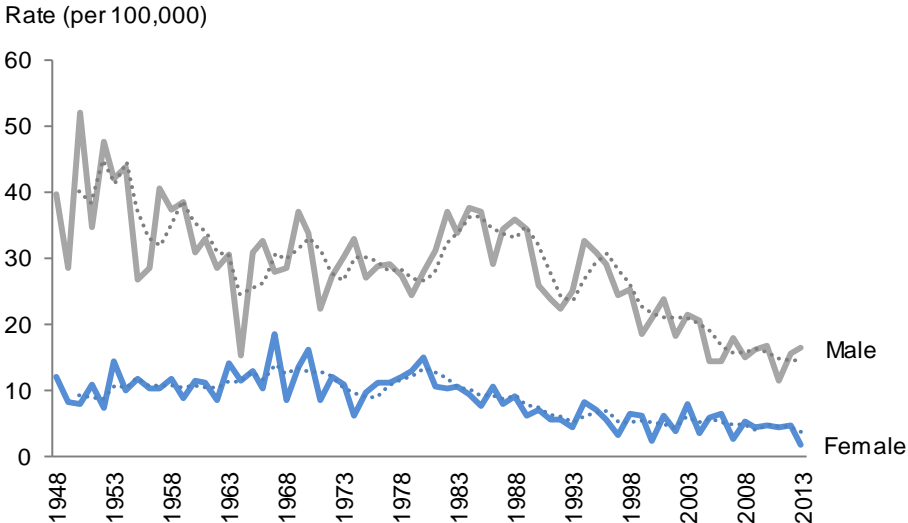
Adults aged 65 years and over

In 2013, for adults aged 65 years and over:

- the suicide rate was 8.5 per 100,000 population in this age group
- the male rate was 16.3 per 100,000 males in this age group
- the female rate was 1.8 per 100,000 females in this age group, the lowest recorded since 1948 (Table 3).

The male rate was variable between 1948 and 2013, although a substantial downward trend was evident from the peak rate in 1950 (a decrease of 68.7%). The female rate, although markedly lower than the male rate, also showed a downward trend, decreasing by over 90% from the peak in 1967 (Figure 9).

Figure 9: Age-specific suicide rates for adults (65 years and over), by sex, 1948–2013



Notes:
 The dotted line represents the three-year moving average.
 Rates are expressed per 100,000 population.
 Source: New Zealand Mortality Collection

Ethnicity

This section presents suicide rates by ethnic group for the period 2009–2013. Rates have been aggregated as some ethnic groups have a very small number of suicide deaths each year.

For the period 2009–2013, the rates of suicide were:

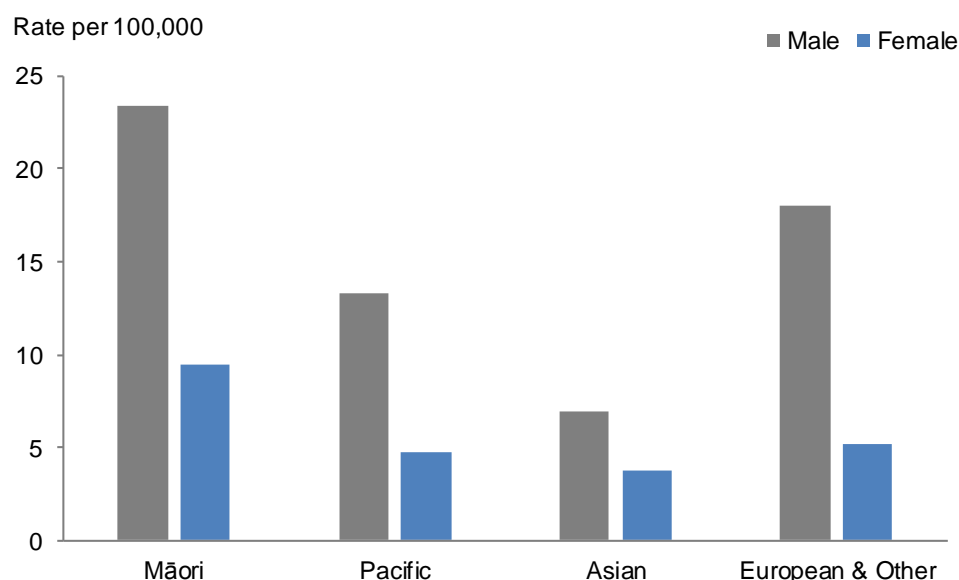
- Māori: 16.0 per 100,000 population
- Pacific peoples: 8.9 per 100,000
- Asian: 5.3 per 100,000
- European and Other: 11.5 per 100,000.

The suicide rate for Māori males was nearly twice that for Pacific males and more than three times that for males in the Asian ethnic group (Figure 10).

In all ethnic groups apart from Asian, the highest rate of suicide was in the youth age group. The highest rate for youth was in the Māori ethnic group, followed by Pacific peoples (38.4 per 100,000 Māori and 24.0 per 100,000 Pacific peoples respectively). For Asian, the highest rate was amongst those aged 65 years and over.

Numbers and rates for ethnic groups by sex and life-stage group (2009–2013), are provided in Table 5.

Figure 10: Age-standardised suicide rates, by ethnic group, 2009–2013



Note: Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand Mortality Collection

Table 5: Suicide rates by ethnic group, life-stage group and sex, 2009–2013

Ethnicity	Sex	Life-stage age group (years)				Total rate
		15–24	25–44	45–64	65+	
Māori	Male	49.7	38.1	16.3	2.7	23.4
	Female	27.3	11.1	5.4	0.0	9.5
	Total	38.4	23.6	10.5	1.2	16.0
Pacific peoples	Male	34.3	17.9	9.3	6.2	13.3
	Female	13.8	5.1	2.4	0.0	4.8
	Total	24.0	11.3	5.8	2.8	8.9
Asian	Male	7.2	8.6	9.6	14.3	6.9
	Female	3.7	3.1	5.1	12.8	3.8
	Total	5.5	5.7	7.2	13.5	5.3
European & Other	Male	26.5	24.9	24.5	16.4	18.0
	Female	6.2	7.4	8.1	3.8	5.2
	Total	16.5	15.9	16.2	9.6	11.5
All ethnicities	Male	28.8	24.0	21.7	15.3	17.6
	Female	10.8	7.2	7.3	3.9	5.9
	Total	19.9	15.2	14.3	9.1	11.6

Note: Rates are expressed per 100,000 population and total rates are age standardised to the WHO World Standard Population.

Source: New Zealand Mortality Collection

Māori and non-Māori comparison

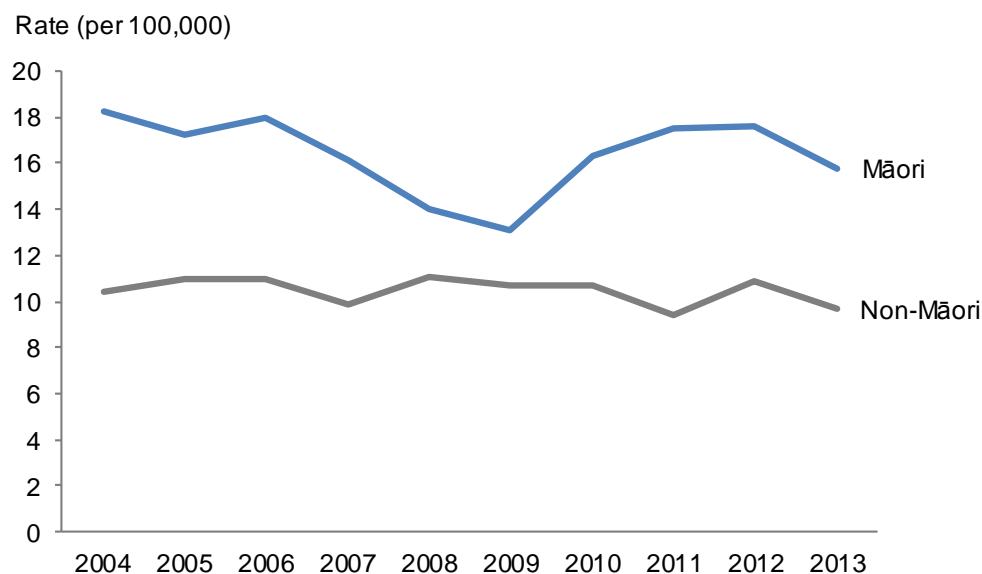
In 2013:

- the suicide rate for Māori was 15.8 per 100,000 Māori
- the suicide rate for Māori was 1.6 times that for non-Māori (9.7 per 100,000).

From 2004 to 2013, Māori suicide rates were variable but consistently higher than the rate for non-Māori each year. This gap has widened over the more recent years. The non-Māori suicide rates were generally stable over the same period (Figure 11).

Numbers and rates for Māori and non-Māori by sex and year (2004–2013) are provided in Table 6.

Figure 11: Age-standardised suicide rates for Māori and non-Māori, 2004–2013



Note: Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

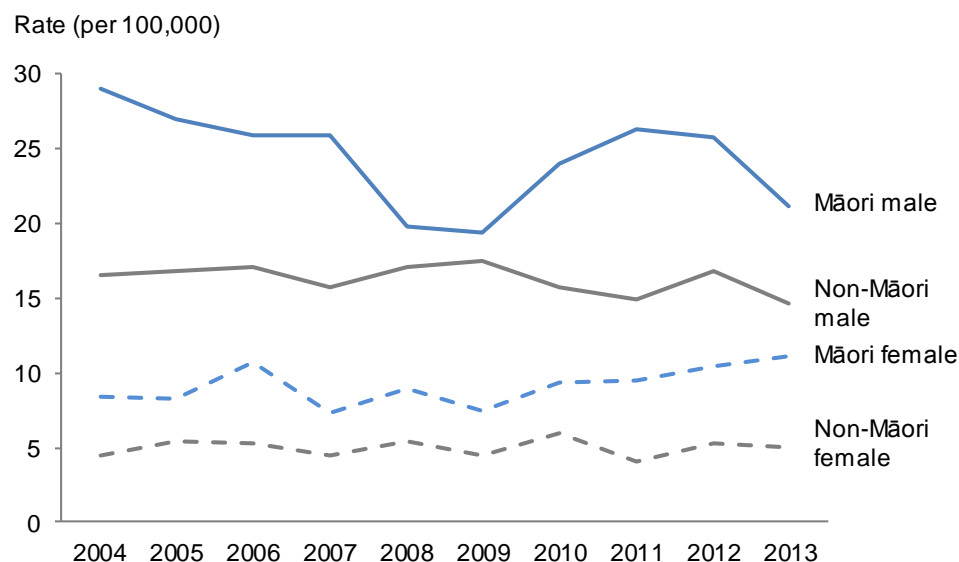
Source: New Zealand Mortality Collection

Sex

Among males, the suicide rate for Māori in 2013 was 1.4 times the rate for non-Māori (21.1 per 100,000 Māori males compared with 14.6 per 100,000 non-Māori males). Māori females had just over twice the suicide rate of non-Māori females (11.1 per 100,000 Māori females compared with 5.0 per 100,000 non-Māori females).

Between 2004 and 2013, Māori male suicide rates were highly variable, while Māori female suicide rates trended upward slightly. The Māori female suicide rate for 2013 was the highest rate in the 10 years from 2004. Non-Māori male and female suicide rates were relatively stable (Figure 12).

Figure 12: Age-standardised suicide rates, Māori and non-Māori, by sex, 2004–2013



Note: Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand Mortality Collection

Table 6: Suicide deaths and age-standardised rates, Māori and non-Māori, by sex, 2004–2013

Year	Māori						Non-Māori						Rate ratio		
	Male		Female		Total		Male		Female		Total		Māori:non-Māori		
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Male	Female	Total
2004	82	29	27	8.4	109	18.3	297	16.5	82	4.5	379	10.4	1.8	1.9	1.8
2005	78	26.9	26	8.3	104	17.2	302	16.8	105	5.4	407	11	1.6	1.5	1.6
2006	75	25.9	33	10.7	108	18	313	17	105	5.3	418	11	1.5	2	1.6
2007	74	25.9	23	7.3	97	16.1	297	15.7	93	4.4	390	9.9	1.6	1.6	1.6
2008	56	19.8	31	8.9	87	14	325	17	108	5.4	433	11.1	1.2	1.6	1.3
2009	58	19.3	25	7.4	83	13.1	335	17.4	92	4.4	427	10.7	1.1	1.7	1.2
2010	74	23.9	32	9.4	106	16.3	312	15.7	117	5.9	429	10.7	1.5	1.6	1.5
2011	82	26.3	32	9.5	114	17.5	295	14.9	84	4	379	9.4	1.8	2.4	1.9
2012	82	25.7	37	10.4	119	17.6	322	16.7	109	5.2	431	10.8	1.5	2.0	1.6
2013 ¹	65	21.1	39	11.1	104	15.8	300	14.6	104	5.0	404	9.7	1.4	2.2	1.6

Notes:

Rates are expressed per 100,000 population and are age standardised to the WHO World Standard Population.

1 Provisional

Source: New Zealand Mortality Collection

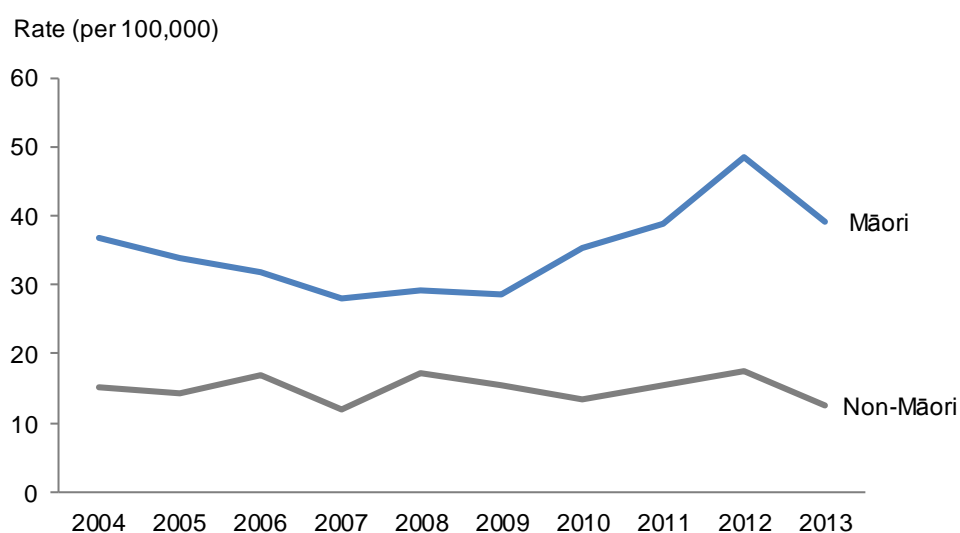
Comparison of Māori and non-Māori youth (15–24 years) suicide rates

In 2013, the youth suicide rate for Māori was 3.1 times the rate for non-Māori (39.1 per 100,000 and 12.6 per 100,000 respectively) (Table 7).

From 2004 to 2013, the suicide rates for Māori youth were consistently higher than the rates for non-Māori youth each year. The difference in youth suicide rates between Māori and non-Māori has been increasing since 2010 (Figure 13).

The suicide rates for Māori youth generally decreased from 2004 to 2009, then showed a steady upward trend to 2012. From 2012 to 2013 the rate for Māori youth decreased by 19.1%. The suicide rates for non-Māori youth were generally stable over this period.

Figure 13: Age-specific youth suicide rates, Māori and non-Māori, 2004–2013

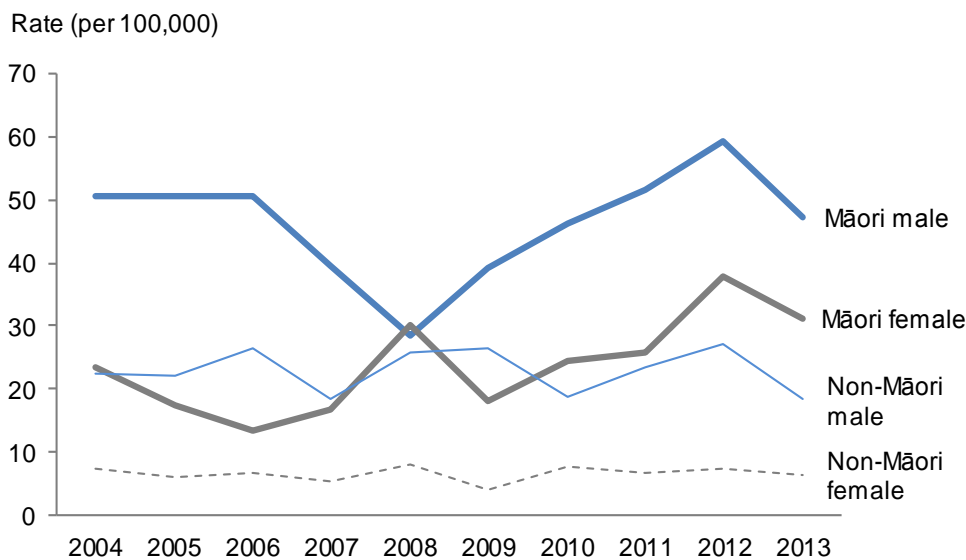


Note: Rates are expressed per 100,000 population.

Source: New Zealand Mortality Collection

Among females, the youth suicide rate for Māori was nearly five times that of non-Māori rate in 2013. Among both males and females, youth suicide rates for Māori were also consistently higher than their non-Māori counterparts over the 10-year period 2004–2013 (Figure 14).

Figure 14: Age-specific youth suicide rates, Māori and non-Māori, by sex, 2004–2013



Note: Rates are expressed per 100,000 population.

