

Hospitalisation for Intentional Self-harm in 2007 (provisional)

There are more than 2500 admissions to hospital every year for intentional self-harm where the admitted person stayed longer than 48 hours and was admitted via the emergency department. It is important to recognise that the motivation for intentional self-harm varies, and therefore hospitalisation data is not a measure of attempts to take one's life by suicide.

The data

This release deals with admissions to hospital for intentional self-harm, focusing on 2007. Data has also been extracted from 1996 onwards for comparison of trends. Please note that the data used in this publication has been filtered in a different way to the data used in publications prior to *Suicide Facts: Deaths and intentional self-harm hospitalisations 2006*.

It is extremely important to note that a large subset of the data has been removed, for the following reasons. District Health Boards have different admission practices, which result in differences in the reporting of data. Therefore, to allow meaningful comparison, certain events have been removed. The excluded data represents any admission for a patient who was admitted via the emergency department but had a length of stay of less than 48 hours.

By removing inconsistent data in this way, any trends that are found within the data are much more likely to be due to changes in the population rather than changes in administrative procedures within or across District Health Boards. The data set used for this online report is therefore concentrating mostly on admissions for stays of two days or more, because anyone who has had a short stay (admitted via the emergency department) has been removed from the analysis.

It is also important to note that any readmissions for a self-harm incident within two days of a previous admission for self-harm have not been counted in this data. It is common for patients to be transferred between hospitals after a self-harm event, and in many cases the transfer was being counted as an additional admission.

Overview

Taking into account the fact that a subset of the data has been removed (as explained above), the total number of hospitalisations for intentional self-harm has shown a steady decrease since 1996.

Table 1 shows a decline from 3030 hospitalisations in 1996 to 2678 hospitalisations in 2007. When expressed as an age-standardised rate per 100,000 population, there has also been a significant downward trend, from a rate of 85.8 in 1996 to a rate of 63.9 in 2007, which equates to a drop of 25.6 percent (see Figure 1).

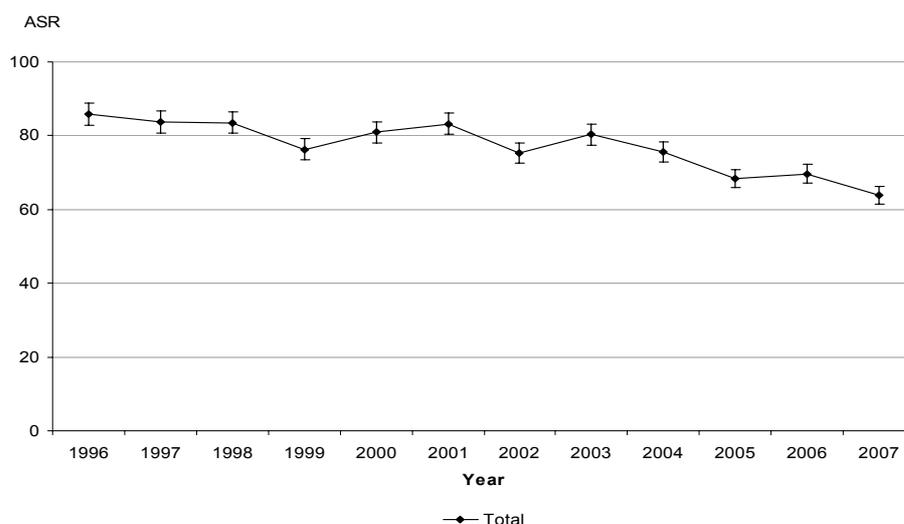
Table 1: Numbers and rates of hospitalisations for intentional self-harm, 1996–2007 (2007 provisional)

Year	Total	
	Number	Rate
1996	3030	85.8
1997	3074	83.8
1998	3103	83.6
1999	2836	76.3
2000	3017	81.0
2001	3136	83.3
2002	2902	75.3
2003	3142	80.3
2004	3000	75.5
2005	2743	68.4
2006	2868	69.7
2007	2678	63.9

Source: New Zealand National Minimum Dataset

Note: The rate shown is the age-standardised rate per 100,000 population, standardised to World Health Organization population tables.

