Sudden unexpected death in infancy (SUDI)

This report presents an analysis of the most recent data (calendar year 2021) on sudden unexpected death in infancy (SUDI) rates in Aotearoa New Zealand, published on Health New Zealand's Fetal and Infant Death web tool in January 2026.

Key facts

- 51 babies died from SUDI in 2021, up from 40 deaths the previous year. There has been no improvement in SUDI rates since 2012.
- In 2017–21, Māori babies had five times, and Pacific babies four times, the rate of SUDI as European/Other babies.
- Babies of younger mothers (younger than 25 years) had higher SUDI rates than babies born to mothers in older age groups.
- Babies living in the most socioeconomically deprived areas (NZdep 2013 quintile 5) had a SUDI rate eight times higher than those in the least deprived areas (quintile 1).

Maternal smoking doubles the risk of SUDI

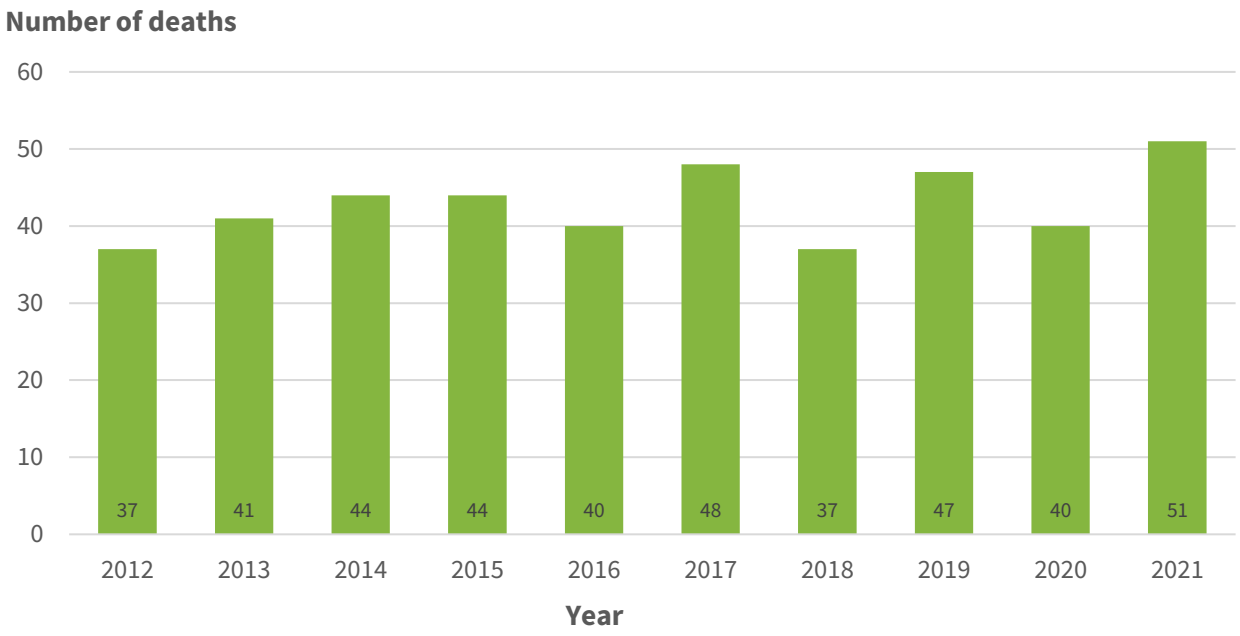
Exposure to second-hand smoke has been shown to increase the risk of SUDI in infants (under one year old) (US Department of Health and Human Services 2007, Anderson and Cook 1997). Having a mother who smokes also doubles their risk of dying from SUDI (Zhang and Wang 2013; Anderson and Cook 1997). The estimated number of SUDI deaths attributable to maternal smoking decreased from 7 in 2010 to 3 in 2021 (based on Mason and Borman (2016) methodology). Similarly, the latest data shows that maternal smoking at two weeks postnatal fell from 13.7% in 2009 to 7.3% in 2021.

In 2002–2010, New Zealand had a high SUDI rate compared with other developed countries (Taylor et al 2015).