Source: New Zealand Mortality Collection

Table 7: Youth suicide deaths and age-specific rates, Māori and non-Māori, by sex, 2004–2013

Year	Māori						Non-Māori						Rate ratio		
	Male		Female		Total		Male		Female		Total		Māori:non-Māori		
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Male	Female	Total
2004	28	50.5	13	23.3	41	36.9	55	22.5	17	7.3	72	15.1	2.2	3.2	2.4
2005	29	50.5	10	17.4	39	34	55	22.2	14	6	69	14.3	2.3	2.9	2.4
2006	29	50.6	8	13.5	37	31.8	66	26.6	16	6.6	82	16.8	1.9	2	1.9
2007	23	39.5	10	16.8	33	28.1	47	18.6	13	5.3	60	12.1	2.1	3.2	2.3
2008	17	28.6	18	30	35	29.3	66	25.8	20	8.2	86	17.2	1.1	3.7	1.7
2009	24	39.2	11	18.1	35	28.7	69	26.6	10	4.1	79	15.6	1.5	4.5	1.8
2010	29	46.1	15	24.3	44	35.3	50	18.9	19	7.6	69	13.4	2.4	3.2	2.6
2011	33	51.5	16	25.7	49	38.8	63	23.6	17	6.8	80	15.5	2.2	3.8	2.5
2012	37	59.2	24	37.7	61	48.4	69	27.1	18	7.4	87	17.5	2.2	5.1	2.8
2013 ¹	30	47.2	20	31.2	50	39.1	47	18.3	16	6.5	63	12.6	2.6	4.8	3.1

Notes:

Rates are expressed per 100,000 population.

1 Provisional

Source: New Zealand Mortality Collection

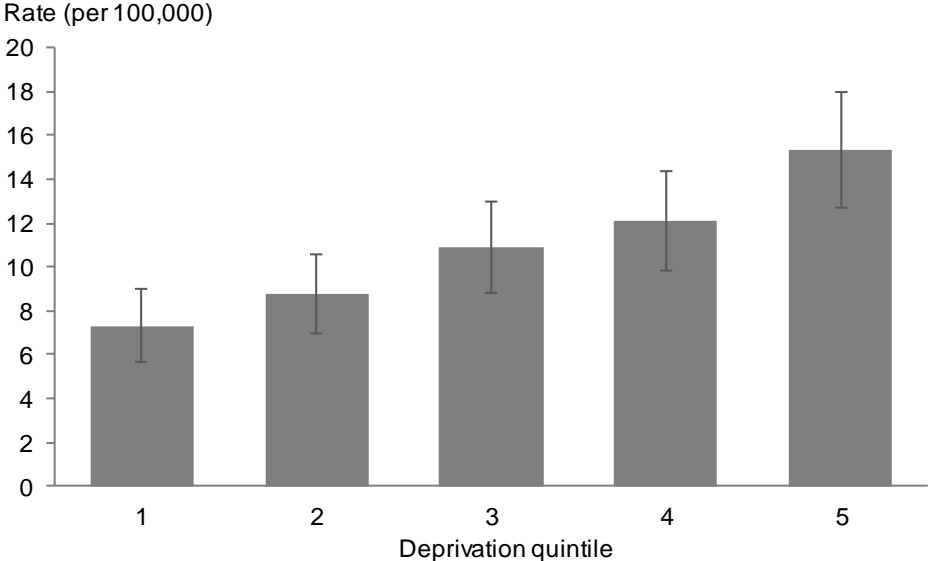
Deprivation

Deprivation quintiles are used to represent the level of deprivation of the area of residence. Deprivation is calculated for each area using a range of variables, such as income, home ownership, support, employment, qualifications, living space, communication and transport. Deprivation quintile 1 represents the least deprived areas, and quintile 5 represents the most deprived areas, according to the 2006 New Zealand Deprivation Index (NZDep2006). Approximately equal numbers of the total New Zealand population reside in areas associated with each of the five deprivation quintile areas. See Appendix 2: Definitions for more information.

In 2013, the suicide rate increased with the level of deprivation. Suicide rates in both quintiles 1 and 2 were significantly lower than suicide rates in quintile 5 (Figure 15).

The highest rate was among those residing in quintile 5 areas (the most deprived areas), with a rate of 15.4 per 100,000 population, followed by quintile 4 (12.1 per 100,000). The lowest suicide rate was seen among those who resided in the least deprived areas, quintile 1 (7.3 per 100,000). Suicide numbers and rates by sex for all deprivation quintiles are provided in Table 8.

Figure 15: Age-standardised suicide rates, by deprivation quintile, 2013



Notes:

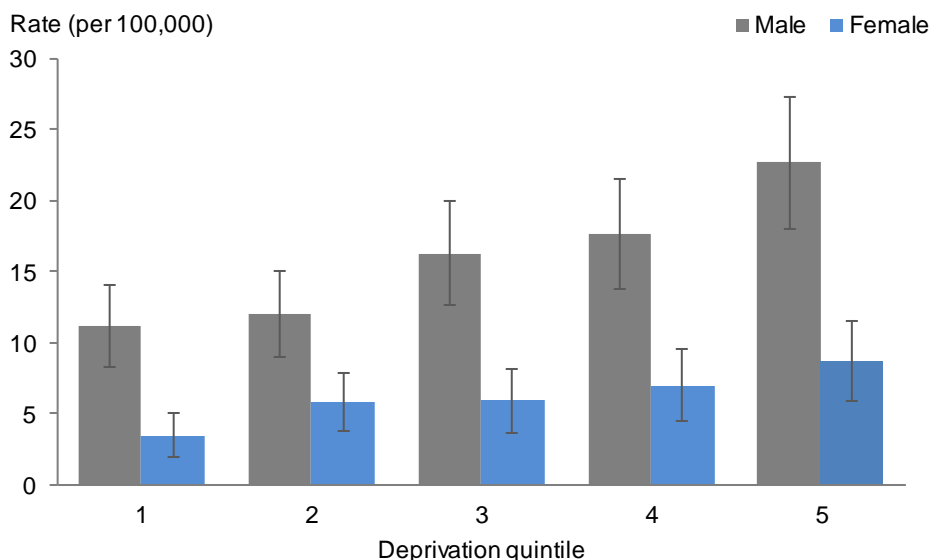
Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Error bars represent 95% confidence intervals. If two confidence intervals do not overlap, there is considered to be a statistically significant difference between the two groups being compared.

Source: New Zealand Mortality Collection

For males and females, the suicide rate was twice as high amongst those residing in the most deprived areas compared with those living in the least deprived areas. Male suicide rates increased with the level of deprivation. Female suicide rates showed a similar trend but to a lesser degree (Figure 16).

Figure 16: Age-standardised suicide rates, by deprivation quintile and sex, 2013



Notes:

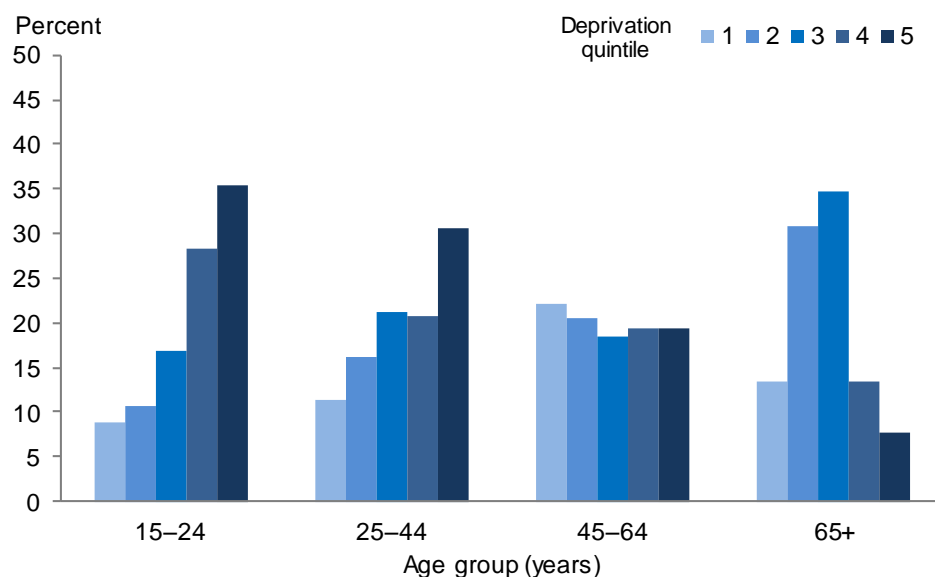
Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Error bars represent 95% confidence intervals. If two confidence intervals do not overlap, there is considered to be a statistically significant difference between the two groups being compared.

Source: New Zealand Mortality Collection

The association between deprivation level and suicide is most apparent in the youth population (15–24 years) (Figure 17). There were at least four times the number of suicides for this population in deprivation quintiles 3–5 compared with quintiles 1 and 2. For those aged 25–44 years, there were 2.5 times the number of suicides in deprivation quintiles 3–5 compared with quintiles 1 and 2. The same trend was not seen in older age groups.

Figure 17: Distribution of suicides by deprivation quintile and life-stage age group, 2013



Source: New Zealand Mortality Collection

Table 8: Suicide deaths and age-standardised rates, by deprivation quintile and sex, 2013

Deprivation quintile	Male		Female		Total	
	Number	Rate	Number	Rate	Number	Rate
1 (least deprived)	56	11.2	19	3.5	75	7.3
2	60	12.0	31	5.9	91	8.8
3	78	16.3	26	5.9	104	10.9
4	78	17.6	29	7.0	107	12.1
5 (most deprived)	92	22.7	38	8.7	130	15.4

Notes:

Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

The deprivation quintile was unknown for one suicide death.

Source: New Zealand Mortality Collection

Urban and rural suicide rates

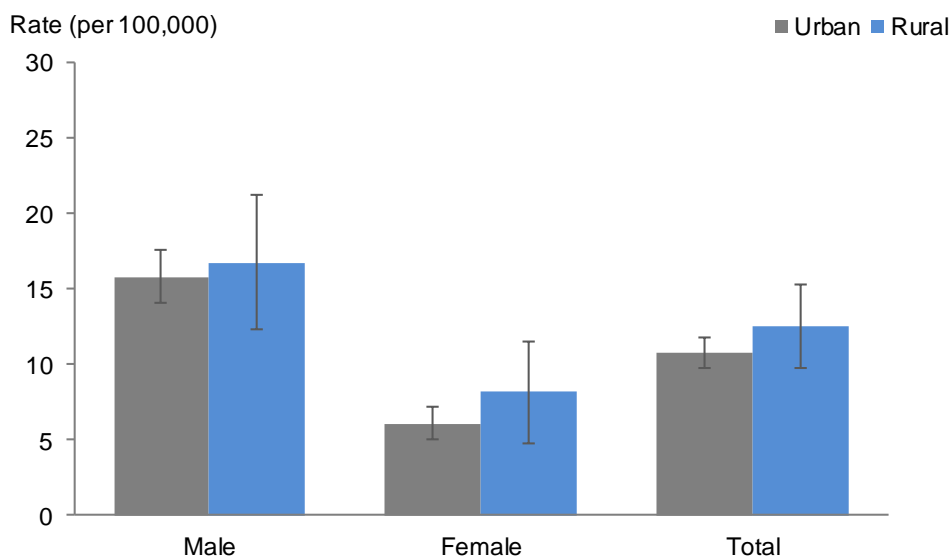
The suicide rate was slightly higher in rural areas than urban areas (12.5 per 100,000 rural population compared with 10.8 per 100,000 urban population). This difference was not statistically significant. People living in rural areas accounted for just over 15% of deaths by suicide.

Suicide numbers and rates, by urban/rural profile, life-stage age group and sex for 2013 are provided in Table 9.

Sex

In both rural and urban areas, males had a significantly higher rate of suicide than females. For males and females, the suicide rate was higher in rural areas than urban areas. Neither of these differences was statistically significant (Figure 18).

Figure 18: Rate of suicide, by urban/rural profile and sex, 2013



Notes:

Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

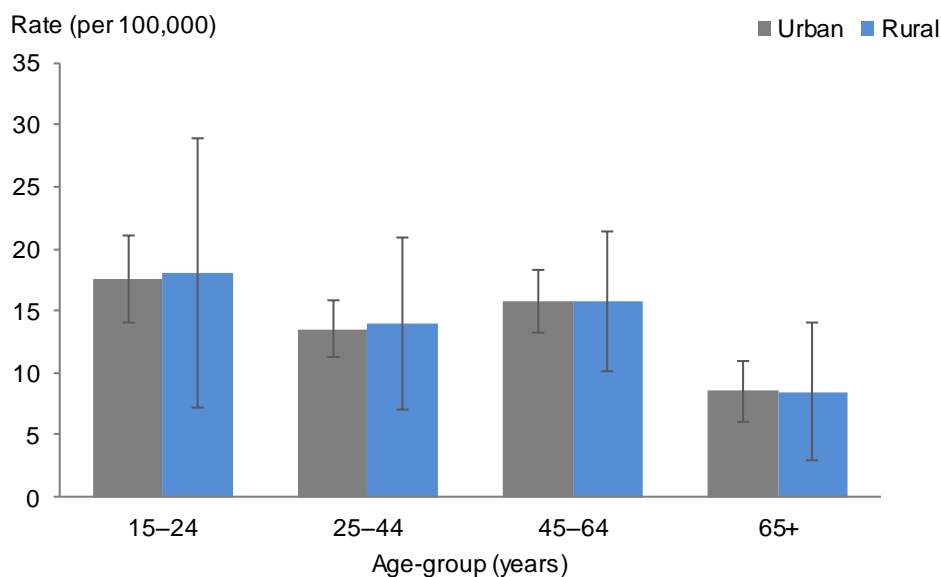
Error bars represent 95% confidence intervals. If two confidence intervals do not overlap, there is considered to be a statistically significant difference between the two groups being compared.

Source: New Zealand Mortality Collection

Life-stage age group

In both rural and urban areas, the highest rates of suicide in 2013 were seen in the youth population (15–24 years). For each individual life-stage age group, there was very little difference between the rates of urban and rural suicide (Figure 19).

Figure 19: Rate of suicide, by urban/rural profile and life-stage age group, 2013



Notes:

Rates are expressed per 100,000 population.

Error bars represent 95% confidence intervals. If two confidence intervals do not overlap, there is considered to be a statistically significant difference between the two groups being compared.

Source: New Zealand Mortality Collection

In rural areas, the highest rate of suicide was for males aged 25–44 years (24.5 per 100,000 population). This rate was only slightly higher than that for males aged 15–24 years and 45–64 years (23.9 and 23.0 per 100,000 population respectively) (Table 9).

Table 9: Suicide deaths and rates, by urban/rural profile, life-stage age group and sex, 2013

	Number						Rate					
	Life-stage age group (years)						Life-stage age group (years)					
	5–14	15–24	25–44	45–64	65+	Total	5–14	15–24	25–44	45–64	65+	Total
Urban												
Male	0	68	96	105	40	309	0	24.1	20.1	23.3	16.5	15.8
Female	2	30	39	43	6	120	–	10.9	7.5	8.8	2.0	6.1
Total	2	98	135	148	46	429	–	17.6	13.5	15.7	8.5	10.8
Rural												
Male	0	9	17	23	6	55	0	23.9	24.5	23.0	13.1	16.8
Female	0	6	8	9	0	23	0	18.6	11.0	9.2	0.0	8.2
Total	0	15	25	32	6	78	0	21.4	17.6	16.2	7.0	12.5

Notes:

The urban/rural profile was unknown for one suicide death.

Rates are age specific, expressed per 100,000 population. The total suicide rate is expressed per 100,000 population and age standardised to the WHO World Standard Population.

District health board region

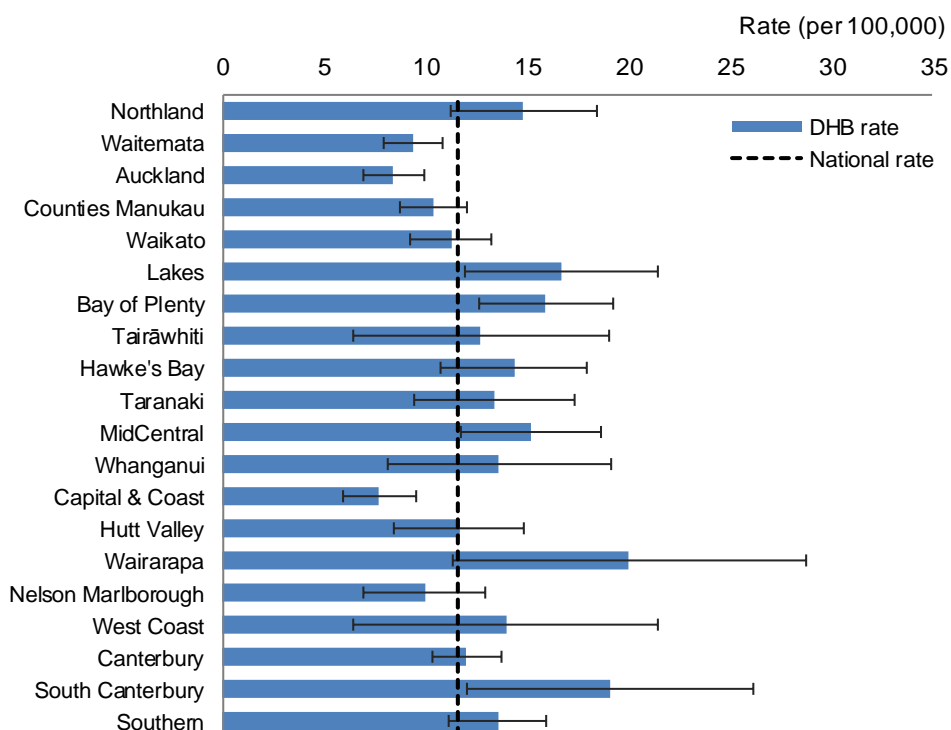
This section presents the rates of suicide, aggregated over a five-year period (2009–2013), for each DHB region. Rates have been aggregated as some DHB regions have a very small number of suicide deaths each year. Raw numbers are not presented as the size of the population varies widely across DHB regions and comparing raw numbers of suicide deaths across DHB regions can be misleading.

Suicide age-standardised rates for 2009–2013, by DHB, can be found in Table A3 in Appendix 3: Further tables. The average number of suicides per DHB over this period can be found in the online data tables that accompany this report.