Figure 1: Hospitalisation rates for intentional self-harm, 1996–2007 (2007 provisional)



Source: New Zealand National Minimum Dataset

Note: ASR (age-standardised rate) is the age-standardised rate per 100,000 population, standardised to the World Health Organization population tables.

Sex

It is well documented that females are more likely to be hospitalised for self-harm than males (Berry and Harrison 2006). In 2007 there were 1741 hospitalisations for females compared to 937 for males. Expressed as an age-standardised rate, this represents 82.2 hospitalisations per 100,000 females and 45.4 hospitalisations per 100,000 males (see Figure 2).

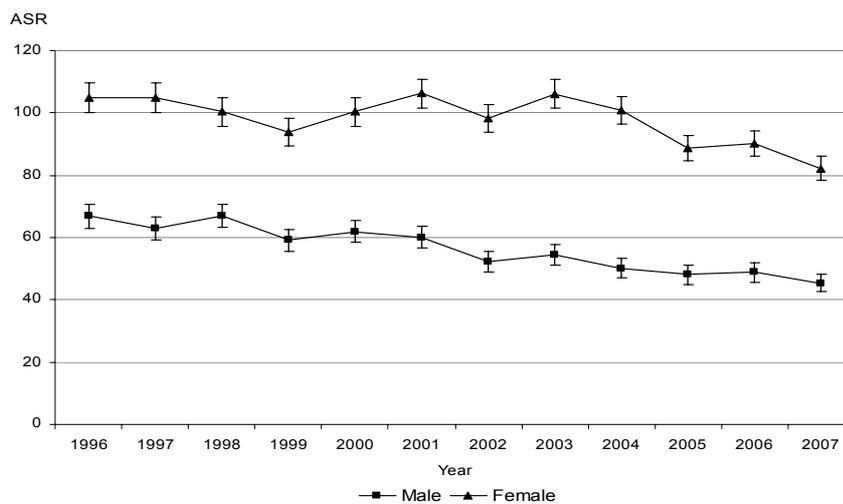
Table 2: Male and female hospitalisations for intentional self-harm, numbers and rates, 1996–2007 (2007 provisional)

Year	Male		Female		F:M Rate Ratio
	Number	Rate	Number	Rate	
1996	1173	66.8	1857	104.9	1.6:1
1997	1156	63.1	1918	104.9	1.7:1
1998	1229	66.9	1874	100.3	1.5:1
1999	1087	59.1	1749	93.7	1.6:1
2000	1148	62.0	1869	100.3	1.6:1
2001	1114	60.1	2022	106.3	1.8:1
2002	994	52.2	1908	98.2	1.9:1
2003	1049	54.4	2093	106.1	2.0:1
2004	982	50.1	2018	100.8	2.0:1
2005	953	48.1	1790	88.7	1.9:1
2006	990	48.8	1878	90.3	1.9:1
2007	937	45.4	1741	82.2	1.8:1

Source: New Zealand National Minimum Dataset

Note: ASR (age-standardised rate) is the age-standardised rate per 100,000 male or female population, standardised to the World Health Organization population tables.

Figure 2: Male and female hospitalisation rates for intentional self-harm, 1996–2007 (2007 provisional)



Source: New Zealand National Minimum Dataset

Note: ASR (age-standardised rate) is the age-standardised rate per 100,000 male or female population, standardised to the World Health Organization population tables.

There has been a decrease of 21.6 percent in the rate of female hospitalisations between 1996 and 2007. Since 1996 the rate of males hospitalised for intentional self-harm has reduced from 66.8 to 45.4 per 100,000 male population, a decrease of 32.0 percent.

As well as numbers and rates, Table 2 shows the female to male sex rate ratio for hospitalisations for intentional self-harm. In 1996 the ratio was 1.6 female hospitalisations for intentional self-harm for every male hospitalisation, and this rose to 1.8 female hospitalisations to every 1 male hospitalisation in 2007.

Age

In 2007 the age group with the highest number of hospitalisations and the highest age-specific rate was 15–19-year-olds (see Table 3).