51 babies died from SUDI in 2021

In 2021, 51 babies less than one year of age (<1 year) (0.9 per 1,000 live births; 95%CI 0.6–1.1) died from SUDI, up from 40 the previous year. This is the highest number recorded since 2012 (Figure 1). In total, 429 babies died from SUDI between 2012 and 2021.

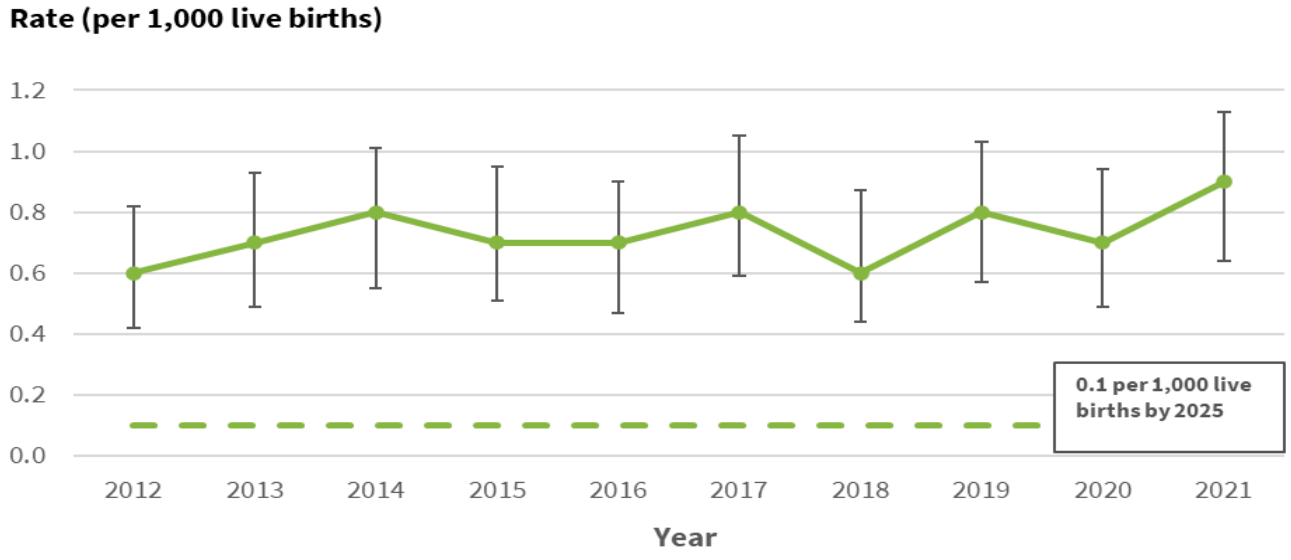
Figure 1: Number of SUDI deaths in children aged <1 year, 2012–2021



Source: Health New Zealand – Te Whatu Ora, 2026

The SUDI rate reached 0.9 deaths per 1,000 live births in 2021, the highest level in a decade. In the preceding years, the rate fluctuated between 0.6 and 0.8 deaths per 1,000 live births (Figure 2). In 2017, the New Zealand government launched the National SUDI prevention programme, with a target set to reduce the SUDI rate to 0.1 per 1,000 live births by 2025 (Ministry of Health 2017).

Figure 2: SUDI deaths in children aged <1 year, 2012–2021 (rate per 1,000 live births)