All ages

For this period, the national suicide rate was 11.5 deaths per 100,000 population (Table A3). Four DHB regions had significantly higher suicide rates than the national suicide rate: Lakes, Bay of Plenty, MidCentral and South Canterbury. Three DHB regions had significantly lower suicide rates than the national rate: Waitemata, Auckland and Capital & Coast DHB regions (Figures 20 and 22).

Figure 20: Age-standardised suicide rates, by DHB, 2009–2013



Notes:

Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Error bars represent 99% confidence intervals.

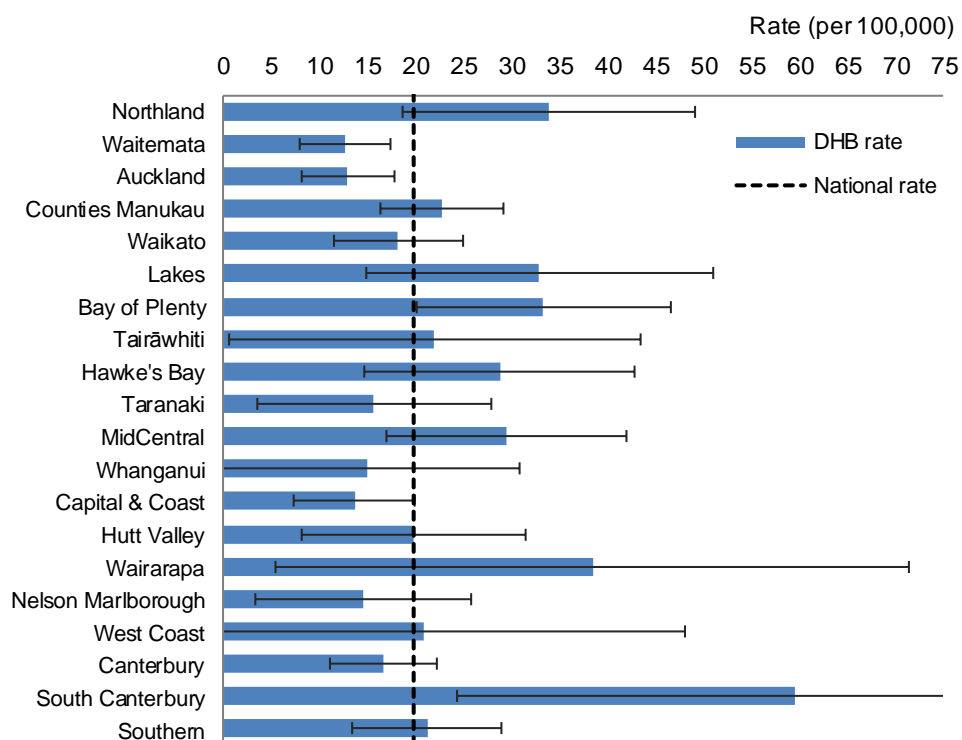
If a DHB region's confidence interval does not overlap the national suicide rate, the DHB rate is either statistically significantly higher or lower than the national rate.

Source: New Zealand Mortality Collection

Youth (15–24 years)

The national youth suicide rate was 19.9 suicides per 100,000 youth population (Table A3). Bay of Plenty and South Canterbury DHB regions had significantly higher youth suicide rates than the national youth suicide rate. Waitemata and Auckland DHB regions had significantly lower suicide rates than the national youth suicide rate (Figures 21 and 22).

Figure 21: Age-specific youth suicide rates, by DHB regions, 2009–2013



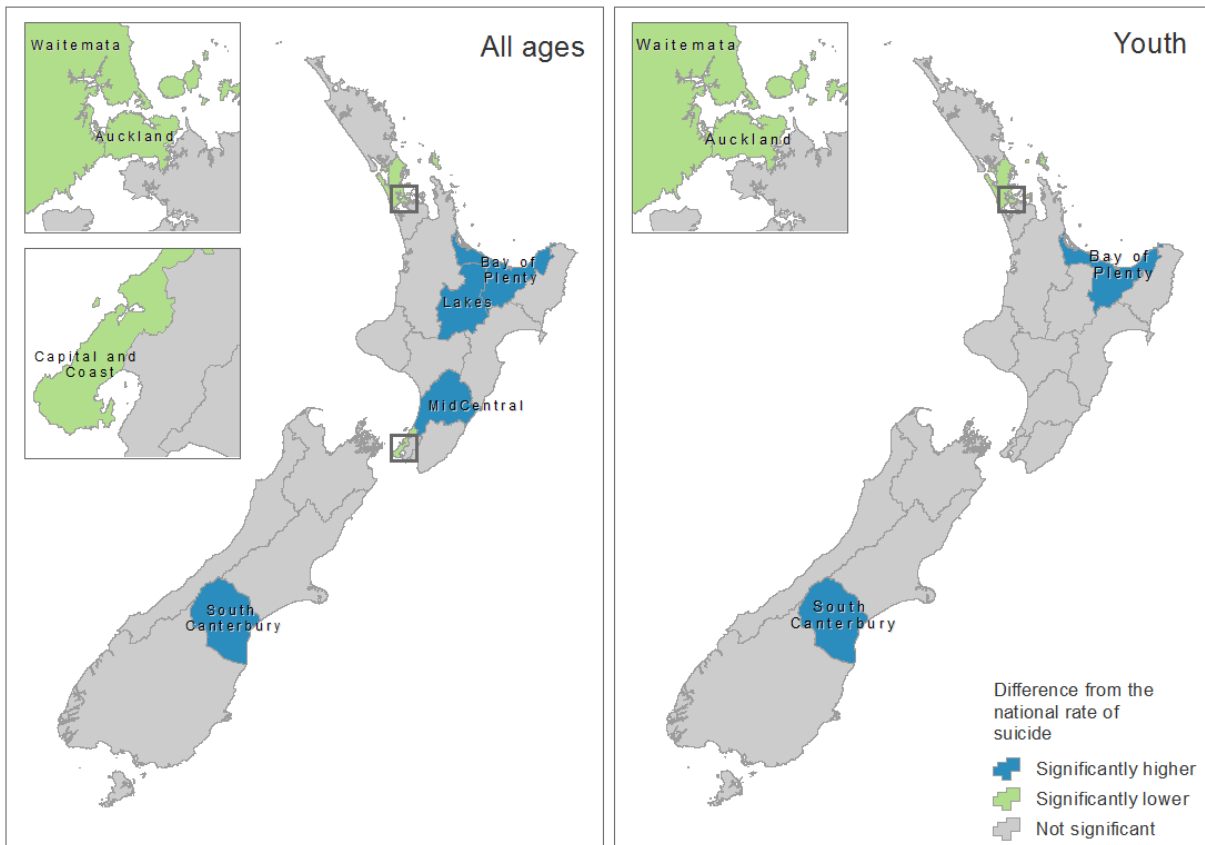
Notes:

Rates are age specific and expressed per 100,000 youth population.

Error bars represent 99% confidence intervals. If a DHB region's confidence interval does not overlap the national suicide rate, the DHB rate is either statistically significantly higher or lower than the national rate.

Source: New Zealand Mortality Collection

Figure 22: Comparison of DHB region suicide rates with the national rate, 2009–2013



Notes:

Suicide rates for all ages (map on left) are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Youth rates (map on right) are age specific, expressed per 100,000 population.

Source: New Zealand Mortality Collection

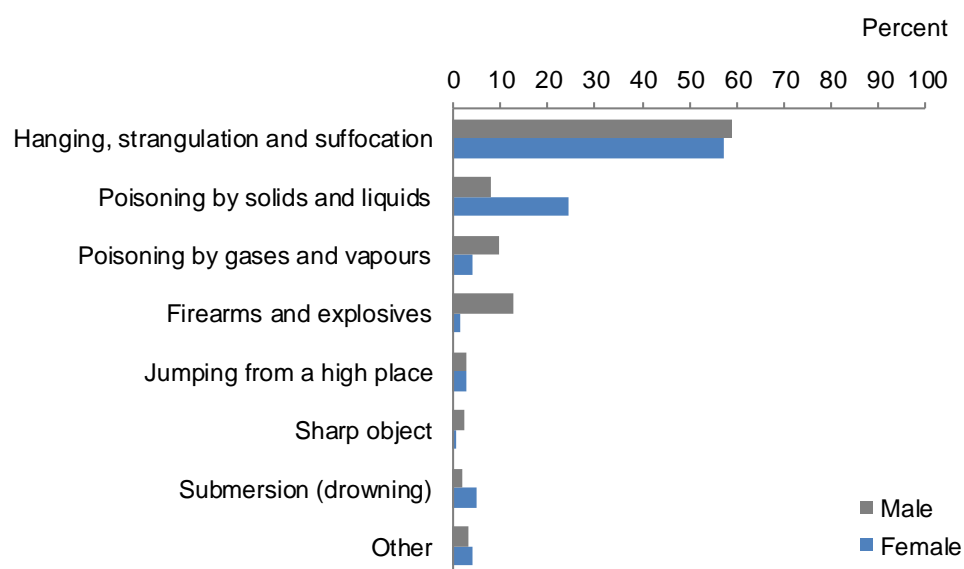
Methods of suicide

In 2013, the most common method¹ of suicide was hanging, strangulation and suffocation as a group, accounting for 58.7% of all suicide deaths. Poisoning by solids and liquids was the second most common method (12.6%), followed by firearms and explosives (9.4%).

Suicide numbers and distribution of suicide deaths by method used by year (2004–2013) are provided in Table 10.

For males, the most common method used was hanging, strangulation and suffocation, followed by firearms and explosives (59.2% and 12.6% of suicide deaths respectively). For females, the most common method used was also hanging, strangulation and suffocation, followed by poisoning by solids and liquids (57.3% and 24.5% respectively) (Figure 23).

Figure 23: Distribution of suicide deaths by sex and method used, 2013



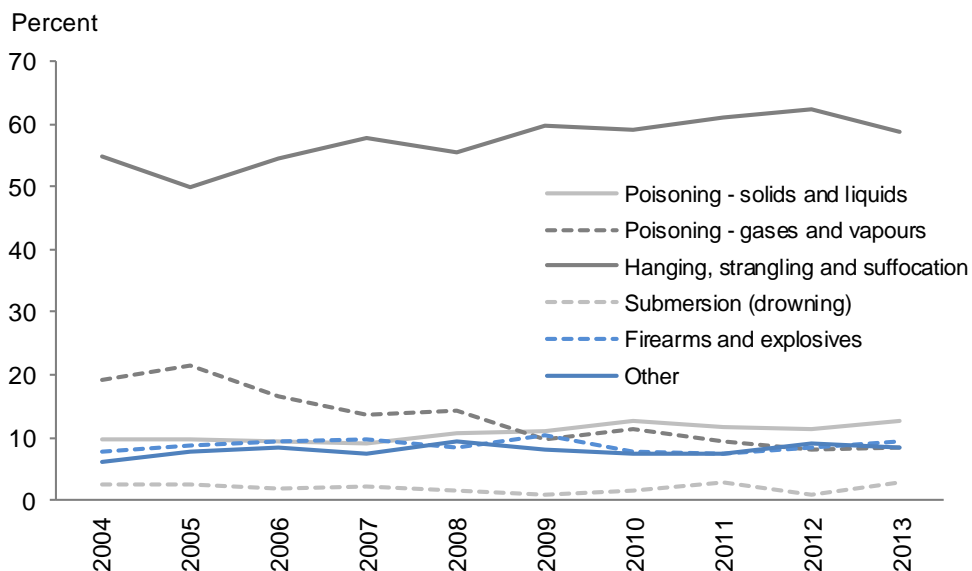
Note: See Appendix 2: Definitions for information about the methods included in the 'Other' category.

Source: New Zealand Mortality Collection

Between 2004 and 2013, there was a small increase in the proportion of suicides by each cause, except by poisoning by gases and vapours. Over this period, suicides from poisoning by gases and vapours decreased from 19.1% to 8.3% (Figure 24).

¹ See Table A1 in Appendix 2: Definitions for the ICD-10-AM codes linked to each method.

Figure 24: Distribution of suicide deaths by method used, 2004–2013



Note: See Appendix 2: Definitions for information about the methods included in the 'Other' category.

Source: New Zealand Mortality Collection

Table 10: Number and distribution of suicide deaths by method used, 2004–2013

Year	Poisoning – solids and liquids		Poisoning – gases and vapours		Hanging, strangulation and suffocation		Submersion (drowning)		Firearms and explosives		Other ²		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
2004	47	9.6	93	19.1	268	54.9	12	2.5	38	7.8	30	6.1	488	100.0
2005	50	9.8	110	21.5	255	49.9	13	2.5	44	8.6	39	7.6	511	100.0
2006	49	9.3	87	16.5	286	54.4	9	1.7	50	9.5	45	8.6	526	100.0
2007	44	9.0	67	13.8	282	57.9	11	2.3	47	9.7	36	7.4	487	100.0
2008	56	10.8	75	14.4	289	55.6	8	1.5	43	8.3	49	9.4	520	100.0
2009	56	11.0	50	9.8	304	59.6	5	1.0	53	10.4	42	8.2	510	100.0
2010	67	12.5	60	11.2	317	59.3	9	1.7	42	7.9	40	7.5	535	100.0
2011	58	11.8	47	9.5	301	61.1	14	2.8	36	7.3	37	7.5	493	100.0
2012	62	11.3	44	8.0	343	62.4	5	0.9	47	8.5	49	8.9	550	100.0
2013 ¹	64	12.6	42	8.3	298	58.7	14	2.8	48	9.4	42	8.3	508	100.0

Notes:

1 Provisional data.

2 See Appendix 2: Definitions for information about the methods included in the 'Other' category.

Source: New Zealand Mortality Collection

Methods of suicide by life-stage age group

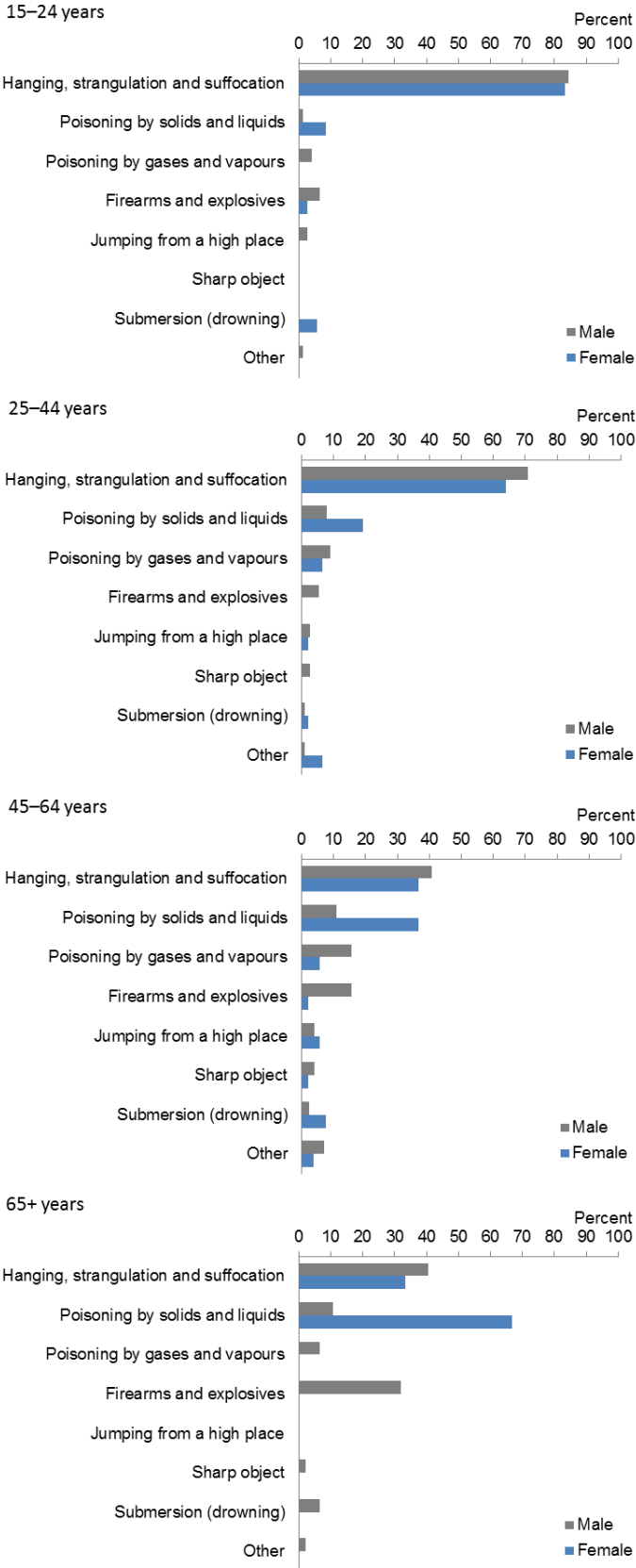
Among males and females aged under 45 years, hanging, strangulation and suffocation collectively was the most common method used in 2013. Use of these methods decreased with age for both sexes. In the older life-stage age groups, the methods used were more gender specific (Figure 25).

For females, the proportion of suicides committed by poisoning by solids and liquids increased markedly with age. This was the most common cause of suicide amongst females aged 65 years and older. For females aged 45–64 years, this method was as common as hanging, strangulation and suffocation (Figure 25).

Males were generally more likely to use firearms and explosives than females. A greater proportion of males aged 45 years and over used firearms and explosives compared with those

aged less than 45 years. For males aged 65 years and older, firearm and explosive use increased to nearly the same proportions as hanging, strangulation and suffocation (Figure 25).

Figure 25: Distribution of suicide deaths by method used, sex and life-stage age group, 2013



Note: See Appendix 2: Definitions for information about the methods included in the 'Other' category.

Source: New Zealand Mortality Collection

International comparisons

This section compares New Zealand suicide rates with those from other countries in the Organisation for Economic Co-operation and Development (OECD). The countries presented in this report were members of the OECD in 2013. In general, OECD countries are considered to produce reliable data collections and have a similar economic status to New Zealand, and so their health and social statistics are often used for comparison with New Zealand's health and social statistics.