Table 3: Numbers and rates of male and female hospitalisations for intentional self-harm, by five-year age group, 2007 (provisional)

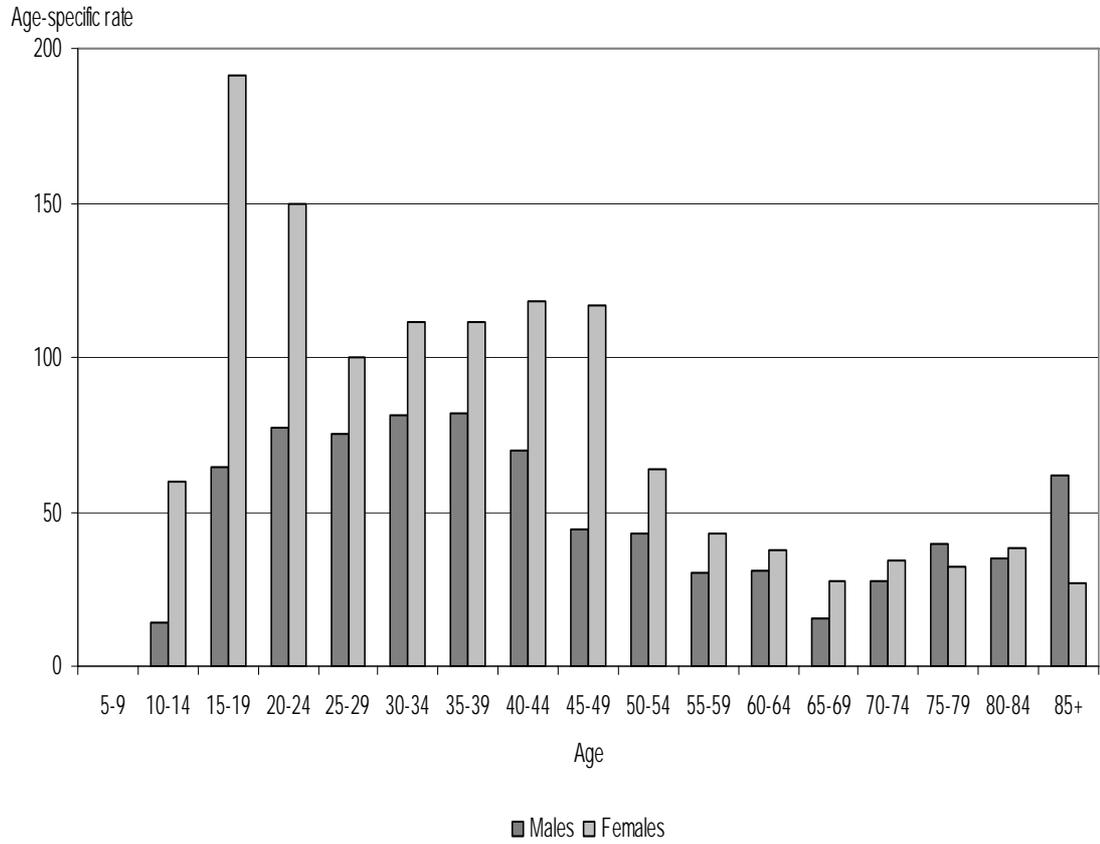
Age-group (years)	Males		Females		Total	
	Number	Rate	Number	Rate	Number	Rate
5-9	0	–	0	–	0	–
10-14	22	14.0	89	59.7	111	36.3
15-19	105	64.4	300	191.3	405	126.7
20-24	114	77.3	219	149.7	333	113.3
25-29	98	75.1	136	99.8	234	87.7
30-34	108	81.4	162	111.4	270	97.1
35-39	123	82.1	183	111.2	306	97.3
40-44	107	69.5	195	118.2	302	94.7
45-49	67	44.0	187	116.6	254	81.2
50-54	57	42.9	88	64.1	145	53.6
55-59	36	29.9	53	43.1	89	36.6
60-64	30	30.8	38	37.8	68	34.3
65-69	12	15.1	23	27.5	35	21.5
70-74	16	27.4	22	34.3	38	31.0
75-79	19	39.5	18	32.0	37	35.5
80-84	11	35.0	17	38.3	28	36.9
85+	12	61.8	11	26.5	23	37.8
Total	937	45.4	1741	82.2	2678	63.9

Source: New Zealand National Minimum Dataset

Notes: A dash (–) indicates that the rate has been suppressed because there are five or fewer hospitalisations in this category.

