

# Sudden unexpected death in infancy (SUDI)

This factsheet presents information on rates of sudden unexpected death in infancy (SUDI) from 2008 to 2017. The data comes from the Ministry of Health's Fetal and Infant Deaths web tool.

## Key facts

500

Over 500 babies died from SUDI between 2008 and 2017, including 48 babies in 2017.



Pacific and Māori babies had five times the rate of SUDI as European/Other babies in 2013–17.



Babies of younger mothers (younger than 25 years) had higher SUDI rates than babies born to mothers in older age groups.



The SUDI rate for babies living in the most socioeconomically deprived areas (NZDep2013 quintile 5) was 15 times as high as babies in the least deprived areas (quintile 1).



Tairāwhiti DHB's SUDI rate was three times the national rate in 2013–17.

## Maternal smoking doubles the risk of SUDI

Infants (under one year old) exposed to second-hand smoke are at higher risk of sudden unexpected death in infancy (SUDI) (US Department of Health and Human Services 2007). Having a mother who smokes also doubles their risk of dying from SUDI (Anderson and Cook 1997).

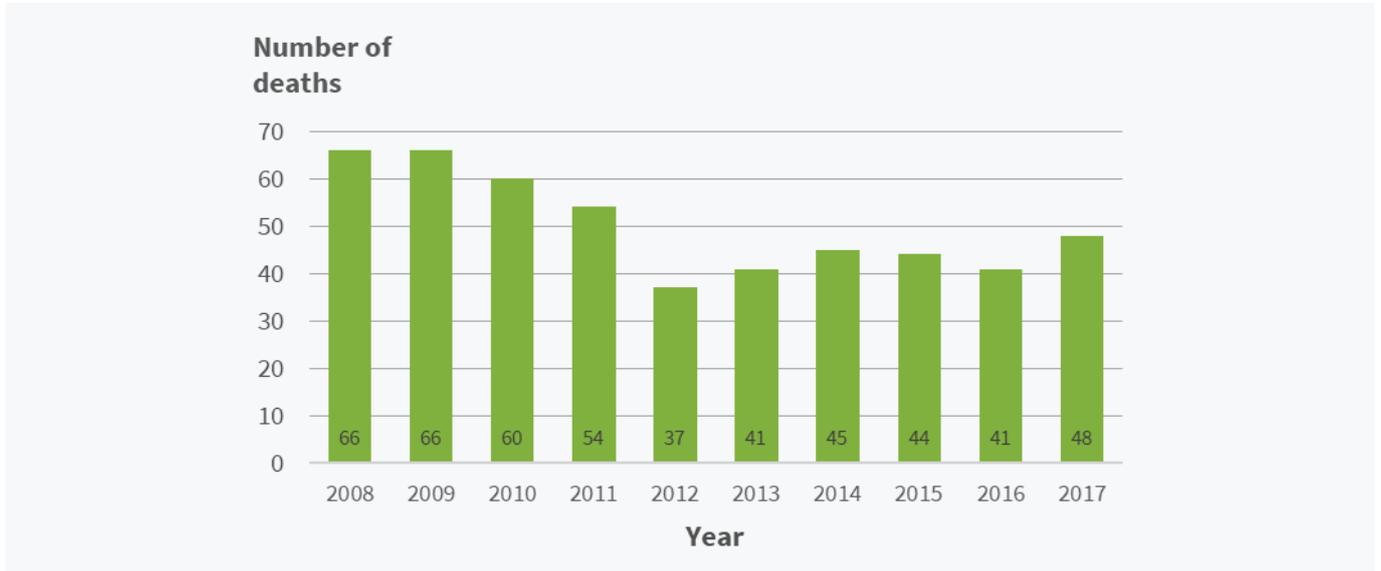
In 2002–2010, New Zealand had a high SUDI rate compared with other developed countries. New Zealand's SUDI rate was 1.01 deaths per 1,000 live births, compared with 0.95 in the United States, 0.60 in Japan, 0.50 in Australia, 0.45 in England and Wales, and 0.19 in the Netherlands (Taylor et al 2015). SUDI was the primary cause of death due to second-hand smoke in New Zealand in 2010. An estimated six children died of SUDI (6% of all attributable deaths) from second-hand smoke exposure that same year (Mason and Borman 2016).

In 2017, the New Zealand government launched the National SUDI prevention programme and set a target to reduce the SUDI rate from 0.7 per 1,000 live births to 0.1 per 1,000 live births by 2025 (Ministry of Health 2017).