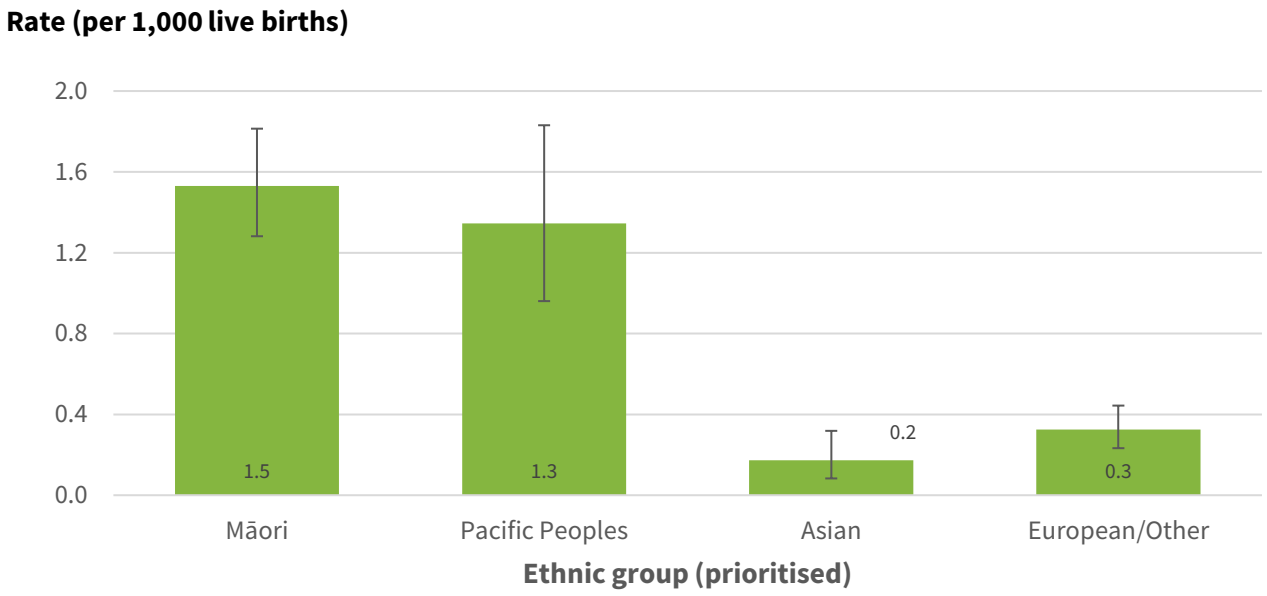


Note: 95% confidence intervals have been presented as vertical bars.
Source: Health New Zealand – Te Whatu Ora, 2026

Pacific and Māori babies have the highest rates of SUDI

Of the 51 babies that died from SUDI in 2021, 30 were Māori (59%), 7 were Pacific (14%), 9 were European (18%), and 5 were Asian (10%). In 2017–21, the SUDI rates for Māori babies (1.5 per 1,000 live births; 95%CI 1.3–1.8) and Pacific babies (1.3 per 1,000 live births; 95%CI 1.0–1.8) were respectively five and four times the rate for European/Other babies (0.3 per 1,000 live births; 95%CI 0.2–0.4) (Figure 3).

Figure 3: SUDI deaths in children aged <1 year, by ethnic group (prioritised), 2017–21 (rate per 1,000 live births)