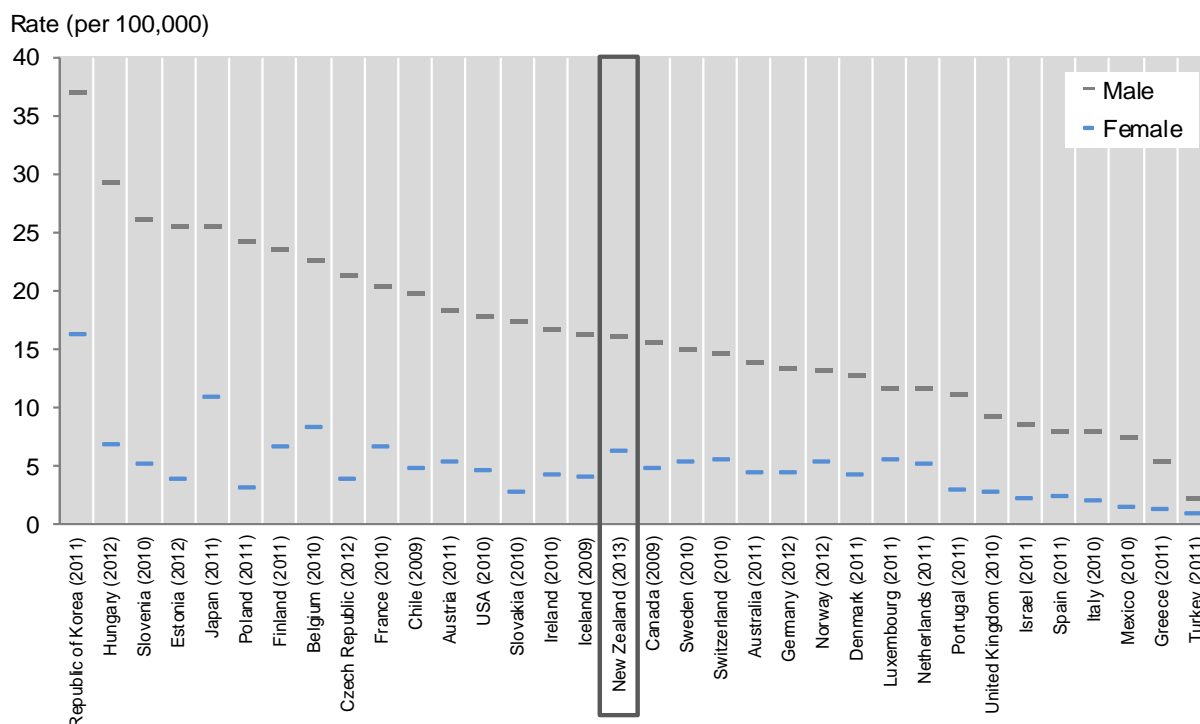
A cautious approach is recommended when comparing international suicide statistics because many factors affect the recording and classification of suicide in different countries, including the level of proof required for a verdict of suicide; the stigma associated with suicide; the religion, social class or occupation of suicide victims; and confidentiality (Andriessen 2006). As a result, deaths classified as suicide in some countries may be classified as accidental or of undetermined intent in others.

The international figures cited here (except New Zealand) are the latest available from the OECD and cover various years. Therefore New Zealand rates for 2013 are compared with data from earlier years for some countries in which different social and/or economic conditions may have applied.

Sex

New Zealand suicide rates for both the male and female populations are slightly above the median for the OECD countries presented. All OECD countries had higher suicide rates for males than females (Figure 26).

Figure 26: Suicide age-standardised rates for OECD countries, by sex



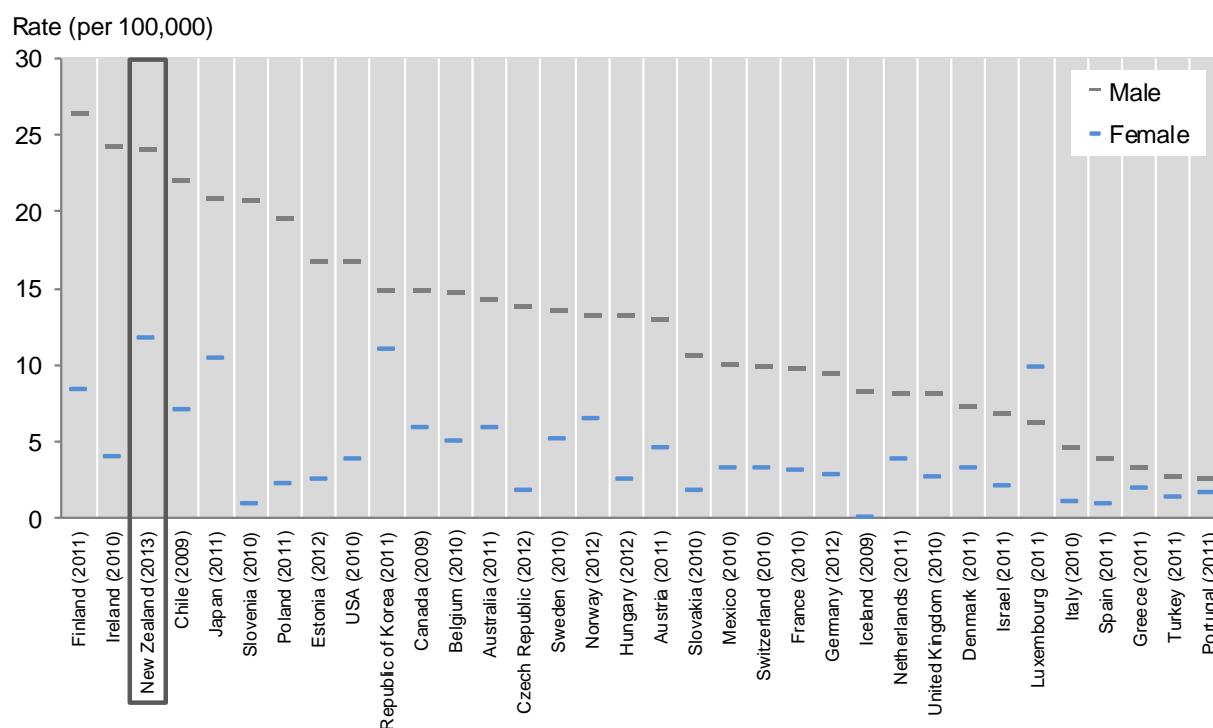
Note: Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: OECD 2015

Youth aged 15–24 years

The 2013 New Zealand youth suicide rate for females was the highest female rate of the OECD countries covered in this report (11.7 per 100,000 youth female population). The 2013 New Zealand youth suicide rate for males was third highest (24.1 per 100,000 youth male population), just behind Finland (2011) with 26.4 suicides per 100,000 and Ireland (2010) with 24.2 per 100,000) (Figure 27).

Figure 27: Youth (15–24 years) suicide age-specific rates for OECD countries, by sex



Note: Rates are age specific and expressed per 100,000 population.

Source: OECD 2015

Intentional self-harm hospitalisations

This chapter presents numbers, rates and trends of intentional self-harm in New Zealand. Patients admitted to hospital for intentional self-harm may have varying lengths of stay depending on the nature of their injuries. Approximately half of the total patients admitted to hospital for intentional self-harm are treated only in an emergency department (ED) and discharged under an ED speciality on the same day they are admitted or after an overnight stay. These hospitalisations are categorised as short-stay ED events. These events are separated from other events because they were reported inconsistently by DHBs until 1 July 2012 (Ministry of Health 2015).

This publication is the first in the Suicide Facts series to analyse hospitalisations that include short-stay ED events. Short-stay ED events are only included in the hospitalisation data for 2013. We advise that you do not compare numbers and rates presented for 2013 in this report with previous reports as short-stay ED events were excluded in previous reports.

The structure of this chapter is different to that of previous publications in this series with the inclusion of these short stay ED events:

- Sections describing all hospitalisations, which include short-stay ED events, in 2013: Age and sex, Ethnicity and Deprivation.
- Sections describing hospitalisations that exclude short-stay ED events: DHB region (2011–2013) and Trends over time (2004–2013).

Hospitalisations that exclude short-stay ED events do not represent the total number of people receiving hospital treatment for intentional self-harm. Retaining these exclusions for the presentation of time trend data will allow the best possible identification of trends in intentional self-harm behaviour until sufficient data has been reported consistently to describe a time trend which includes short-stay ED events.

It is important to recognise that the motivation for intentional self-harm varies, and therefore hospitalisation data for self-harm is not a measure of suicide attempts.

Further information about data exclusions and definitions of terms are provided in Appendix 1: Technical notes and Appendix 2: Definitions respectively.

Overview

In 2013, there were 7267 hospitalisations for intentional self-harm (including short-stay ED events), which equated to a rate of 176.7 per 100,000 population. The short-stay ED events in this data set were 54.2% of the total hospitalisations (3939 events).

Higher rates of intentional self-harm hospitalisations were recorded in females, particularly females:

- in the youth age group (15–24 years)
- of Māori or European and Other ethnicities
- living in neighbourhoods of high deprivation.

In contrast, the total number of intentional self-harm hospitalisations excluding short-stay ED events reported for 2013 in time trend analysis and for DHB regions was 3328.

For the 10-year period from 2004–2013, the rate of intentional self-harm hospitalisations excluding short-stay ED events increased overall by 4.6% (from 75.5 per 100,000 in 2004 to 78.9 per 100,000 in 2013). Increases were seen (especially in the latter half of this period) in the rate of intentional self-harm hospitalisations excluding short-stay ED events for females, youth and people of Māori or European and Other ethnicities.

Age and sex

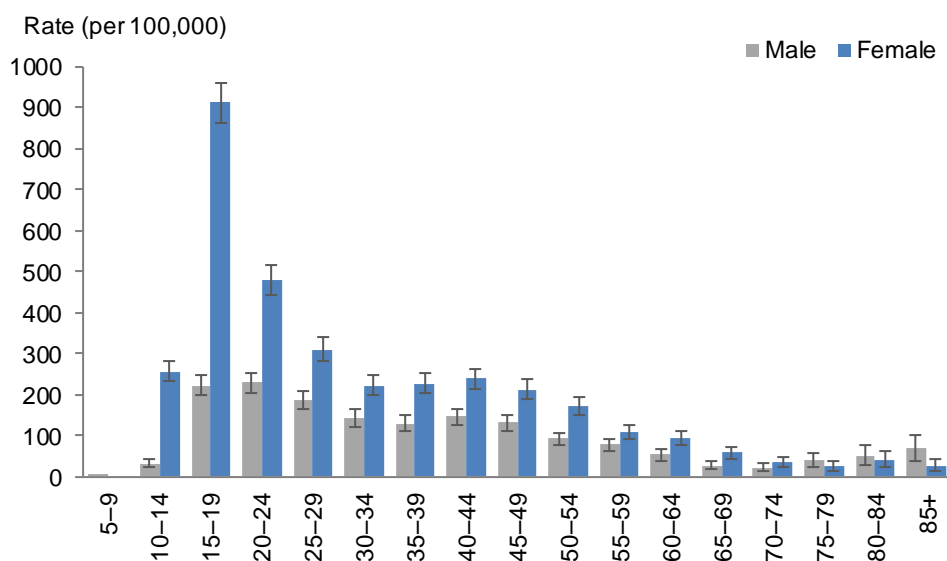
In 2013, the rate of intentional self-harm hospitalisations for females was 246.9 per 100,000 females. This rate was also more than twice the male rate of 107.1 per 100,000 males.

The highest number of hospitalisations from intentional self-harm were for youth aged 15–24 years (2866 hospitalisations). Female youth accounted for three-quarters of the youth hospitalisations. Within the youth age group, the highest rate was for females aged 15–19 years, where there was nearly 1 hospitalisation for every 100 females.

Female rates of hospitalisation for intentional self-harm in 2013 were significantly higher than male rates for each five-year age group between the ages of 10 and 69 years. Male rates were not significantly higher than female rates for any of the five-year age groups (Figure 28).

Numbers and rates of intentional self-harm hospitalisations, by sex and five-year age group for 2013 are provided in Table 11.

Figure 28: Age-specific rate of intentional self-harm hospitalisations, by age group and sex, 2013



Notes:

Rates are expressed per 100,000 population.

Error bars represent 95% confidence intervals. If two confidence intervals do not overlap, there is considered to be a statistically significant difference between the two groups being compared.

Source: New Zealand National Minimum Dataset

Table 11: Number and rate of intentional self-harm hospitalisations, by sex and five-year age group, 2013

Age group (years)	Male		Female		Total	
	Number	Rate	Number	Rate	Number	Rate
5–9	1	–	0	0.0	1	–
10–14	51	33.5	373	258.0	424	142.9
15–19	358	223.4	1391	912.6	1749	559.4
20–24	367	229.8	750	480.1	1117	353.6
25–29	256	187.9	445	311.6	701	251.2
30–34	188	144.6	315	222.1	503	185.0
35–39	172	130.7	331	228.3	503	181.9
40–44	222	147.9	398	239.1	620	195.8
45–49	199	132.5	347	214.3	546	174.9
50–54	141	93.1	279	172.4	420	134.1
55–59	103	77.8	155	111.0	258	94.9
60–64	64	54.2	119	96.5	183	75.8
65–69	28	27.9	62	59.0	90	43.8
70–74	17	22.9	28	34.9	45	29.1
75–79	20	39.2	16	27.4	36	32.9
80–84	19	52.6	20	43.4	39	47.5
85+	19	70.6	13	27.2	32	42.8
Total	2225	107.1	5042	246.9	7267	176.7

Notes:

The rates for five-year age groups in this table are age-specific and expressed per 100,000 population.

The total rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

There were no intentional self-harm hospitalisations in the 0–4 years age group.

Source: New Zealand National Minimum Dataset

Ethnicity

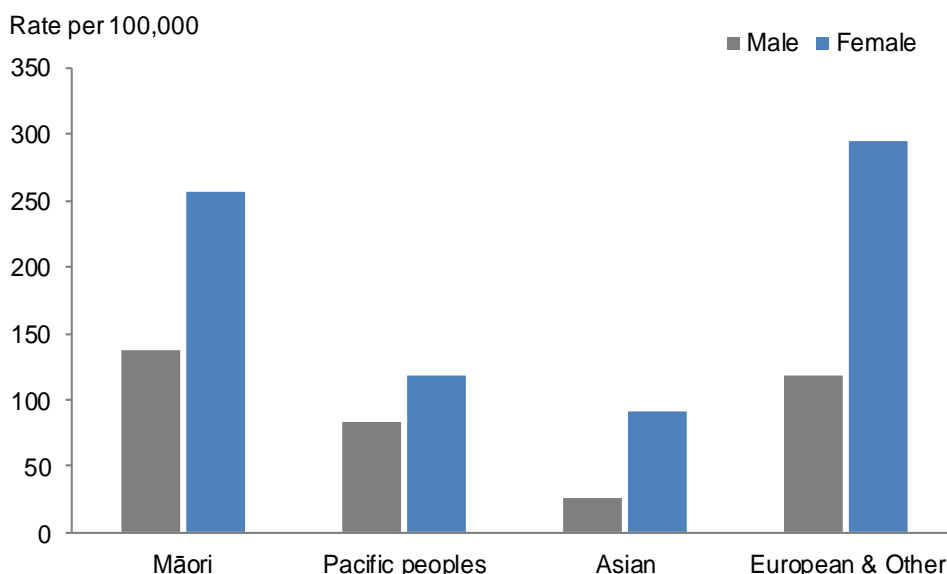
The rates of intentional self-harm hospitalisations in 2013 by ethnic group were:

- Māori: 197.7 per 100,000 population
- Pacific peoples: 100.9 per 100,000 population
- Asian: 58.2 per 100,000 population
- European and Other: 205.9 per 100,000 population (Figure 29).

Rates of hospitalisations for intentional self-harm differed most markedly amongst females across ethnic groups. The highest rates for females were in the European and Other ethnic group followed by Māori. Rates for females in these ethnic groups were at least twice the rates for females in the Pacific peoples and Asian ethnic groups (Figure 29).

Numbers and rates of intentional self-harm hospitalisations, by ethnic group and sex, for 2013 are provided in Table 12.

Figure 29: Age-standardised rate of intentional self-harm hospitalisations, by sex and ethnic group, 2013

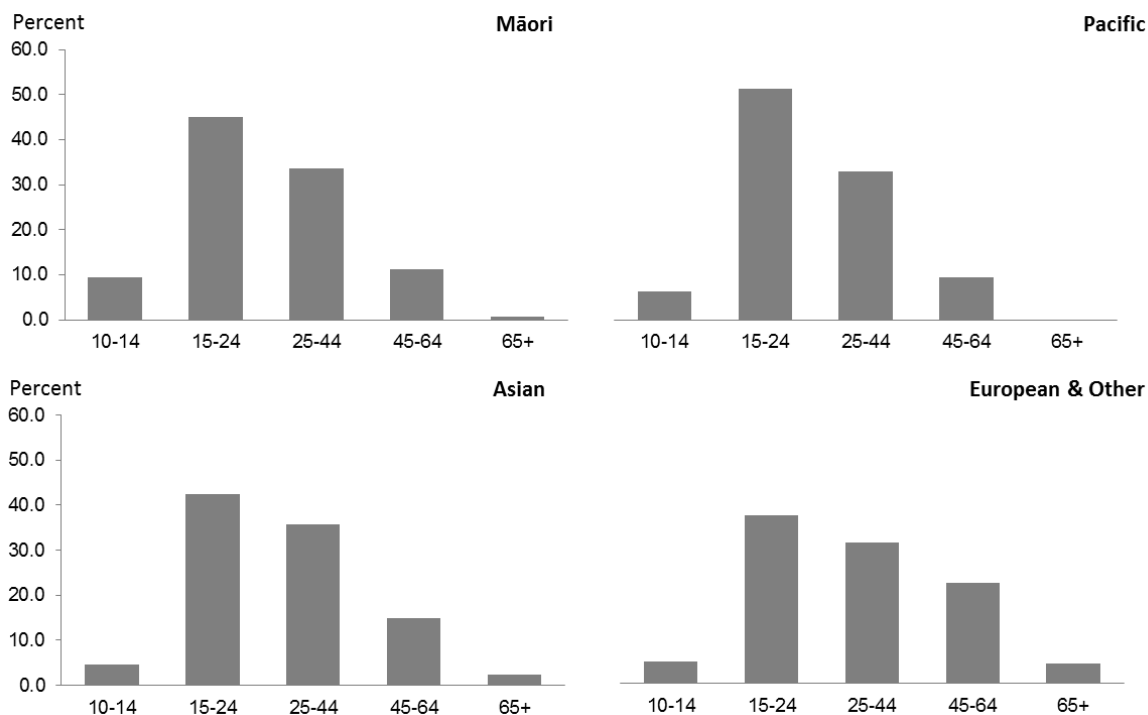


Note: Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand National Minimum Dataset

In 2013, the distribution of intentional self-harm hospitalisations by life-stage age group followed a similar pattern for all four ethnic groups. Intentional self-harm hospitalisations decreased with age for those aged over 15 years. For all ethnic groups, the highest proportion of hospitalisations was in the youth age group (15–24 years) (Figure 30).