For females, the 15–19 years age group had the greatest number and highest rate of intentional self-harm hospitalisations. For males, although the highest rate was seen between the ages of 35 and 39, there was very little difference between age groups within the 15–44 years age range. After the age of 50 the differences between the male and female rates were much less marked. This relationship can be seen clearly in Figure 3.

Figure 3: Hospitalisation rates for intentional self harm, by age group and sex, 2007 (provisional)



Source: New Zealand National Minimum Dataset

Youth rates

Over the last 12 years both the numbers and the age-specific rates of hospitalisations for self-harm for youths aged 15–24 have steadily reduced (see Table 4). Between 1996 and 2007 the hospitalisation rates of intentional self-harm for youths decreased by 40.1 percent.

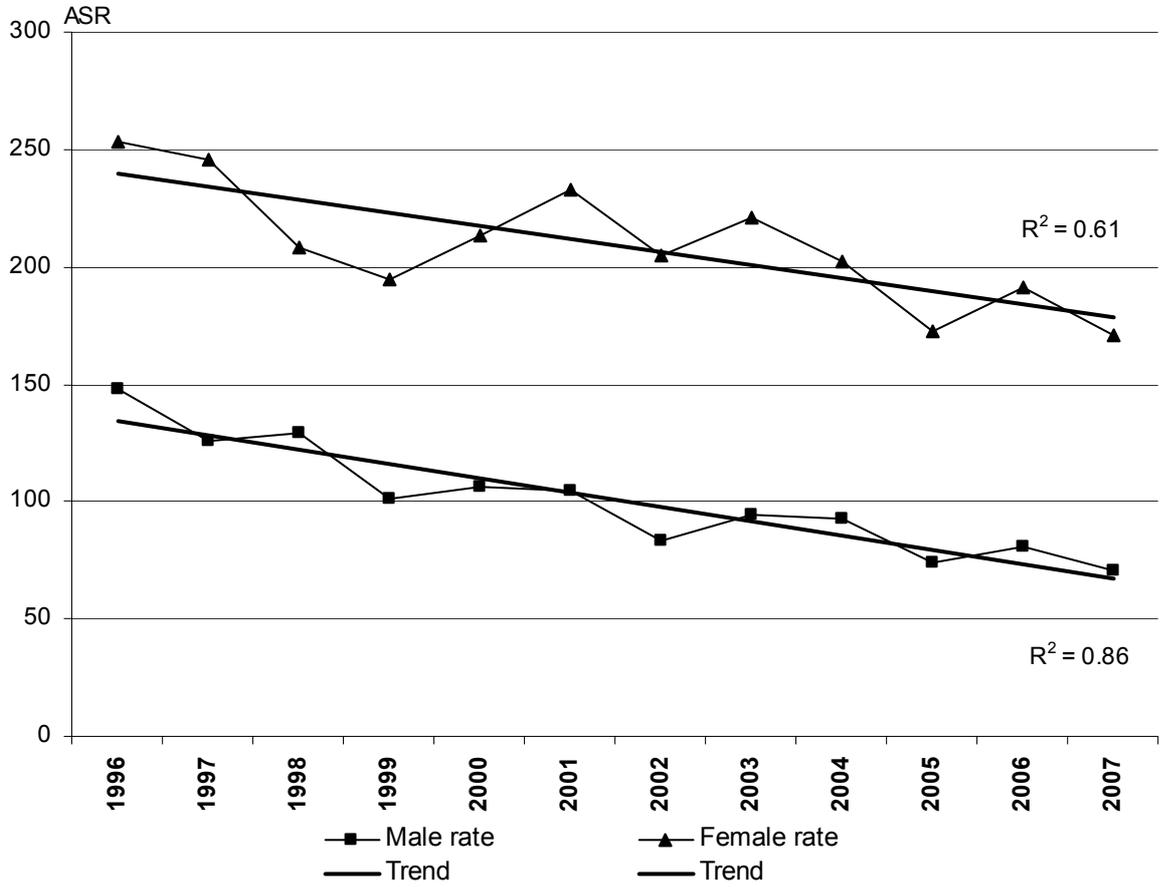
Table 4: Males and females aged 15–24, hospitalisations for intentional self-harm, numbers and age-specific rates per 100,000 population, 1996–2007 (2007 provisional)