## Over 500 babies died from SUDI between 2008 and 2017

In New Zealand, 502 babies less than one year of age (<1 year) died from SUDI from 2008 to 2017. This is an average of around 50 deaths each year. In 2017 (the most recent data available), there were 48 SUDI deaths (Figure 1), which is a rate of 0.8 deaths per 1,000 live births.

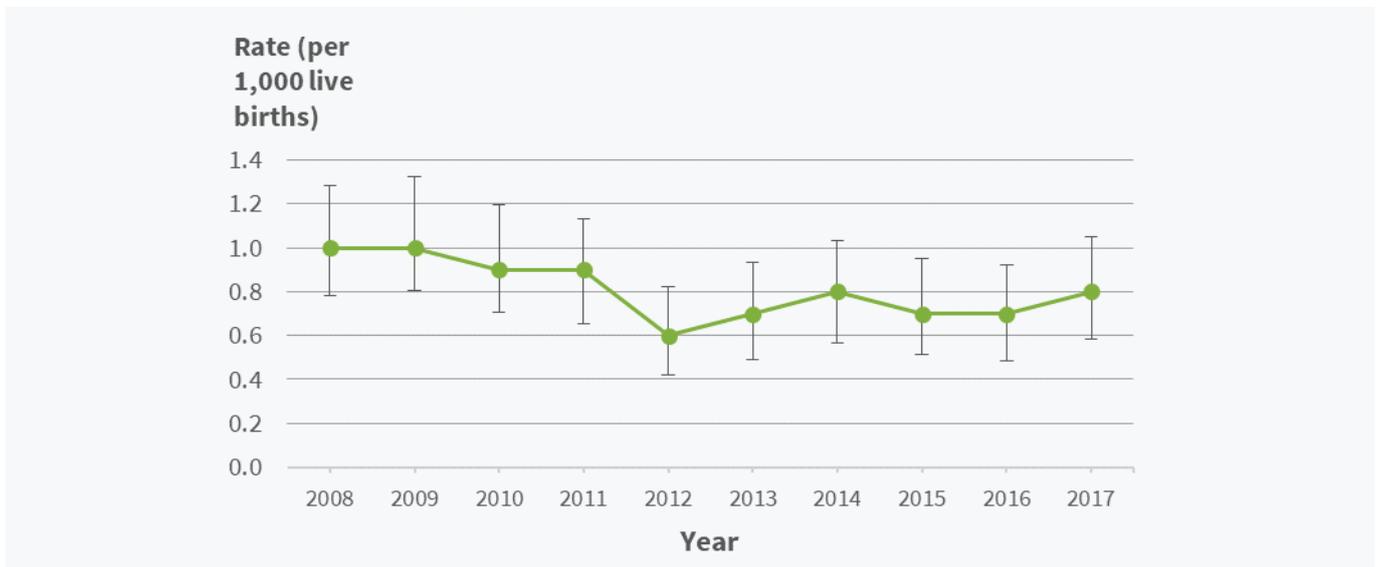
**Figure 1: Number of SUDI deaths in children aged <1 year, 2008–2017**



Source: Ministry of Health (2020)

Over the ten years 2008–2017, the SUDI rate has remained relatively steady (Figure 2).

**Figure 2: SUDI deaths in children aged <1 year, 2008–2017 (rate per 1,000 live births)**



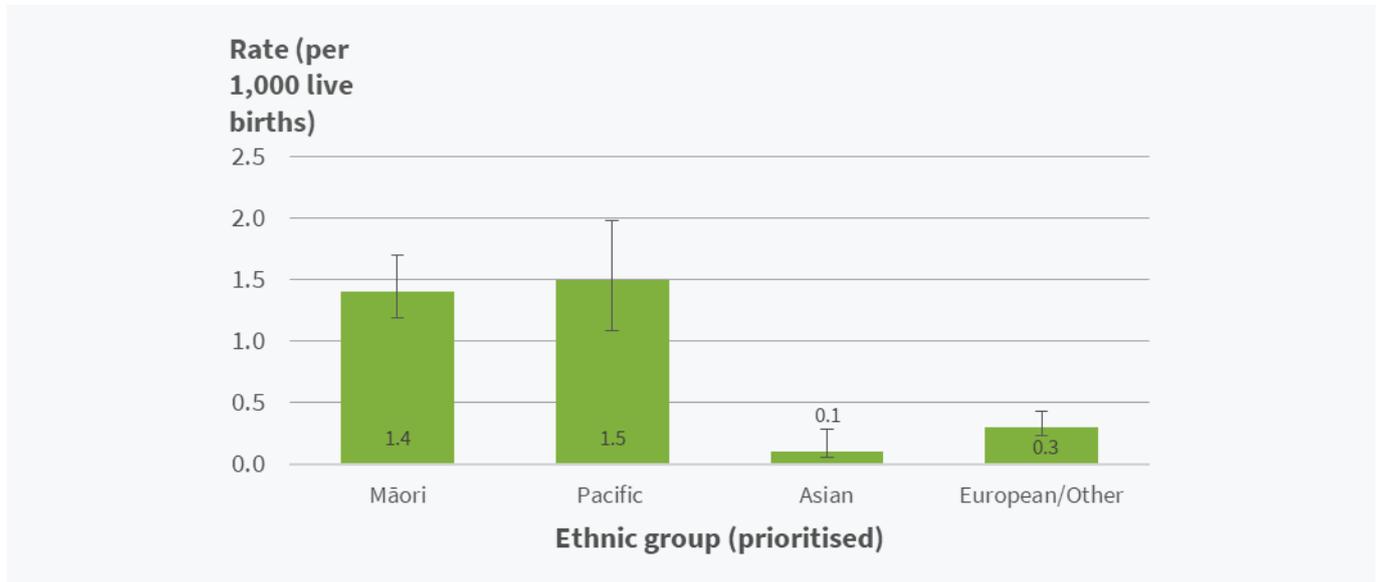
Note: 95% confidence intervals have been presented as error bars.