Figure 30: Distribution of intentional self-harm hospitalisations, by ethnic group and life-stage age group, 2013



Source: New Zealand Mortality Collection

Table 12: Number and rate of intentional self-harm hospitalisations, by ethnic group and sex, 2013

Sex	Māori		Pacific peoples		Asian		European & Other	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Male	426	137.8	118	82.9	74	26.4	1577	119.0
Female	923	257.3	179	118.7	254	91.1	3650	294.3
Total	1349	197.7	297	100.9	328	58.2	5227	205.9

Notes:

Ethnicity was unknown for 66 hospitalisations.

Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand National Minimum Dataset

Māori and non-Māori comparison

In 2013, the Māori rate of intentional self-harm hospitalisations was 15% higher than the non-Māori rate (197.7 per 100,000 Māori and 172.2 per 100,000 non-Māori respectively). This difference was statistically significant. Youth rates of intentional self-harm hospitalisations for Māori and non-Māori followed a similar trend, although the difference was not significant (Table 13).

In 2013, the rate of intentional self-harm hospitalisations for both Māori and non-Māori females was around twice that of the rate for males. For males, the rate for Māori was significantly higher than the rate for non-Māori.

For male youth intentional self-harm hospitalisations, the rate among Māori was higher than the rate for their non-Māori counterparts, while among females, the youth rate for Māori and non-Māori was similar.

Table 13: Number and rate of intentional self-harm hospitalisations, by sex, all ages and youth, Māori and non-Māori, 2013

Sex	Māori		Non-Māori		Māori youth		Non-Māori youth	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Male	426	137.8	1799	101.4	168	264.2	557	217.3
Female	923	257.3	4119	244.1	440	685.8	1701	695.8
Total	1349	197.7	5918	172.2	608	475.9	2258	450.9

Notes:

Youth age is 15–24 years.

Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand National Minimum Dataset

Deprivation

In 2013, the rate of intentional self-harm hospitalisations was higher among those residing in more deprived areas. The highest rate was among those in deprivation quintile 4 areas, followed closely by quintile 5 areas. Those residing in the least deprived areas (quintiles 1 and 2) had the lowest rate of intentional self-harm hospitalisations. The rate in quintile 4 was 1.8 times the rate for those in quintile 1 areas (Figure 31).

For both males and females, the rates for those residing in quintile 3–5 areas were significantly higher than the rates for those in quintile 1 and 2 areas.

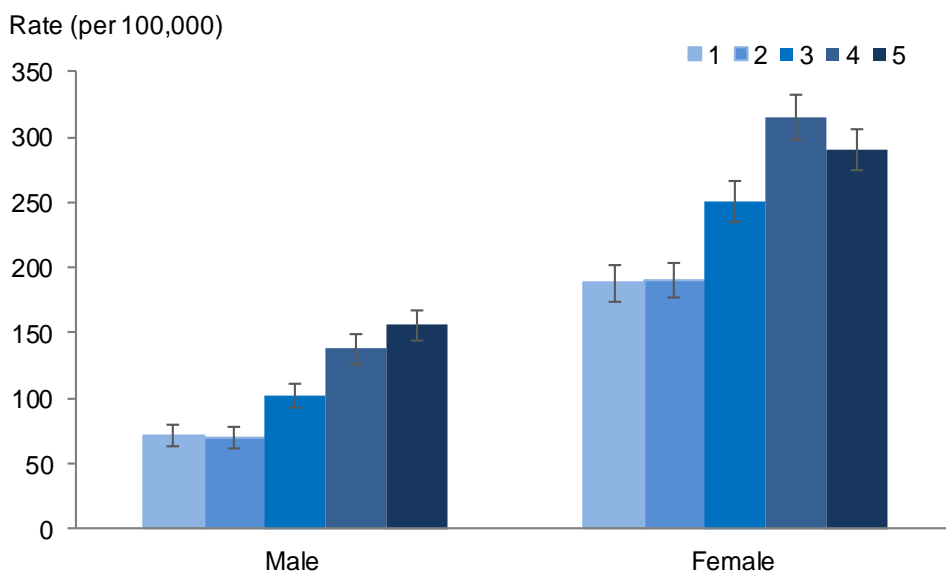
For males, the highest rate was for those residing in the most deprived areas (quintile 5, 155.7 per 100,000 population). This rate was just over twice the rate of those in the quintile 2 areas (69.9 per 100,000 population).

For females, the rate of intentional self-harm hospitalisations was highest in quintile 4 (314.6 per 100,000 population); this rate was 1.7 times the rate for those in the least deprived quintile (quintile 1, at 188.2 per 100,000 population).

The numbers and rates of intentional self-harm hospitalisations, by deprivation quintile and sex, for 2013 are provided in Table 14.

For information about the New Zealand Deprivation Index (NZDep), see Appendix 2: Definitions.

Figure 31: Age-standardised rate of intentional self-harm hospitalisations, by deprivation quintile and sex, 2013



Notes:

Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Error bars represent 95% confidence intervals. If two confidence intervals do not overlap, there is considered to be a statistically significant difference between the two groups being compared.

Source: New Zealand National Minimum Dataset

Table 14: Number and age-standardised rate of intentional self-harm hospitalisations, by deprivation quintile and sex, 2013

Deprivation quintile	Male		Female		Total	
	Number	Rate	Number	Rate	Number	Rate
1 (least deprived)	278	71.0	709	188.2	987	128.0
2	289	69.9	746	190.1	1035	128.6
3	432	101.8	1008	250.7	1440	175.4
4	575	137.9	1287	314.6	1862	226.3
5 (most deprived)	634	155.7	1258	289.9	1892	224.1

Notes:

The deprivation quintile was unknown for 51 hospitalisations.

Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand National Minimum Dataset

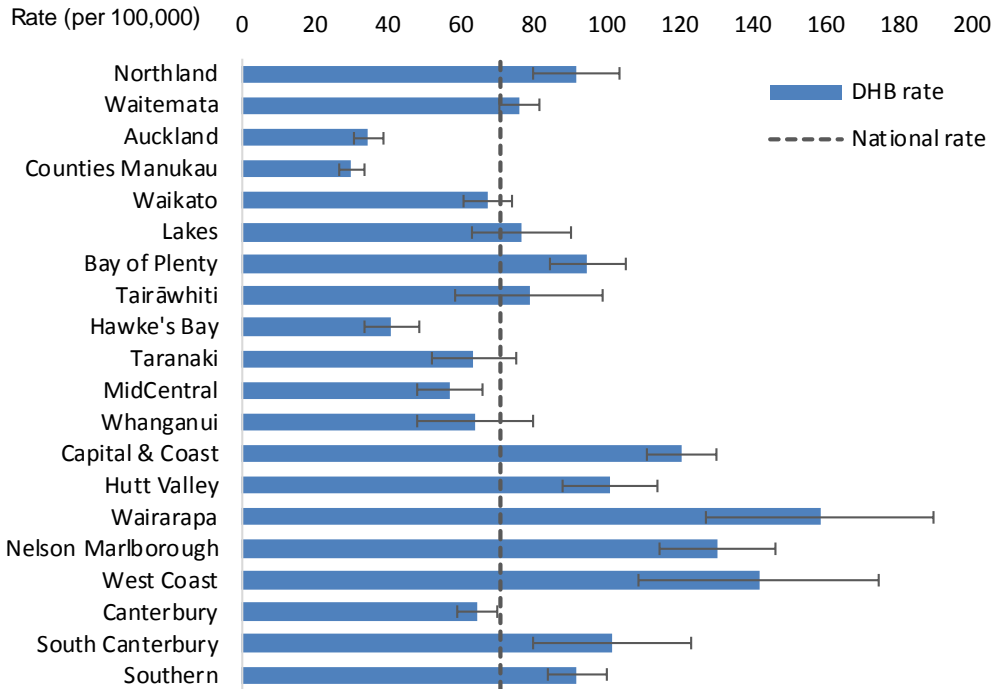
District health board region

Data for DHB regions has been aggregated over three years (2011–2013) because intentional self-harm hospitalisation rates can vary considerably from year to year. To ensure that data from 2013 is consistent with data from 2011 to 2012, short-stay ED events have been excluded from the data presented in this section.

The national rate for intentional self-harm hospitalisations, excluding short-stay ED events, for 2011–2013 was 71.0 per 100,000 population.

Nine DHB regions had significantly higher rates of intentional self-harm hospitalisations than the national rate. The highest rates were in Wairarapa and West Coast DHB regions (158.7 and 141.9 per 100,000 population respectively). DHB regions with significantly lower rates than the national rate were: Auckland, Counties Manukau, Hawke's Bay, MidCentral and Canterbury (Table A4, Figures 32 and 33).

Figure 32: Age-standardised rate of intentional self-harm hospitalisations, by DHB, 2011–2013

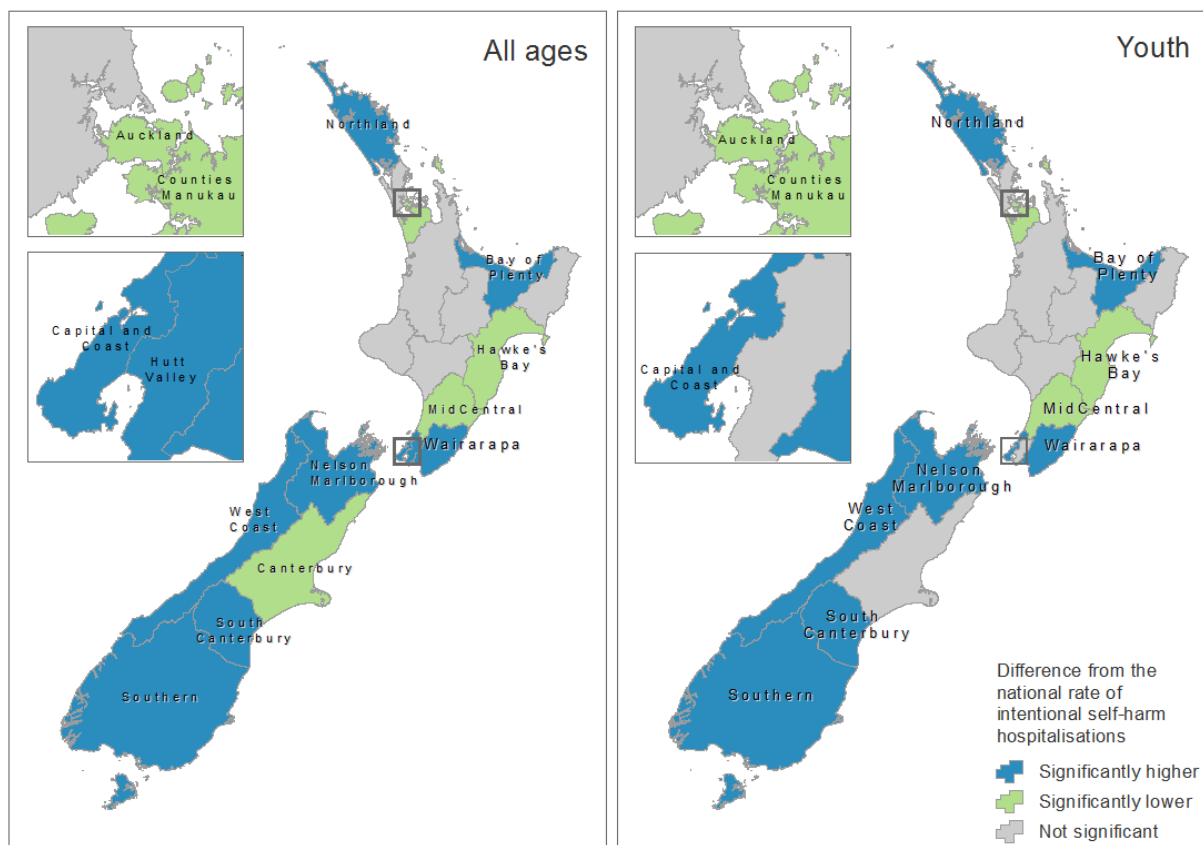


Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.
 Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.
 Error bars represent 99% confidence intervals. If a DHB region's confidence interval does not overlap the national suicide rate, the DHB rate is either statistically significantly higher or lower than the national rate.

Source: New Zealand National Minimum Dataset

Figure 33: Comparison of DHB region intentional self-harm hospitalisation rates with national rate, all ages and youth, 2011–2013



Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.

Intentional self-harm hospitalisation rates for all ages are expressed per 100,000 population and age standardised to the WHO World Standard Population (map on left).

Intentional self-harm hospitalisation rates for youth are age specific, expressed per 100,000 youth population (map on right).

Source: New Zealand Mortality Collection

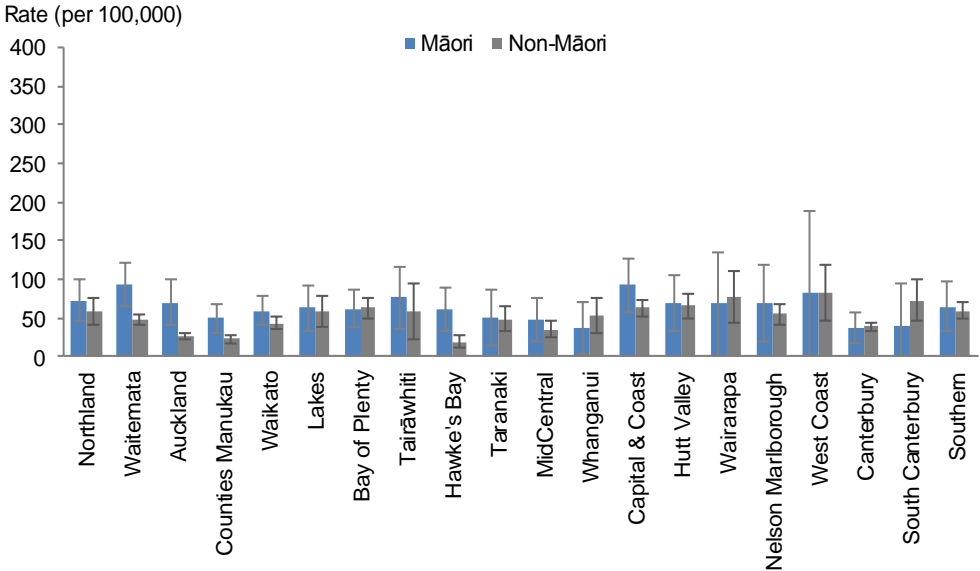
Māori and non-Māori comparison

There was considerable variation between DHB regions for Māori and non-Māori rates of intentional self-harm hospitalisations during 2011–2013.

Among Māori, the highest rates were in the Waitemata and Capital & Coast DHB regions for males and the West Coast DHB region for females. The highest non-Māori rates were in the West Coast DHB region for males and the Wairarapa DHB regions for females (Figures 34 and 35).

When the DHB region data is broken down into population subgroups, the numbers in some subgroups (for example, Māori males) are small and therefore should be treated with caution.

Figure 34: Age-standardised rate of intentional self-harm hospitalisations for males, by DHB, Māori and non-Māori, 2011–2013 (aggregated data)

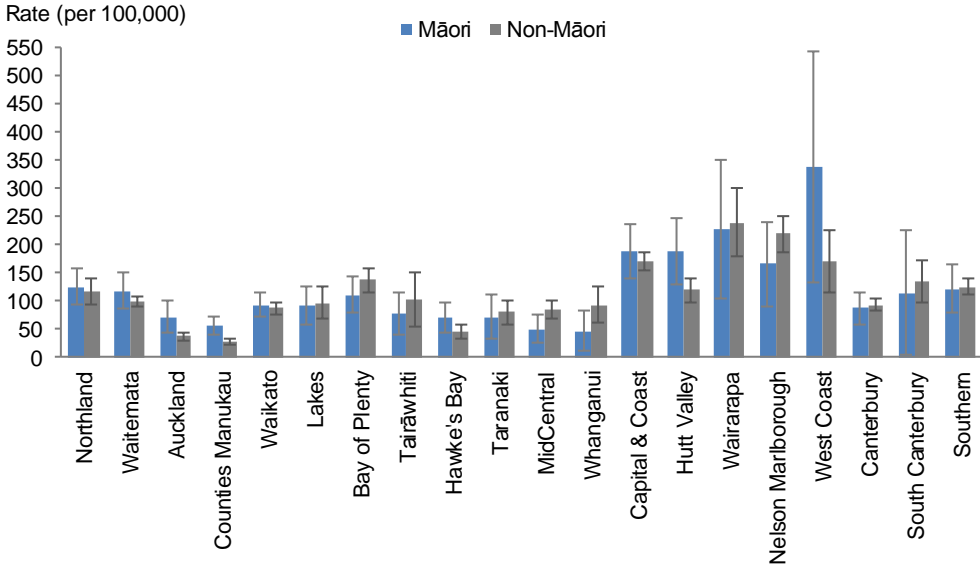


Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.
 Error bars represent 99% confidence intervals. If two confidence intervals do not overlap, there is considered to be a statistically significant difference between the two groups being compared.
 Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand National Minimum Dataset

Figure 35: Age-standardised rate of intentional self-harm hospitalisations for females, Māori and non-Māori, by DHB, 2011–2013 (aggregated data)



Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.
 Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.
 Error bars represent 99% confidence intervals. If two confidence intervals do not overlap, there is considered to be a statistically significant difference between the two groups being compared.