Year	Males		Females		Total	
	Number	Rate	Number	Rate	Number	Rate
1996	398	148.3	675	253.4	1073	200.7
1997	346	125.7	657	245.3	1003	184.7
1998	352	129.1	549	208.2	901	168.0
1999	274	101.2	506	194.5	780	146.9
2000	287	105.9	551	213.0	838	158.2
2001	282	104.4	615	232.6	897	167.8
2002	235	83.7	556	204.5	791	143.1
2003	276	94.2	622	221.2	898	156.4
2004	278	92.7	580	202.1	858	146.2
2005	224	73.5	503	172.8	727	122.0
2006	247	80.9	573	191.1	820	135.5
2007	219	70.5	519	171.2	738	120.3

Source: New Zealand National Minimum Dataset

Figure 4 shows the reduction in the hospitalisation rates for self-harm of 15–24-year-olds for both males and females.

Figure 4: Males and females aged 15–24, hospitalisations for intentional self-harm, age-specific rates per 100,000 population, 1996–2007 (2007 provisional)



Source: New Zealand National Minimum Dataset

Note: R^2 is a measure of the goodness of fit of the data to the trend line. An R^2 value of 0.86 indicates that 86 percent of the variation in hospitalisations over time is explained by the downward trend over time.

Ethnicity

Māori and non-Māori comparison

In 2007 there were 462 hospitalisations for intentional self-harm (17.3 percent of the total number of hospitalisations for self-harm) among Māori (see Table 5). Females accounted for 58.0 percent of Māori hospitalisations for intentional self-harm, compared to 66.5 percent for non-Māori females.

Table 5: Numbers and rates of intentional self-harm hospitalisations for Māori and non-Maori, by sex, 1996–2007 (2007 provisional)