Source: Ministry of Health (2020)

## Pacific and Māori babies dying at a higher rate

Of the 48 babies that died from SUDI in 2017, 26 were Māori (54%) and 12 were Pacific (25%). In 2013–17, Pacific (1.5 per 1,000 live births) and Māori babies (1.4 per 1,000 live births) had five times the rate of SUDI as European/Other babies (0.3 per 1,000 live births) (Figure 3).

**Figure 3: SUDI deaths in children aged <1 year, by ethnic group, 2013–17 (rate per 1,000 live births)**

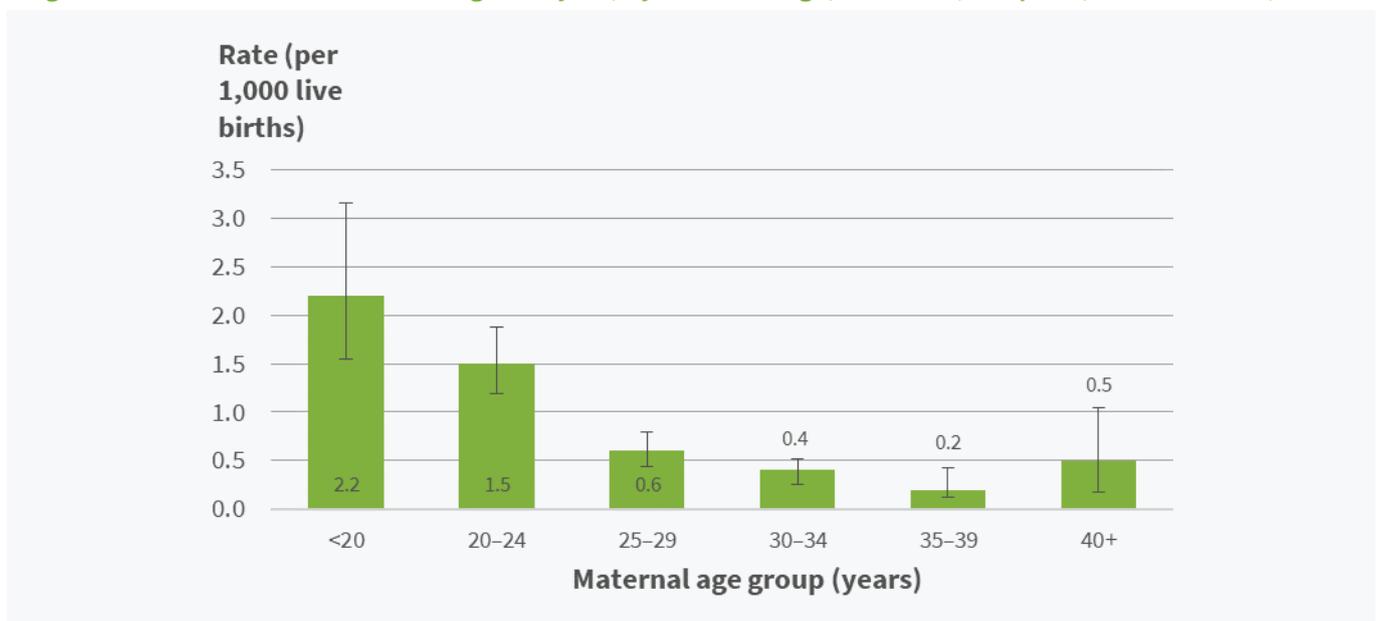


**Note:** 95% confidence intervals have been presented as error bars.  
**Source:** Ministry of Health (2020)

## Babies of younger mothers were most at risk

Babies of younger mothers were most at risk from SUDI. In 2013–17, SUDI rates were higher for babies whose mothers were younger than 25 years old (Figure 4).