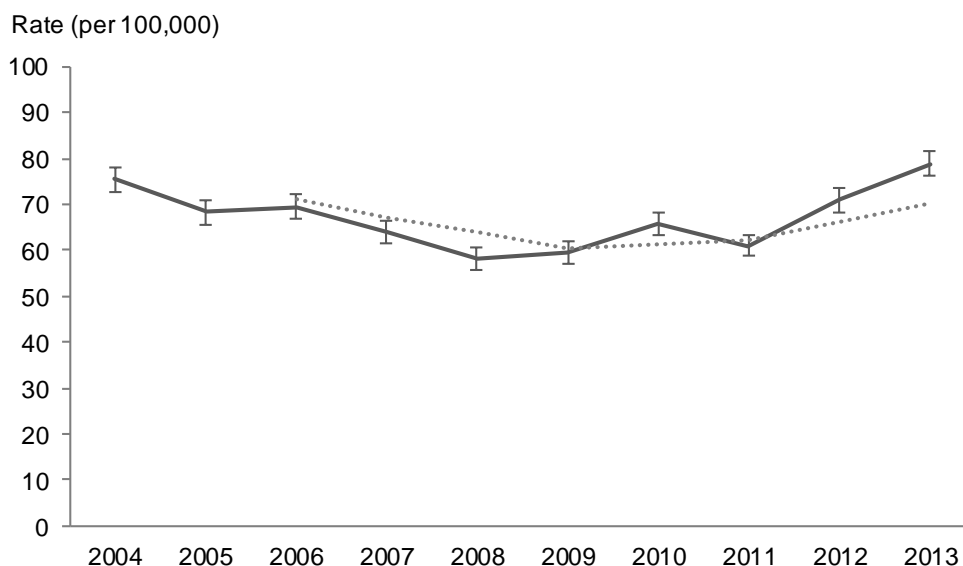
Source: New Zealand National Minimum Dataset

Trends over time

From 2004 to 2013, the rate of intentional self-harm hospitalisations, excluding short-stay ED events, increased by 4.6%. Rates had decreased from 2004 to 2008 but showed an upward trend more recently (Figure 36). The number of self-harm hospitalisations increased from 3000 in 2004 to 3328 in 2013.

Numbers and rates of intentional self-harm hospitalisations by sex (2004–2013) are provided in Table 15.

Figure 36: Age-standardised rate of intentional self-harm hospitalisations, 2004–2013



Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.

The dotted line represents the three-year moving average.

Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

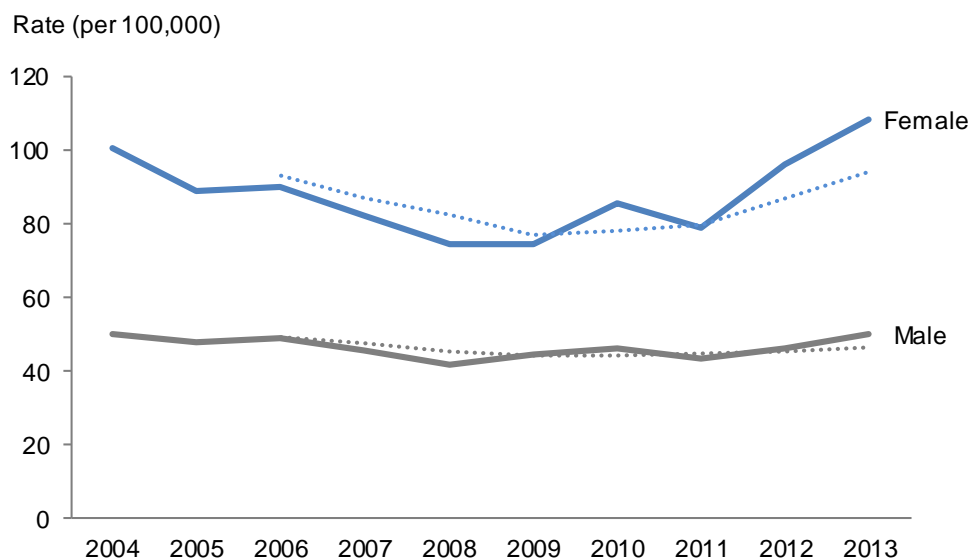
Error bars represent 95% confidence intervals. If two confidence intervals do not overlap, there is considered to be a statistically significant difference between the two groups being compared.

Source: New Zealand National Minimum Dataset

Sex

The rate of intentional self-harm hospitalisations for females remained at least 1.7 times greater than the male rate over the 10 years from 2004 to 2013. The rate for females was more variable than the male rate, decreasing in the first half of this period and then generally increasing from 2009 to 2013 (Figure 37). It is well documented that females are more likely to be hospitalised for intentional self-harm than males (Berry and Harrison 2006).

Figure 37: Age-standardised rate of intentional self-harm hospitalisations, by sex, 2004–2013



Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.

The dotted line represents the three-year moving average.

The rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand National Minimum Dataset

Table 15: Number and age-standardised rate of intentional self-harm hospitalisations, by sex, 2004–2013

Year	Male		Female		Total		Sex rate ratio (F:M)
	Number	Rate	Number	Rate	Number	Rate	
2004	982	50.1	2018	100.7	3000	75.5	2.0
2005	953	48.0	1790	88.7	2743	68.3	1.8
2006	991	48.8	1878	90.2	2869	69.6	1.8
2007	940	45.6	1746	82.4	2686	64.0	1.8
2008	877	41.9	1591	74.5	2468	58.2	1.8
2009	947	44.6	1592	74.7	2539	59.6	1.7
2010	990	46.1	1835	85.9	2825	66.0	1.9
2011	940	43.2	1708	79.0	2648	61.1	1.8
2012	1011	46.4	2020	96.1	3031	71.0	2.1
2013	1077	50.0	2251	108.3	3328	78.9	2.2

Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.

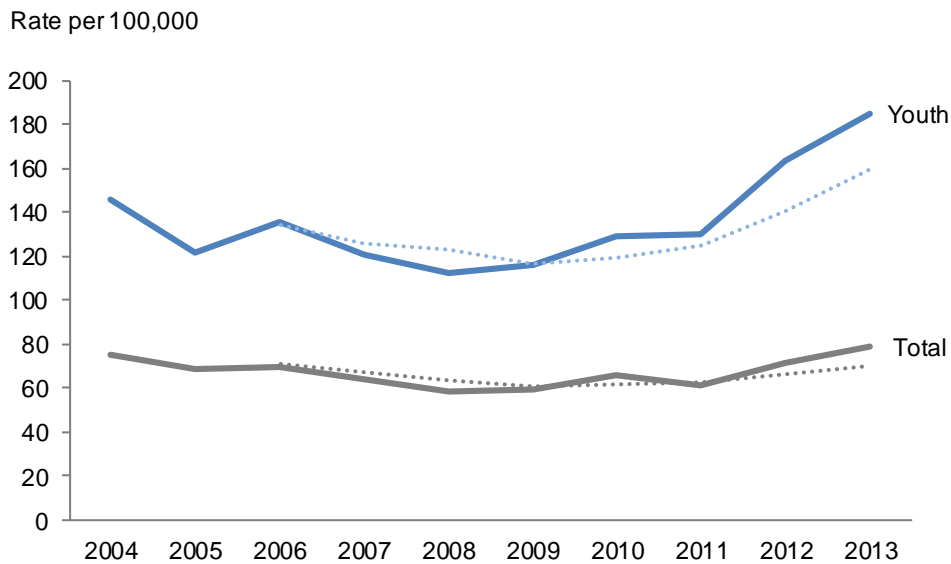
Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand National Minimum Dataset

Age

Between 2004 and 2013, approximately one in three intentional self-harm hospitalisations occurred in the youth age group (15–24 years). The rate for youth intentional self-harm hospitalisations was markedly higher than the rate of intentional self-harm hospitalisations for all ages for the duration of this period. After showing a decreasing trend from 2004 to 2008, the rate of intentional self-harm hospitalisations for youth has risen steadily in recent years (Figure 38, Table 16).

Figure 38: Age-standardised rate of intentional self-harm hospitalisations, for youth (15–24 years), 2004–2013



Notes:

The total rate is the rate for all ages.

Intentional self-harm hospitalisations do not include short-stay ED events.

The dotted line indicates the three-year moving average.

The rates are expressed per 100,000 population, and total rates are age standardised to the WHO World Standard Population.

Source: New Zealand National Minimum Dataset

Table 16: Number and age-specific rate of intentional self-harm hospitalisations, youth and total, 2004–2013

Year	Intentional self-harm hospitalisations, youth and total		Rate of intentional self-harm hospitalisation, youth and total	
	Youth (15–24 years)	Total	Youth (15–24 years)	Total
2004	858	3000	146.2	75.5
2005	727	2743	122.0	68.3
2006	820	2869	135.5	69.6
2007	739	2686	120.4	64.0
2008	699	2468	112.8	58.2
2009	729	2539	116.0	59.6
2010	827	2825	129.6	66.0
2011	834	2648	129.7	61.1
2012	1052	3031	163.8	71.0
2013	1161	3328	184.7	78.9

Notes:

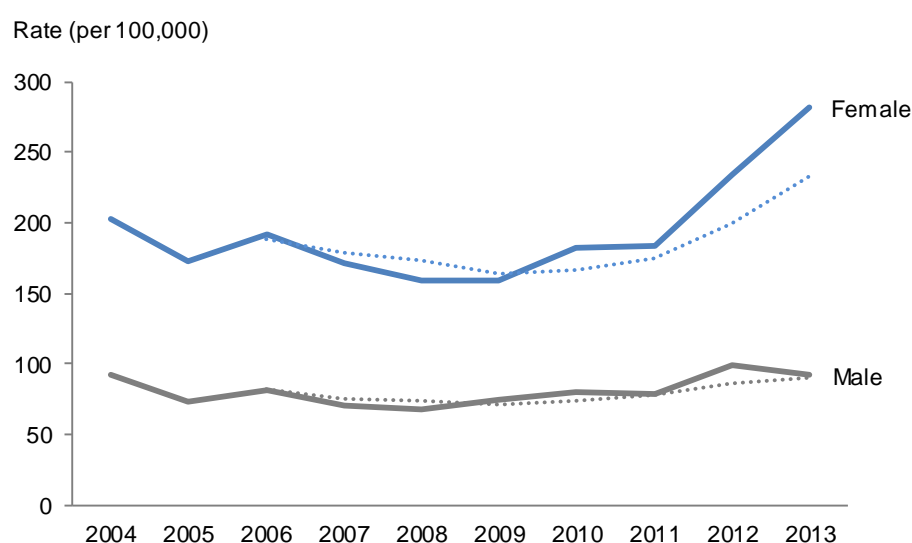
Intentional self-harm hospitalisations do not include short-stay ED events.

Rates are expressed per 100,000 population, and total rates are age standardised to the WHO World Standard Population.

Source: New Zealand National Minimum Dataset

For females in the youth age group (15–24 years), the rate of intentional self-harm hospitalisations was at least twice the rate for males each year. There was an upward trend for female youth rates of intentional self-harm hospitalisations from 2009, with the 2013 rate being the highest in the 10-year period. The rate of intentional self-harm hospitalisations for females in the youth age group increased by over 75% from 2009 to 2013 (Figure 39, Table 17).

Figure 39: Age-specific rate of youth (15–24 years) intentional self-harm hospitalisations, by sex, 2004–2013



Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.

The dotted line indicates the three-year moving average.

Rates are expressed per 100,000 population.

Source: New Zealand National Minimum Dataset

Table 17: Number and age-specific rate of youth (15–24 years) intentional self-harm hospitalisations, by sex, 2004–2013

Year	Male		Female		Total		Sex rate ratio (F:M)
	Number	Rate	Number	Rate	Number	Rate	
2004	278	92.7	580	202.1	858	146.2	2.2
2005	224	73.5	503	172.8	727	122.0	2.3
2006	247	80.9	573	191.1	820	135.5	2.4
2007	219	70.5	520	171.6	739	120.4	2.4
2008	214	68.0	485	159.0	699	112.8	2.3
2009	240	74.8	489	159.0	729	116.0	2.1
2010	262	80.0	565	181.7	827	129.6	2.3
2011	262	79.1	572	183.3	834	129.7	2.3
2012	326	98.4	726	233.7	1052	163.8	2.4
2013	293	91.6	868	281.2	1161	184.7	3.1

Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.

Rates are expressed per 100,000 population.

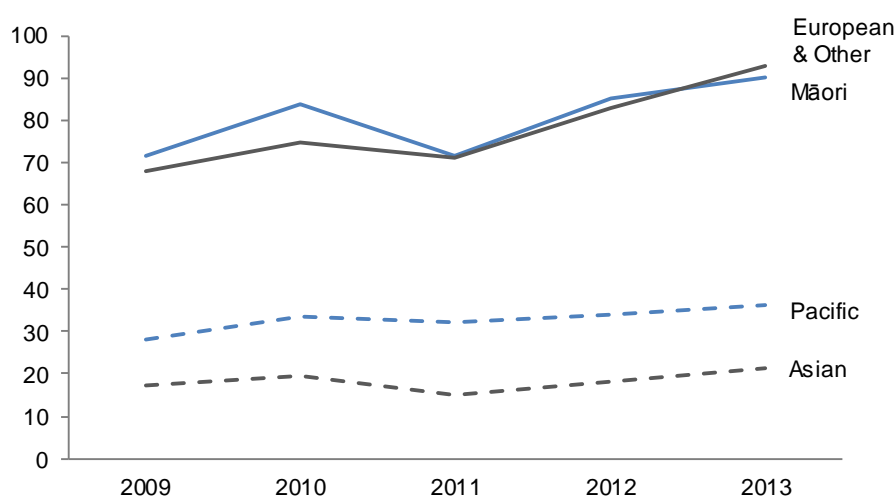
Source: New Zealand National Minimum Dataset

Ethnicity

Between 2009 and 2013, rates of intentional self-harm hospitalisations for Māori were similar to rates for the European and Other ethnic group. The rates for all ethnic groups have increased over this time period; the greatest percentage increase was for the European and Other ethnic group (36.4%). During this period, rates of intentional self-harm hospitalisations for both Māori and the European and Other ethnic group were at least twice the rates for Pacific peoples and at least four times the rates for the Asian ethnic group (Figure 40).

Figure 40: Age-standardised rate of intentional self-harm hospitalisations, by ethnic group, 2009–2013

Rate (per 100,000)



Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.

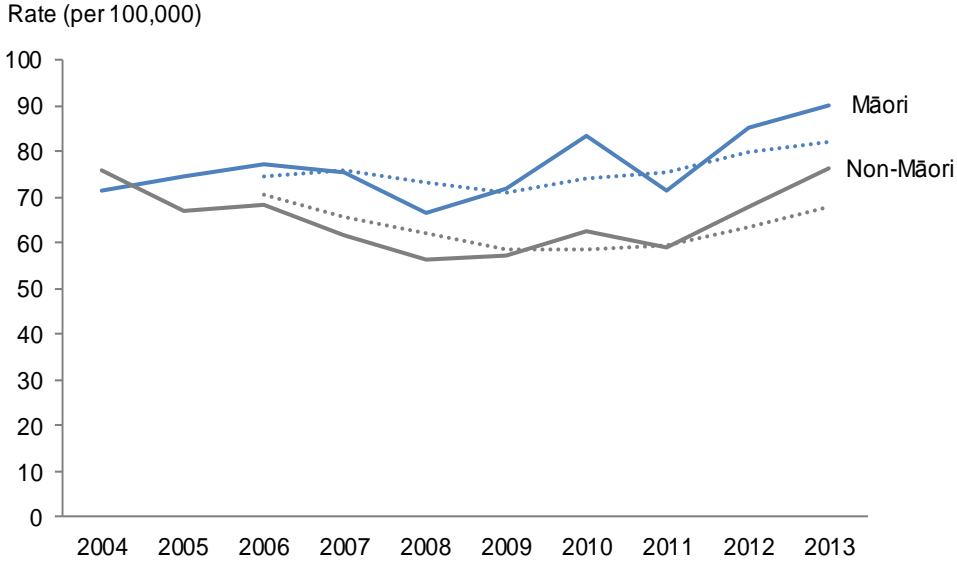
Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand National Minimum Dataset

Māori and non-Māori comparison

Between 2004 and 2013, rates for Māori intentional self-harm hospitalisations were variable, but in 2013, the rate was the highest in the 10-year period. The rates for non-Māori showed a slight decrease from 2004 to 2008 and then an increase to 2013. The difference in rates between Māori and non-Māori was significant in 2013 (Figure 41).

Figure 41: Age-standardised rate of intentional self-harm hospitalisations, Māori and non-Māori, 2004–2013



Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.
 The dotted line indicates the three-year moving average.