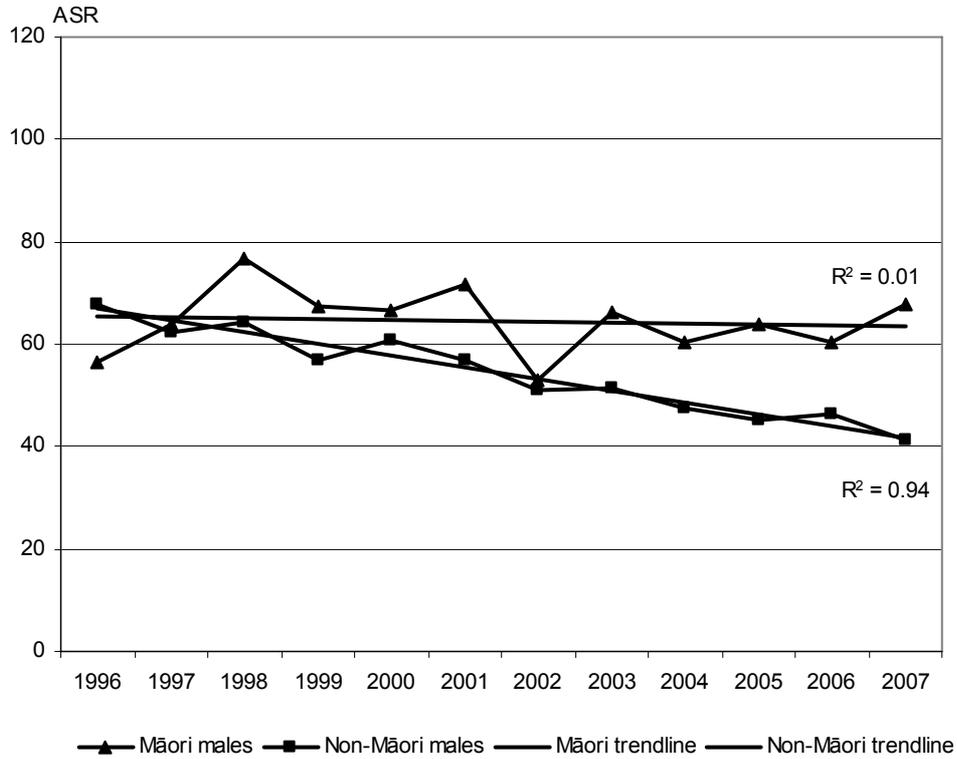
Year	Number						Rate					
	Māori self harm			Non-Māori self harm			Māori self harm			Non-Māori self harm		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1996	147	249	396	1026	1608	2634	56.3	89.8	73.5	67.8	108.0	87.7
1997	178	262	440	978	1656	2634	64.1	87.9	76.2	62.3	107.9	84.8
1998	217	268	485	1012	1606	2618	76.7	91.9	84.6	64.4	102.2	83.2
1999	194	260	454	893	1489	2382	67.4	85.1	76.3	56.9	95.0	75.8
2000	191	293	484	957	1576	2533	66.7	96.2	81.6	60.6	101.0	80.5
2001	211	302	513	903	1720	2623	71.7	96.7	84.2	57.0	108.1	82.6
2002	152	268	420	842	1640	2482	53.0	88.0	70.9	51.0	99.8	75.4
2003	193	305	498	856	1788	2644	66.1	97.2	82.0	51.3	107.0	79.1
2004	177	259	436	805	1759	2564	60.5	82.0	71.3	47.7	104.4	76.0
2005	187	276	463	766	1514	2280	64.0	85.6	74.9	45.0	89.3	67.0
2006	174	299	473	816	1579	2395	60.2	93.6	77.3	46.2	90.0	68.2
2007	194	268	462	743	1473	2216	68.0	82.7	75.1	41.3	82.0	61.6

Source: New Zealand National Minimum Dataset

Note: The rate shown is the age-standardised rate per 100,000 population, standardised to the World Health Organization population tables.

As can be seen in Figure 5, since 1996 the rates of self-harm hospitalisations have varied for Māori males. The inclusion of a trend line shows that the rates have generally remained stable over the last 11 years, with any variation being the result of relatively small numbers within the population. However, non-Māori males showed a very strong downward trend ($R^2 = 0.94$)

Figure 5: Hospitalisation rates for Māori and non-Māori males, 1996 to 2007 (2007 provisional)



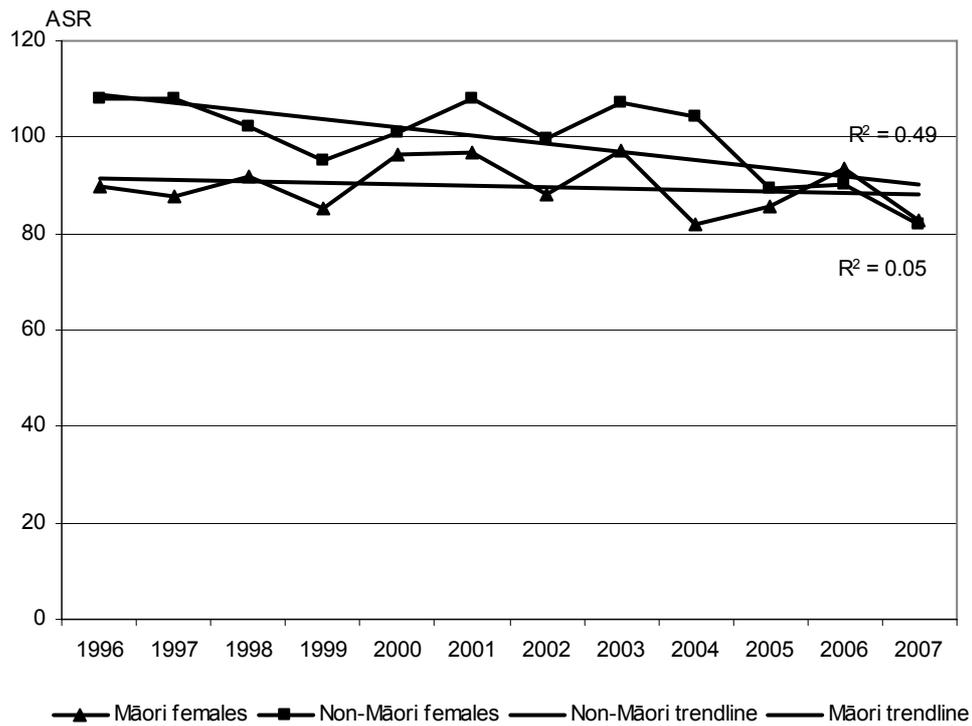
Source: New Zealand National Minimum Dataset.