**Figure 4: SUDI deaths in children aged <1 year, by maternal age, 2013–17 (rate per 1,000 live births)**

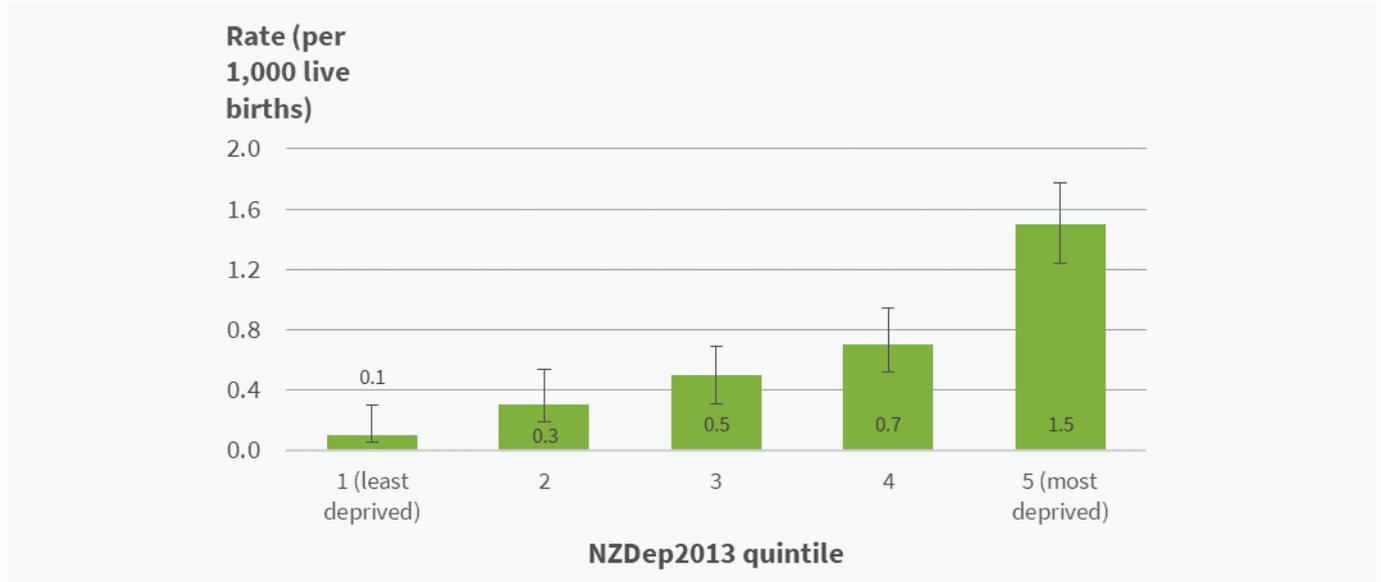


**Note:** 95% confidence intervals have been presented as error bars.  
**Source:** Ministry of Health (2020)

## The highest SUDI rates occurred in the most deprived areas

In 2013–17, the SUDI rate for babies living in the most deprived areas (NZDep2013 quintile 5) was much higher (1.5 per 1,000 live births) than for those living in other quintiles (Figure 5). The SUDI rate was 15 times higher in the most deprived areas (quintile 5) than in the least deprived areas (quintile 1).