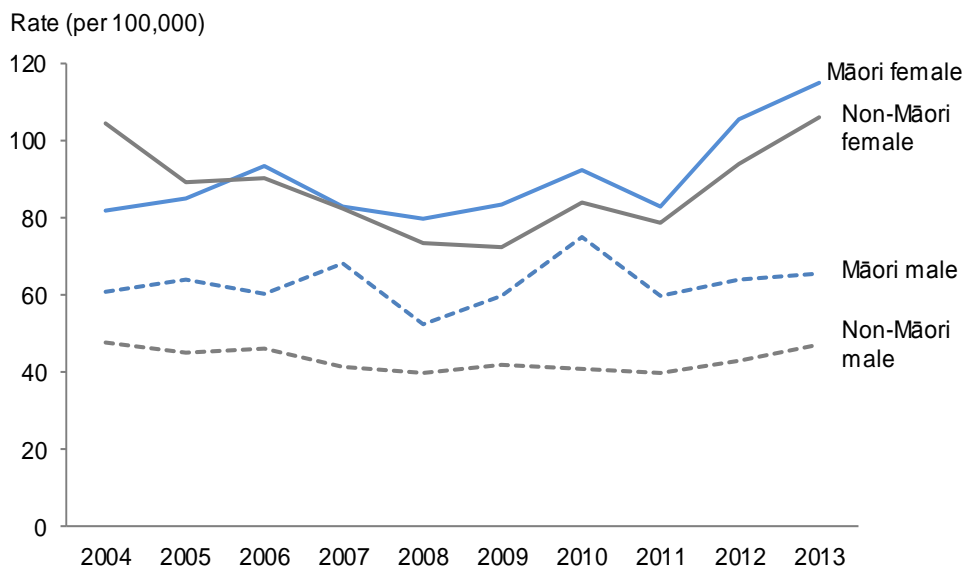
Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand National Minimum Dataset

From 2004 to 2013, the rates of intentional self-harm hospitalisations for females were higher than males for both Māori and non-Māori. During this 10-year period, the rate for non-Māori males remained stable, whereas the rate for Māori males varied.

For non-Māori females, there was a downward trend in rates of intentional self-harm hospitalisations between 2004 and 2009, after which rates increased. The rates for Māori females have also risen in recent years, but overall, the rates have been more variable during the 10-year period (Figure 42).

Figure 42: Age-standardised rate of intentional self-harm hospitalisations for Māori and non-Māori, by sex, 2004–2013



Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.

Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Source: New Zealand National Minimum Dataset

Youth (15–24 years)

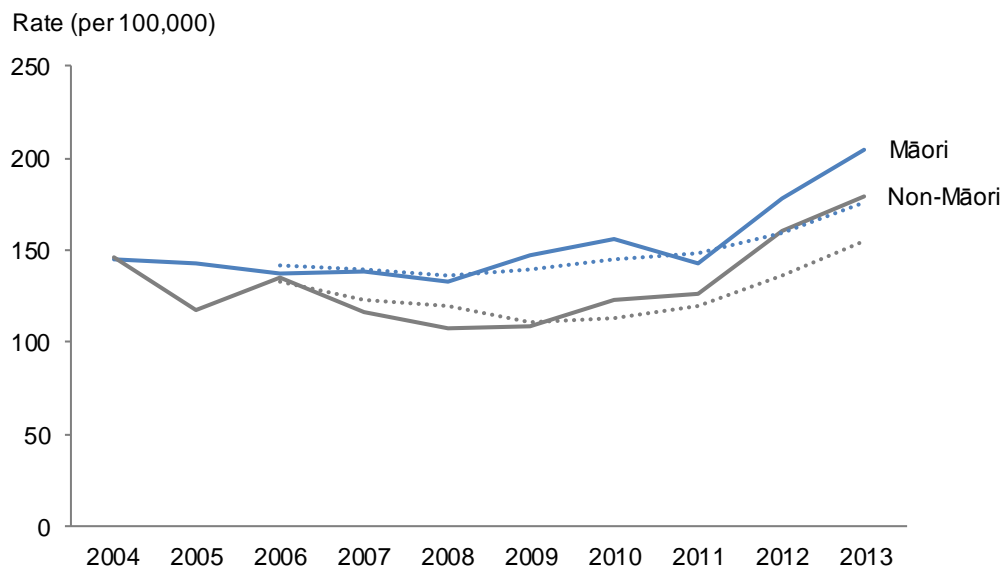
Between 2004 and 2013, the Māori youth rates of intentional self-harm hospitalisations were generally higher than the non-Māori youth rates. The highest rates in the 10-year period were in 2013 for both Māori and non-Māori (Figure 43).

Over the 10-year period, the rates of intentional self-harm for youth:

- were higher for Māori males than non-Māori males
- were not discernibly different for Māori and non-Māori females
- were higher among females than males for both Māori and non-Māori
- rose by 77% for Māori females (Figure 44).

Numbers and rates of youth intentional self-harm hospitalisations for Māori and non-Māori, by sex (2004–2013), are provided in Table 18.

Figure 43: Age-specific rate of youth (15–24 years) intentional self-harm hospitalisations, Māori and non-Māori, 2004–2013



Notes:

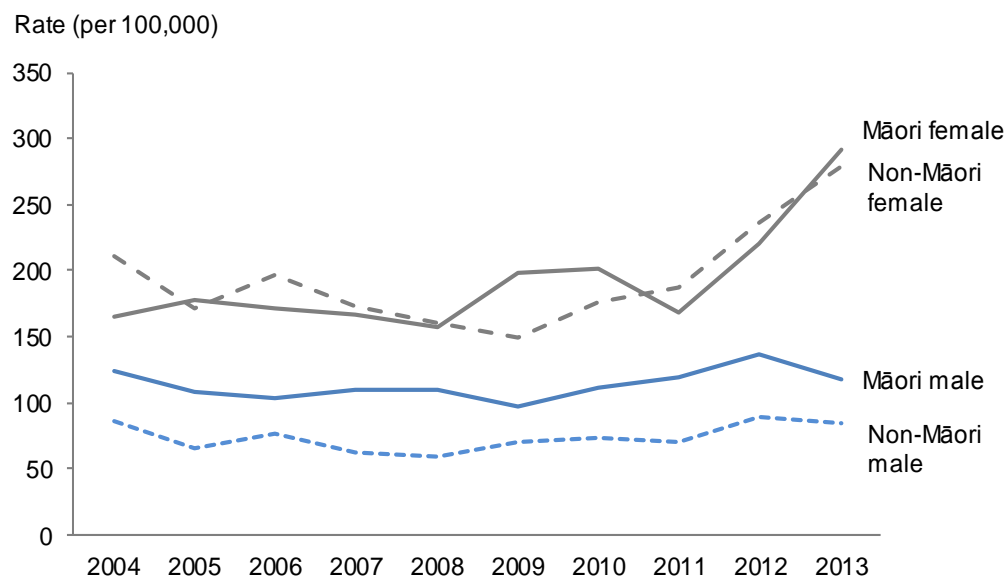
Intentional self-harm hospitalisations do not include short-stay ED events.

Rates are expressed per 100,000 population.

The dotted line indicates the three-year moving average.

Source: New Zealand National Minimum Dataset

Figure 44: Age-specific rates of youth (15–24 years) intentional self-harm hospitalisations, Māori and non-Māori, by sex, 2004–2013



Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.

Rates are expressed per 100,000 population.

Source: New Zealand National Minimum Dataset

Table 18: Number and age-specific rate of youth intentional self-harm hospitalisations, Māori and non-Māori, by sex, 2004–2013

Year	Māori						Non-Māori					
	Male		Female		Total		Male		Female		Total	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
2004	69	124.3	92	165.1	161	144.8	209	85.5	488	211.0	697	146.5
2005	62	107.9	102	177.6	164	142.8	162	65.5	401	171.6	563	117.1
2006	59	102.9	101	170.8	160	137.4	188	75.7	472	196.1	660	135.0
2007	64	110.0	99	166.8	163	138.7	155	61.4	421	172.7	576	116.1
2008	65	109.2	94	156.7	159	133.0	149	58.4	391	159.6	540	107.9
2009	59	96.4	121	199.0	180	147.5	181	69.7	368	149.1	549	108.4
2010	70	111.4	124	200.9	194	155.7	192	72.6	441	176.9	633	123.2
2011	76	118.5	105	168.6	181	143.2	185	69.3	468	187.4	653	126.3
2012	88	136.0	138	221.0	226	177.7	238	89.2	588	236.8	826	160.4
2013 ¹	75	117.9	187	291.5	262	205.1	218	85.1	681	278.6	899	179.5

Notes:

Intentional self-harm hospitalisations do not include short-stay ED events.

Rates are expressed per 100,000 population.

Source: New Zealand National Minimum Dataset

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Appendices

Appendix 1: Technical notes

Suicide deaths

Data sources

All New Zealand suicide data in this report was extracted from the Ministry of Health's (the Ministry's) Mortality Collection (MORT) on 5 October 2015. The data for other Organisation for Economic Co-operation and Development (OECD) countries was sourced from the OECD.

MORT contains data on all deaths registered in New Zealand. Death and stillbirth registration data is sent electronically to MORT monthly from Births, Deaths and Marriages (BDM). In addition, the Ministry receives medical certificates of causes of death (completed by certifying doctors) from funeral directors, as well as coronial findings relating to deaths from Coronial Services of New Zealand (Ministry of Justice). Each death is then assigned an underlying cause of death code by the Ministry of Health, using *The International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM), Sixth Edition* (National Centre for Classification in Health 2008) and the World Health Organization's ICD-10 rules and guidelines for mortality coding.

Classification of a suicide death

In New Zealand, a death is only officially classified as suicide by the coroner on completion of the coroner's inquiry. In some cases, an inquest may be heard several years after the death, particularly if there are factors relating to the death that need to be investigated first (for example, a death in custody). Consequently, a provisional suicide classification may be made before the coroner reaches a verdict.

The 2013 suicide data used in this report is provisional. There were 23 deaths registered in 2013 that were still subject to coroners' findings with no provisional cause of death assigned to them at the time of data extraction (5 October 2015). Although these deaths are not included in this report, some may be classified as suicide later. For this reason, the number of provisionally classified deaths from suicide in 2013 presented in this report may differ slightly from the number for 2013 presented in future reports, when the data has been finalised. The Ministry will release the final data in their serial publication of mortality and demographic data (2013).

The suicide data in this report is based on deaths that were registered in 2013 with BDM. While most deaths are registered in the year in which the death occurred, a few deaths (approximately 2%) are registered in later years.

Comparisons with other statistical publications on suicide

The number of suicide deaths in this report differs from the number released by the Chief Coroner. The Chief Coroner's data includes all deaths initially identified at the coroner's office as self-inflicted. However, only those deaths determined as 'intentionally self-inflicted' after investigation will receive a final verdict of suicide. Some deaths provisionally coded as suicide may be determined not to be suicide at a later date.

The Ministry reports on those deaths determined to be suicide after a completed coronial process or those provisionally coded as intentionally self-inflicted deaths before the final coroner's verdict. Furthermore, the Chief Coroner's data relates to years ending 30 June rather than the calendar years used in this report.

The Office of the Director of Mental Health releases an annual report that contains some statistics on suicide that are not included in this report. For further details, see: www.health.govt.nz/publication/office-director-mental-health-annual-report-2014

Caution should be taken when comparing hospital data in this publication with previous versions of this series.

Intentional self-harm hospitalisations

Data source

Intentional self-harm hospitalisation data presented in this report was extracted from the Ministry's National Minimum Dataset (NMDS) on 5 October 2015. The NMDS is a national collection of public and private hospital discharge information, including clinical information, for inpatients and day patients.

The NMDS is used for policy formation, performance monitoring, research and review. It provides statistical information that can be used in reports and analyses of trends in delivering hospital inpatient and day patient health services, both nationally and on a provider basis. It is also used for funding purposes.

Data has been submitted electronically in an agreed format by public hospitals since 1993.

Data exclusions

Before 2013, data for *Suicide Facts* was presented with the following exclusions:

1. Patients discharged from an emergency department (ED) after a length of stay of less than two days (Appendix 3, Table A5 in this report). It is evident from Table A5 that these ED short-stay events were reported very differently across individual district health boards (DHBs) between 2004 and 2013.
2. For data comparability purposes, the total number of self-harm hospitalisations excludes patients admitted for an intentional self-harm incident within two days of a previous intentional self-harm hospitalisation (Appendix 3, Table A6 in this report). It is not unusual for patients to be transferred between hospitals after an intentional self-harm event. DHBs record these transfers as new admissions. Such admissions usually occur within two days of a previous hospitalisation discharge, thereby artificially inflating the numbers of recorded admissions.

2013 was the first complete calendar year in which all DHBs reported intentional self-harm hospitalisations consistently. For the first time, data in this report presented for the year 2013 (as a stand-alone year) represents the total number of hospitalisations including short-stay ED events. This data set will exclude patients admitted for an intentional self-harm incident within two days of a previous intentional self-harm hospitalisation.

Data for the year 2013 used in a time series or DHB regional analysis will continue to exclude patients under the criteria of previous years. This will allow a consistent approach to identifying trends in intentional self-harm behaviour within the New Zealand population and will allow data to be aggregated over three years, which is necessary to present robust analysis at the smaller DHB level. The intentional self-harm hospitalisations data in this report, where it is reported over time or by DHB, does not represent the total number of people receiving hospital treatment for intentional self-harm or treatment events.

It is also important to note that hospitalisations for intentional self-harm represent individual events of self-harm rather than individual people; that is, a single person can contribute multiple unique intentional self-harm events to the data set or be hospitalised more than once for the same self-harm event. Although this data is more representative of the total hospitalisations from intentional self-harm, the total extent will still be difficult to capture because many people who intentionally self-harm do not seek hospital treatment.

Numbers and rates

Data is presented primarily as numbers and rates. Two rates are presented: age-specific and age-standardised. Age-specific rates are calculated to measure the frequency of suicide or self-harm hospitalisation for specific age groups (eg, five-year age groups and life-stage age groups). Age-standardised rates are calculated to measure the frequency of suicide or self-harm hospitalisations in a group and are adjusted to take account of differences in age distribution of the population over time or between groups.

Rates for specific groups (eg, Māori, females or people living in a deprived neighbourhood) are calculated using the best available population for that specific group. For example, a rate of suicide for males of 24.0 per 100,000 males means that for every 100,000 males in the population, 24 males died from suicide during the year. Caution is advised when interpreting rates derived from small numbers as they may fluctuate markedly over time. This may apply to both small numbers of cases and/or small population groups. Populations used in this report are described in more detail later in this section.

All percentage calculations comparing numbers or rates between years have been undertaken using the raw data. Due to rounding, this may mean the resulting information is slightly different to any calculations based on tabular data supplied in this report.

Population denominators

The estimated resident population for mean year ended 31 December was used for analyses by:

- age
- sex
- Māori and non-Māori.

The estimated resident population as at 30 June for each year was used for analyses by:

- prioritised ethnicity
- DHB
- deprivation quintile
- urban/rural profile.

All data sets were supplied as customised extracts from Statistics New Zealand. Further information about methods used to prepare estimates, as well as their limitations, is available on the Statistics New Zealand website (www.stats.govt.nz).

The standard population used in this report is the WHO World Population (Table A2) (Ahmad et al 2001).

District health board region rates

Age-standardised rates were calculated for each DHB region of domicile.

The suicide data for DHB regions was aggregated over five years (2009–2013), and the intentional self-harm hospitalisation data was aggregated over three years (2011–2013) since rates can vary considerably from year to year for each DHB.

When interpreting regional differences in hospitalisation rates for intentional self-harm among DHBs, it should be noted that DHBs differ in their reporting and patient management practices.

The figures also provide 99% confidence intervals to aid interpretation. Where a DHB region's confidence interval crosses the national rate, this means that the DHB region's suicide or intentional self-harm hospitalisation rate was not statistically significantly different from the national rate.

Previous versions of *Suicide Facts* presented information on Southland and Otago DHBs. In 2010, these two DHBs merged to form Southern DHB, therefore *Suicide Facts 2013* presents information for Southern DHB.

Time trends

Publication

Suicide data is presented either from 1948 to 2013 (comparable data first became available in 1948) or from 2004 to 2013 (to provide a 10-year time trend).

The majority of intentional self-harm hospitalisation data is presented from 2004 to 2013 to provide a 10-year time trend. Ethnicity data is presented over a five-year time period (2009–2013).

A moving average is used with time series to smooth out short-term fluctuations and highlight longer-term trends or cycles. The moving average in this report is the average of three consecutive years: the year at which the average is presented and the preceding two years.

Online tables

The accompanying suicide tables include data from 1948 to 2013 for major breakdowns and from 1996 to 2013 for Māori and non-Māori breakdowns. Intentional self-harm hospitalisation data is presented from 1996 to 2013. Hospitalisation data can only be compared consistently back to 1996 because of changes in the recording and reporting of ethnicity data from July 1995.

International comparisons

New Zealand data is for 2013, whereas all other countries' data is for years between 2009 and 2012.

A cautious approach is recommended when comparing international suicide statistics because many factors affect the recording and classification of suicide in different countries, including the level of proof required for a verdict; the stigma associated with suicide; the religion, social class or occupation of victims; and confidentiality (Andriessen 2006). As a result, deaths that are classified as suicide in some countries may be classified as accidental or of undetermined intent in others.

Furthermore, statistical measures, such as confidence intervals, cannot account for these differences. Providing such statistical measures may create a false sense of confidence in the recording of differences. Confidence intervals have therefore been excluded from the section on international comparisons in this report.

Serious injury outcome indicators reports

Statistics New Zealand produces the annual outcome indicators reports (see Statistics New Zealand 2014). These reports monitor numbers and rates of suicide death. The information for the reports is sourced from MORT and is therefore broadly comparable with the information published in *Suicide Facts*. MORT is a dynamic database, and any small discrepancies in data between it and *Suicide Facts* are due to updates to database records.

The serious injury outcome indicators reports also present data on 'serious non-fatal intentional self-harm injury'. These indicators cover only a subset of the self-harm hospitalisation data held within *Suicide Facts* and therefore cannot be directly compared.

For more information and access to the serious injury outcome indicators technical report for 2014, please see the Statistics New Zealand webpage:
www.stats.govt.nz/browse_for_stats/health/injuries/serious-injury-outcome-tech-report-2014.aspx

If you require further information about the methodology, classifications and processes used, and how they differ between publications, please contact: data-enquiries@moh.govt.nz

Appendix 2: Definitions

Intentional self-harm codes and definitions

For the years 2000–2013, *The International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM)* codes used for mortality and hospitalisation data were X60–X84: Intentional self-harm (National Centre for Classification in Health 2008) (Table A1).

Before the year 2000, the codes used were E950–E959: Suicide and self-inflicted injury from the *Australian Version of The International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM)*, National Coding Centre, 1996.

Code E959 was excluded from pre-2000 hospitalisation data in this report because it covers ‘late effects’ and hence is not relevant to current episodes.