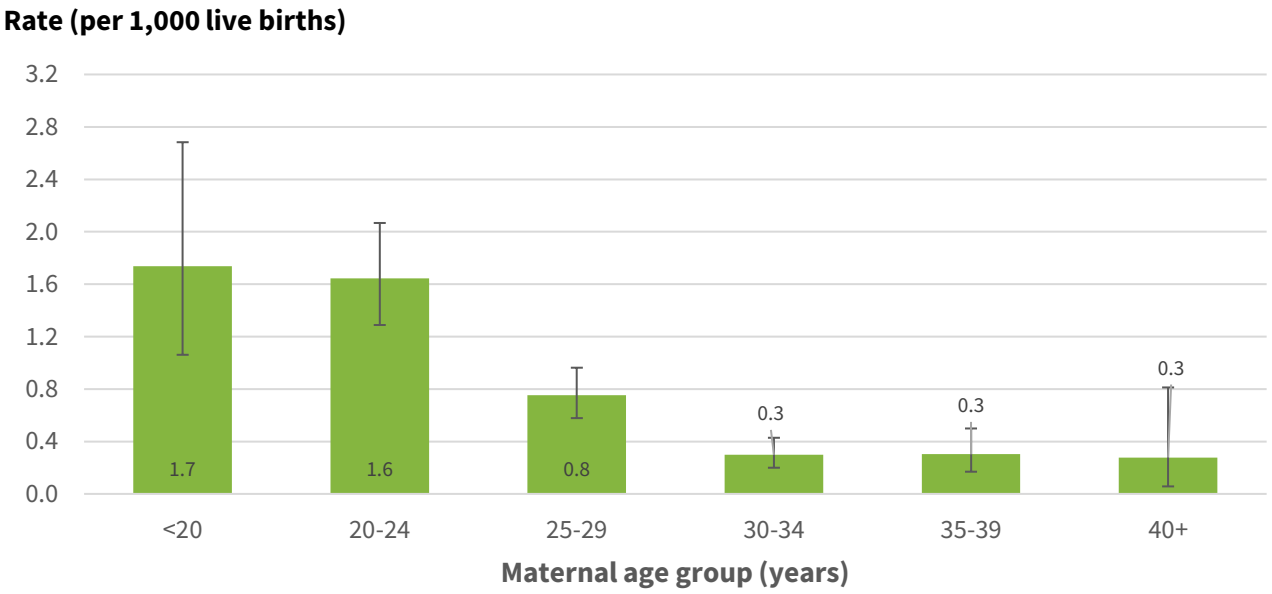


Note: 95% confidence intervals have been presented as vertical bars.
Source: Health New Zealand – Te Whatu Ora, 2026

Babies of younger mothers have higher rates of SUDI

In 2017–21, SUDI rates were higher for babies whose mothers were younger than 25 years old, and were lower and relatively stable across older maternal age groups (Figure 4).

Figure 4: **SUDI deaths in children aged <1 year, by maternal age, 2017–21 (rate per 1,000 live births)**

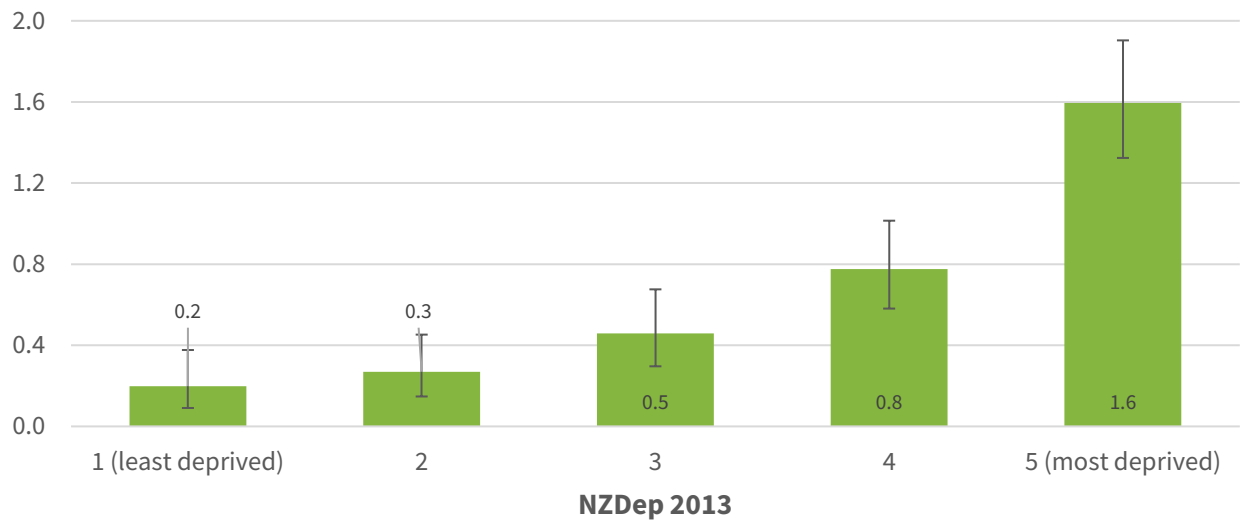


Note: 95% confidence intervals have been presented as vertical bars.
Source: Health New Zealand – Te Whatu Ora, 2026

Higher SUDI rates in the most socioeconomically deprived areas

Babies living in the most deprived areas experienced an eight-times higher SUDI rate than those living in the least deprived areas (quintile 1), reflecting a clear increase in SUDI rates with increasing area-level deprivation. In 2017–21, the SUDI rate for babies living in the most deprived areas (NZDep2013 quintile 5) was substantially higher (1.6 per 1,000 live births; 95%CI 1.3–1.9) than those living in other quintiles (Figure 5).