**Figure 5: SUDI deaths in children aged <1 year, by NZDep2013 quintile, 2013–17 (rate per 1,000 live births)**

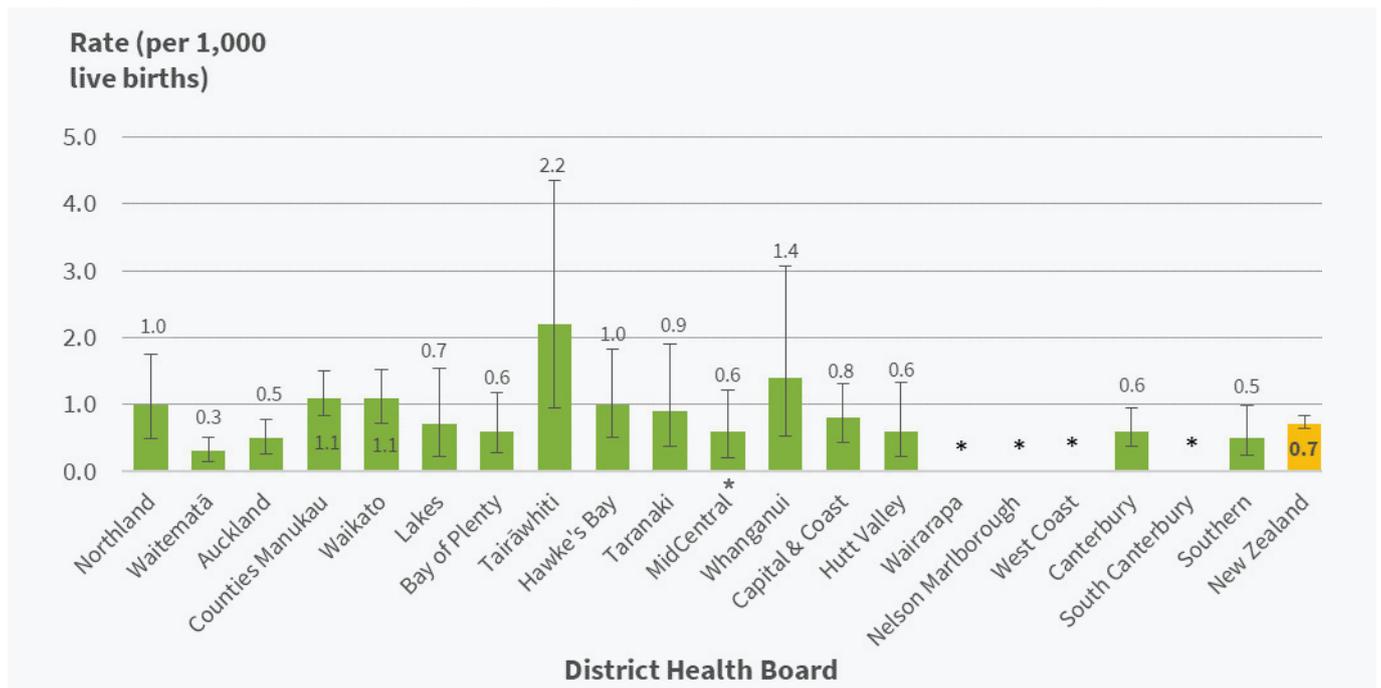


**Note:** 95% confidence intervals have been presented as error bars.  
**Source:** Ministry of Health (2020)

## Tairāwhiti DHB had a relatively high SUDI rate

In 2013–17, the SUDI rate in Tairāwhiti DHB (2.2 deaths per 1000 live births) was three times the national rate. In contrast, Waitematā DHB had a lower SUDI rate (0.3 per 1000 live births) (Figure 6).

**Figure 6: SUDI deaths in children aged <1 year, by District Health Board, 2013–17 (rate per 1,000 live births)**



**Note 1:** \* The rate is suppressed due to an unreliable estimate with small numbers.

**Note 2:** 95% confidence intervals have been presented as error bars. See [Metadata](#) for more information on how to interpret this graph.

**Source:** Ministry of Health 2020

## Data for this indicator

This indicator is an analysis of the most recent data available from the Fetal and Infant Deaths web tool published by the Ministry of Health in November 2020.

The indicator presents data related to sudden unexpected death in infancy (SUDI), defined as deaths in children aged less than one year old, with an underlying cause of death in the following ICD-10AM codes:

- R95 – sudden infant death syndrome (SIDS)
- R96 – other sudden death, cause unknown
- R98 – unattended death
- R99 – other ill-defined and unspecified causes
- W75 – accidental suffocation and strangulation in bed
- W78 – inhalation of gastric contents
- W79 – inhalation and ingestion of food causing obstruction of respiratory tract

This definition follows the recommendations of the Child and Youth Mortality Review Committee (2009).

Mortality rates are presented as deaths per 1,000 live births.

Unless otherwise stated, all differences mentioned in the text between two values are statistically significant at the 5% level or less.

For additional information, see the metadata link below.

## References

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Taylor BJ, Garstang J, Engelberts A et al. 2015. International comparison of sudden unexpected death in infancy rates using a newly proposed set of cause-of-death codes. *Archives of Disease in Childhood* 100(11): 1018–23. DOI: 10.1136/archdischild-2015-308239.

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## Other related topics include:

[Second-hand smoke exposure](#)

[Health burden due to second-hand smoke exposure](#)

[Household crowding](#)

[Home heating](#)

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### Citation

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### Further information

For descriptive information about the data