Table A1: Intentional self-harm categories and ICD-10-AM codes

Category	ICD-10-AM code	ICD-10-AM code description
Poisoning by solids and liquids	X60	Intentional self-poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics
	X61	Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified
	X62	Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified
	X63	Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system
	X64	Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances
	X65	Intentional self-poisoning by and exposure to alcohol
	X68	Intentional self-poisoning by and exposure to pesticides
	X69	Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances
Poisoning by gases and vapours	X66	Intentional self-poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours
	X67	Intentional self-poisoning by and exposure to other gases and vapours
Hanging, strangulation and suffocation	X70	Intentional self-harm by hanging, strangulation and suffocation
Submersion (drowning)	X71	Intentional self-harm by drowning and submersion
Firearms and explosives	X72	Intentional self-harm by handgun discharge
	X74	Intentional self-harm by other and unspecified firearm discharge
	X75	Intentional self-harm by explosive material
Sharp object	X78	Intentional self-harm by sharp object
Jumping from a high place	X80	Intentional self-harm by jumping from a high place

Category	ICD-10-AM code	ICD-10-AM code description
Other	X76	Intentional self-harm by smoke, fire and flames
	X77	Intentional self-harm by steam, hot vapours and hot objects
	X79	Intentional self-harm by blunt object
	X81	Intentional self-harm by jumping or lying before moving object
	X82	Intentional self-harm by crashing of motor vehicle
	X83	Intentional self-harm by other specified means
	X84	Intentional self-harm by unspecified means

Note: In Table 10, 'sharp object' and 'jumping from a high place' were grouped under 'Other'.

Source: National Centre for Classification in Health 2008

Analytical methods definitions

Age-specific rates

An age-specific rate measures the frequency with which an event occurs relative to the number of people in a defined age group. In *Suicide Facts*, age-specific rates are given in both five-year age groups and life-stage age groups.

Age-standardised rates and rate ratios

An age-standardised rate is a rate that has been adjusted to take account of differences in the age distribution of the population over time or between different groups (for example, different ethnic groups). An age-standardised rate ratio is the ratio of two groups' rates, taking into account differences in the groups' size and age structure.

This report has used the WHO World Standard Population in determining direct age-standardised rates and rate ratios (Table A2) (Ahmad et al 2001).

Table A2: WHO World Standard Population

Age group (years)	Population
0–4	8860
5–9	8690
10–14	8600
15–19	8470
20–24	8220
25–29	7930
30–34	7610
35–39	7150
40–44	6590
45–49	6040
50–54	5370
55–59	4550
60–64	3720
65–69	2960
70–74	2210
75–79	1520
80–84	910
85+	635
Total	100,035

Source: Ahmad et al 2001

Confidence intervals and statistical significance

The confidence intervals in this report have been calculated for age-standardised rates at the 95% level, except for rates for DHB data, which have been calculated at the 99% level.

A confidence interval is a range of values used to describe the uncertainty around a single value (such as an age-standardised rate). Confidence intervals describe how different the estimate could have been if chance had led to a different set of data. Confidence intervals are calculated with a stated probability, typically 95% (which would indicate that there is a 95% chance that the true value lies within the confidence interval).

Confidence intervals can assist in comparing rates between different groups. If two confidence intervals do not overlap, then it is reasonable to assume that any difference between the two groups being compared is not due to chance. If they do overlap, it is not possible to draw any conclusion about the significance of any difference between the two groups being compared.

Numbers, rates and ratios

The number of suicide deaths refers to the number of people who have died by suicide. The number of intentional self-harm hospitalisations refers to the number of discharges from hospital with an intentional self-harm code on the patient's record.

The rate of suicide or intentional self-harm hospitalisations refers to the frequency with which these events occur relative to the number of people in a defined population and a defined time period.

The rate ratio refers to the frequency with which these events are reported in one population group compared with other groups.

Other definitions

Admission

The process by which a person becomes a resident in a health care facility. For the purposes of the Ministry of Health's (the Ministry's) national collections, health care users who receive assessment and/or treatment for three hours or more or who have a general anaesthetic are to be admitted. This also applies to health care users of emergency departments (ED). 'Assessment/treatment' is clinical assessment, treatment, therapy, advice, diagnostic or investigatory procedures from a nurse or doctor or other health professional.

Deprivation

Deprivation has been associated with various adverse health outcomes. From the social inequalities literature, it is evident that those who are most deprived generally experience poorer health (Benzeval et al 2001; White et al 2008). Suicide mortality and hospitalisation rates for intentional self-harm are presented in this report by deprivation quintile according to the New Zealand Deprivation Index 2006 (NZDep2006) (Salmond et al 2007).

The New Zealand Deprivation Index is a measure of socioeconomic status calculated for small geographic areas. The calculation uses a range of variables from the 2006 Census of Population and Dwellings that represent nine dimensions of social deprivation. The deprivation index is calculated at the level of meshblocks (the smallest geographical units that Statistics New Zealand uses to collect and measure statistical data, containing a median of 90 people), and the Ministry maps these meshblocks to domicile codes, which are built up to the relevant geographic scale using weighted average census (usually resident population) counts.

The nine variables (proportions in small areas) in the index, by decreasing weight, are:

1. income: people aged 18–64 years² receiving a means-tested benefit
2. income: people living in an equivalised³ household whose income is below a certain threshold
3. home ownership: people not living in their own home
4. support: people aged under 65 years living in a single-parent family
5. employment: people aged 18–64 years who are unemployed
6. qualifications: people aged 18–64 years without any qualifications
7. living space: people living in an equivalised household below a bedroom occupancy threshold
8. communication: people with no access to a telephone
9. transport: people with no access to a car.

² The upper age boundary of 65 years has been increased from the NZDep2001 value of 60 years to better reflect societal norms.

³ Equivalisation is a method used to control the range of possible household compositions.

Further information is available from www.health.govt.nz (search for ‘NZDep2006 Index of Deprivation’).

Ethnicity

There are different methods for outputting ethnicity data. This report uses ‘prioritised ethnicity’, where each person represented in the data is allocated to a single ethnic group using the priority system Māori > Pacific peoples > Asian > European/Other (Ministry of Health 2004). The aim of prioritisation is to ensure that, where it is necessary to assign people to a single ethnic group, ethnic groups that are small or important in terms of policy are not swamped by the European ethnic group (Ministry of Health 2004). This is a more robust method of dealing with the low rate of multiple ethnicities in health-sector data.

This report uses two ethnic classifications for analysing suicides and intentional self-harm hospitalisations. The first comprises Māori, Pacific peoples, Asian and European/Other and the second divides the population into Māori and non-Māori.

Before 1996, the concept of ethnicity was based on biological race (that is, percentage of blood), as recorded on death registration forms, and on a sociocultural concept (that is, cultural affiliation), as defined in the census. Since September 1995, death certificates have included a question comparable with the self-identified ethnicity question in the 1996 Census, which allows a person to have multiple ethnic identities. New Zealand Census Mortality Study (NZCMS) adjustors can be applied to mortality counts from 1996 to 1999 (Blakely 2002). This process adjusts data to allow for an undercount of Māori and Pacific peoples. The NZCMS adjustors are not used in this report. From 2000 onwards, comparisons across all ethnic groups have been possible because adjustors are not necessary. For further discussion on inconsistencies in ethnicity collection, refer to *Decades of Disparity* (Ajwani et al 2003).

Provisional data

The label ‘provisional’ relates to information that is not final; that is, it is subject to change. See the introduction to the ‘Suicide deaths’ chapter for more information.

Urban/rural profile

This report includes a classification of deaths by the urban/rural profile of the person committing suicide. The address recorded on the person’s death certificate is used to determine whether the person’s place of residence was urban or rural. Statistics New Zealand has developed an experimental urban/rural profile, which was used to allocate a profile to people committing suicide for the data in this report. For more information on urban/rural profiles, see: www.stats.govt.nz/browse_for_stats/Maps_and_geography/Geographic-areas/urban-rural-profile-update.aspx

Appendix 3: Further tables

Table A3: Suicide age-standardised rates, by DHB regions, 2009–2013

DHB region	Total rate ¹	CI	Youth rate ²	CI
Northland	14.8	(11.2–18.5)	33.9	(18.7–49.1)
Waitemata	9.4	(7.9–10.9)	12.8	(8.0–17.5)
Auckland	8.4	(6.9–9.9)	12.9	(8.1–17.8)
Counties Manukau	10.4	(8.7–12.1)	22.8	(16.4–29.2)
Waikato	11.3	(9.3–13.3)	18.2	(11.5–24.9)
Lakes	16.7	(11.9–21.5)	32.9	(14.8–51.0)
Bay of Plenty	15.9	(12.6–19.2)	33.3	(20.1–46.6)
Tairāwhiti	12.7	(6.4–19.0)	22.0	(0.6–43.4)
Hawke's Bay	14.4	(10.8–18.0)	28.8	(14.8–42.8)
Taranaki	13.4	(9.5–17.4)	15.7	(3.5–28.0)
MidCentral	15.2	(11.8–18.7)	29.5	(17.0–41.9)
Whanganui	13.6	(8.2–19.1)	15.0	(-0.8–30.8)
Capital & Coast	7.7	(5.9–9.5)	13.6	(7.3–20.0)
Hutt Valley	11.7	(8.5–14.9)	19.8	(8.1–31.6)
Wairarapa	20.0	(11.3–28.8)	38.5	(5.4–71.5)
Nelson Marlborough	10.0	(7.0–12.9)	14.5	(3.2–25.8)
West Coast	14.0	(6.5–21.5)	21.0	(-6.0–48.0)
Canterbury	12.0	(10.3–13.8)	16.6	(11.0–22.2)
South Canterbury	19.1	(12.1–26.2)	59.6	(24.4–94.8)
Southern	13.6	(11.2–16.0)	21.2	(13.5–29.0)
National	11.5	(11.0–12.2)	19.9	(17.8–22.0)

Notes:

Rates were calculated based on the total number of suicides between 2009 and 2013. The denominator population for the national suicide rate is the aggregated estimated national resident population for 2009–2013.

Confidence intervals (CI) are for 99% confidence (lower limit–upper limit).

1 Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

2 Rates are age specific, expressed as deaths per 100,000 population.

Source: New Zealand Mortality Collection

Table A4: Intentional self-harm hospitalisation age-standardised rates, by DHB of domicile and sex, 2011–2013

DHB region	Sex					
	Male		Female		Total	
	Rate	CI	Rate	CI	Rate	CI
Northland	64.1	(49.4–78.8)	119.2	(100.0–138.3)	91.9	(79.8–104.0)
Waitemata	52.1	(45.5–58.7)	100.5	(91.4–109.7)	76.3	(70.7–81.9)
Auckland	29.8	(24.5–35.0)	40.0	(33.8–46.1)	34.7	(30.7–38.7)
Counties Manukau	26.6	(21.6–31.5)	34.1	(28.6–39.6)	30.2	(26.5–33.9)
Waikato	47.5	(39.8–55.2)	87.8	(77.4–98.3)	67.7	(61.2–74.2)
Lakes	63.3	(45.9–80.7)	90.5	(69.9–111.2)	76.7	(63.2–90.1)
Bay of Plenty	62.6	(50.4–74.8)	127.4	(110.2–144.6)	95.0	(84.5–105.6)
Tairāwhiti	67.9	(40.6–95.2)	90.5	(59.9–121.1)	78.9	(58.5–99.3)
Hawke's Bay	31.6	(22.1–41.1)	50.4	(38.4–62.3)	41.1	(33.4–48.8)
Taranaki	49.0	(34.6–63.4)	78.8	(60.3–97.2)	63.7	(52.0–75.3)
MidCentral	37.7	(27.3–48.1)	76.2	(61.5–91.0)	57.1	(48.1–66.2)
Whanganui	50.7	(31.0–70.4)	78.1	(53.1–103.0)	64.1	(48.3–79.9)
Capital & Coast	67.0	(56.8–77.2)	171.7	(155.7–187.6)	120.9	(111.3–130.4)
Hutt Valley	68.3	(53.2–83.4)	132.8	(112.4–153.2)	101.1	(88.4–113.8)
Wairarapa	78.0	(47.0–109.0)	239.8	(185.0–294.6)	158.7	(127.3–190.2)
Nelson Marlborough	56.0	(42.2–69.7)	208.0	(178.7–237.3)	130.6	(114.6–146.6)
West Coast	85.3	(50.1–120.5)	198.7	(142.2–255.2)	141.9	(108.7–175.1)
Canterbury	38.1	(32.4–43.8)	92.2	(82.8–101.7)	64.5	(59.0–69.9)
South Canterbury	70.4	(45.3–95.6)	133.3	(97.5–169.1)	101.6	(79.8–123.4)
Southern	60.6	(51.1–70.0)	123.0	(109.4–136.6)	92.1	(83.8–100.5)
National	47.4	(45.1–49.6)	94.7	(91.5–97.8)	71.0	(69.1–73.0)

Notes:

Rates are expressed per 100,000 population and age standardised to the WHO World Standard Population.

Rates were calculated based on the total number of intentional self-harm hospitalisations excluding short-stay ED events between 2011 and 2013.

For the national rate, the denominator population is the aggregated estimated resident population for 2011–2013.

Confidence intervals (CI) are for 99% confidence (lower limit–upper limit).

Source: New Zealand National Minimum Dataset

Table A5: Intentional self-harm short-stay ED hospitalisations, by DHB of domicile, 2004–2013

DHB of domicile	Year of discharge									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Northland	43	55	73	65	63	79	88	78	104	76
Waitemata	320	310	369	422	468	433	387	368	474	395
Auckland	444	419	489	462	518	497	531	463	555	606
Counties Manukau	373	451	436	468	505	481	546	568	625	652
Waikato	203	224	245	71	148	248	310	368	356	436
Lakes	56	59	53	53	75	59	53	82	92	85
Bay of Plenty	12	5	22	70	91	94	92	118	122	130
Tairāwhiti	0	0	0	0	0	2	8	4	6	5
Taranaki	7	1	0	0	25	62	76	63	73	92
Hawke's Bay	0	0	43	67	88	150	175	174	176	174
MidCentral	19	114	131	181	177	190	192	182	200	224
Whanganui	13	11	16	18	44	89	77	80	84	87
Capital & Coast	3	2	7	1	20	215	317	250	226	184
Hutt Valley	0	0	0	0	0	0	0	32	56	99
Wairarapa	0	0	0	0	0	0	1	6	16	27
Nelson Marlborough	0	0	0	0	18	50	64	69	92	127
West Coast	9	23	3	4	0	1	0	2	2	4
Canterbury	408	443	519	427	514	497	566	559	507	599
South Canterbury	1	0	0	0	0	0	0	0	0	0
Southern	155	137	139	152	131	154	175	166	276	308
Non-DHB agency	15	12	4	2	10	11	7	11	12	5
Total	2081	2266	2549	2463	2895	3312	3665	3643	4054	4315

Notes:

'Short stay' is defined as a stay of one day or less in an emergency department (ED).

In 2010, Southland and Otago DHBs merged to form Southern DHB. Data for Southern DHB is an aggregate of Southland and Otago DHB data for the years 2003–2009.

Source: New Zealand National Minimum Dataset

Table A6: Intentional self-harm hospitalisations within two days of a previous intentional self-harm hospitalisation, by DHB of domicile, 2004–2013

DHB of domicile	Year of discharge									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Northland	20	15	8	13	11	12	23	12	13	8
Waitemata	58	34	45	45	43	32	49	33	55	48
Auckland	27	19	16	16	23	31	30	16	39	39
Counties Manukau	11	10	10	15	13	5	3	10	9	6
Waikato	41	51	28	31	27	43	31	24	41	43
Lakes	6	3	6	11	7	9	9	6	10	16
Bay of Plenty	23	20	10	21	21	19	27	21	53	41
Tairāwhiti	3	5	2	7	3	6	5	4	6	8
Taranaki	17	20	25	19	18	16	21	11	20	10
Hawke's Bay	2	1	8	1	4	0	4	4	0	2
MidCentral	21	11	15	11	9	5	12	2	8	13
Whanganui	0	1	0	5	1	0	3	4	4	2
Capital & Coast	14	7	8	12	10	15	50	24	27	31
Hutt Valley	12	9	10	16	5	9	17	10	24	24
Wairarapa	2	0	2	1	8	0	3	3	6	4
Nelson Marlborough	5	5	8	7	3	8	7	8	31	17
West Coast	10	14	9	10	9	7	7	4	2	2
Canterbury	82	57	50	29	15	14	23	12	28	29
South Canterbury	6	3	6	3	1	2	2	4	1	4
Southern	15	15	15	22	12	35	50	65	65	84
Overseas and undefined	0	2	1	1	0	1	1	2	1	0
Total	375	302	282	296	243	269	377	279	443	431

Notes:

This data is displayed using the DHB of domicile rather than the DHB agency as many hospitalisations within two days of discharge take place in different DHBs.

This data excludes short-stay ED events.

In 2010, Southland and Otago DHBs merged to form Southern DHB. Data for Southern DHB is an aggregate of Southland and Otago DHB data for the years 2003–2009.

Source: New Zealand National Minimum Dataset

Further information

General information about suicide prevention

To find out more about suicide and suicide prevention (including information about *The New Zealand Suicide Prevention Strategy 2006–2016*, Associate Minister of Health 2006), see the Ministry of Health's suicide prevention webpage:

www.health.govt.nz/our-work/mental-health-and-addictions/suicide-prevention

Statistics

A set of online tables accompanies this report and provides underlying data for some graphs presented in the report, as well as time-series data.

For health data, including suicide statistics, contact:

Analytical Services
National Collections and Reporting
Client Insights and Analytics
Ministry of Health
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Wellington
Phone: (04) 496 2000
Fax: (04) 816 2898
Email: data-enquiries@moh.govt.nz
Website: www.health.govt.nz

Earlier copies of this publication

To download copies of *Suicide Facts* for previous years, see the Ministry of Health webpage: www.health.govt.nz/nz-health-statistics/health-statistics-and-data-sets/suicide-facts-deaths-and-intentional-self-harm-hospitalisations-series