Notes:

1. ASR (age-standardised rate) is the age-standardised rate per 100,000 population, standardised to the World Health Organization population tables.
2. R^2 is a measure of the goodness of fit of the data to the trend line. An R^2 value of 0.94 indicates that 94 percent of the variation in hospitalisations over time is explained by the downward trend over time.

Figure 6 indicates that there is also no real trend for Māori females, although non-Māori female rates showed a slight downward trend.

Figure 6: Hospitalisation rates for Māori and non-Māori females, 1996–2007 (2007 provisional)



Source: New Zealand National Minimum Dataset

Notes:

1. ASR (age-standardised rate) is the age-standardised rate per 100,000 population, standardised to the World Health Organization population tables.
2. R^2 is a measure of the goodness of fit of the data to the trend line. An R^2 value of 0.49 indicates that almost half of the variation in hospitalisations over time is explained by the downward trend over time.

Definitions

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 rates, taking into account differences in the group size and age structure.

This publication has used the World Health Organization standard world population.

Age-specific rates

An *age-specific rate* refers to the frequency with which suicide occurs relative to the number of people in a defined age group. Age-specific rates are given in five-year age groups.

Ethnicity

There are different methods for outputting ethnicity data. The Ministry of Health uses *prioritised ethnicity*, where each respondent is allocated to a single ethnic group using the priority system (Māori > Pacific peoples > Asian > European/Other). 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 that are important in terms of policy are not swamped by the European ethnic group.

Two ethnic classifications are used in this data set for analysing intentional self-harm hospitalisations. The first ethnic classification for the total population is Māori, Pacific peoples, Asian peoples and European/Other. The second divides the population into Māori and non-Māori.

Numbers, rates and ratios

The *number* of hospitalisations refers to the number of admissions to hospital for intentional self-harm.

The *rate* of hospitalisation refers to the frequency with which these events occur relative to the number of people in a defined population and a defined time period.

Rate ratios indicate how many times hospitalisation for intentional self-harm are reported in one population group compared with another.

R² value: the Co-efficient of determination.

This is a statistical measure used to assess the variability of data in relationship to some other factor. Used in trend analysis here, it explains how much of the variation in a dataset

can be explained by a trend over time. It is computed as a value between 0 (0 percent) and 1 (100 percent): the higher the value, the better the evidence for a trend. If the R^2 value is low then it is not possible to assume that the values (for example, age-standardised rates) are decreasing (or increasing) over time: essentially the variation in the data is unexplained.

Statistical significance

A confidence interval is a range of values used to describe the uncertainty around a single value (such as an age-standardised rate) used to estimate the true values in a population, such as the underlying or true 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 percent (which would indicate there is a 95 percent chance that the true value lies within the confidence intervals).

Confidence intervals may assist in comparing rates over time; if two confidence intervals do not overlap, then it is reasonable to assume that the difference is not due to chance (that is, is statistically significant). However, if two confidence intervals overlap, it is not possible to draw any conclusion about the significance of any difference between them.

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Citation: Ministry of Health. 2009. *Intentional Self-harm Hospitalisations: 2007 (provisional)*. Wellington: Ministry of Health.

Published online in 2009 by the
Ministry of Health
PO Box 5013, Wellington, New Zealand

ISBN: 978-0-478-31294-2 (Online)

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