Figure 5: **SUDI deaths in children aged <1 year, by NZDep2013 quintile, 2017–21 (rate per 1,000 live births)**

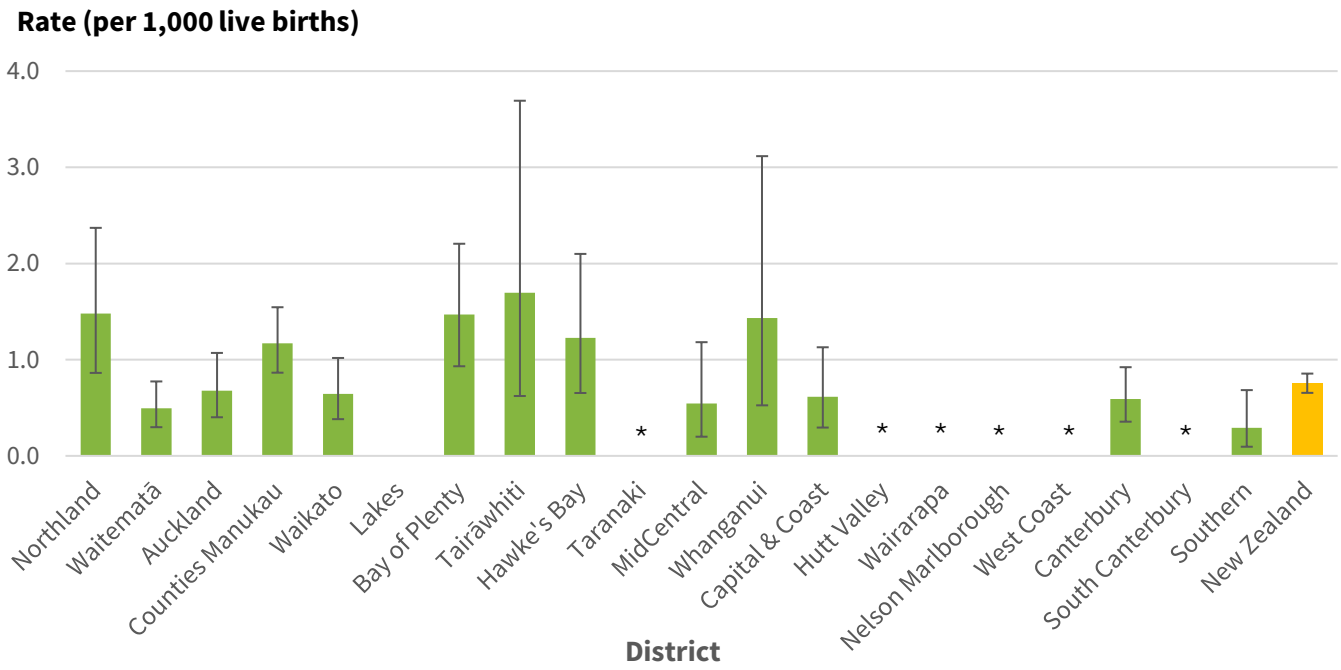


Note: 95% confidence intervals have been presented as vertical bars.
Source: Health New Zealand – Te Whatu Ora, 2026

Tairāwhiti, Northland, and Bay of Plenty districts had high SUDI rates in 2017–21

In 2017–21, Tairāwhiti (1.7 per 1,000 live births; 95% CI 0.6–3.7), Northland (1.5 per 1,000 live births; 95% CI 0.9–2.4), and Bay of Plenty (1.5 per 1,000 live births; 95% CI 0.9–2.2) districts had high SUDI rates (Figure 6).

Figure 6: SUDI deaths in children aged <1 year, by district, 2017–21 (rate per 1,000 live births)



Notes: Districts refer to areas formerly known as District Health Boards (DHBs). 95% confidence intervals have been presented as vertical bars. An asterisk (*) shows that the rate has been suppressed due to low numbers (count <5).
Source: Health New Zealand – Te Whatu Ora, 2026

Data for this indicator

This indicator includes the most recent data available from the Fetal and Infant Deaths web tool published by Health New Zealand – Te Whatu Ora in January 2026.

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.

Calculating the attributable SUDI deaths due to maternal smoking

The estimated number of SUDI deaths linked to maternal smoking is based on the methodology used by Mason and Borman (2016). For this report, we have used more recent SUDI and maternal smoking data, along with an updated relative risk of 1.97 from Zhang and Wang (2013). Mason and Borman's 2016 study, by contrast, used a relative risk of

1.94 from Anderson and Cook (1997). Despite these changes, the differences in the estimates are minimal.

For additional information, see the Metadata sheet.

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