

Data sources

This file provides the metadata related to the data sources used for New Zealand in the Human Multiple Births Database (<https://www.twinbirths.org/en/data-metadata/>).

Summary

Data from 1888 to 2020:

Source: Statistics New Zealand

Coverage and completeness:

- Until 1961, data refer to the non-Maori population only. Maori births are included in the data since 1962. Under-registration of infants who died soon after birth persisted until the 1910s (non-Maori) and the 1960s (Maori population).
- Data before 1991 include births to mothers resident in New Zealand and mothers visiting from overseas. Data from 1991 onwards include births among New Zealand resident mothers only.
- Births data are based on date of registration and they exclude late registrations (i.e., children whose birth is registered more than two years later).

Treatment of births by vitality:

- In the series excluding the stillbirths (variable *Stillbirths* = 0) from 1904 to 1970, the plurality of a confinement is determined according to the number of children born alive. For example, twin pregnancies resulting in two live-born children are counted as twin confinements, whereas twin pregnancies resulting in one live- and one still-born child are counted as single confinements.
- In the series including the stillbirths (variable *Stillbirths* = 1) from 1928 onwards, the plurality of a confinement is determined according to the number of children born, regardless of vitality at birth. For example, twin pregnancies resulting in two still-born children are counted as twin confinements.

Detailed metadata by source

Source 1: Statistics New Zealand

References	<p>Data from 1888 to 1970: Statistics New Zealand. Yearbook collection: 1893-2012. Available online: https://www.stats.govt.nz/indicators-and-snapshots/digitised-collections/yearbook-collection-18932012/ (Accessed: 21/07/2022).</p> <p>Data from 1971 to 2021: Statistics New Zealand. "Table: Twins and other multiples (including single births and live/still combinations) (Annual-Dec)". Available online: https://infoshare.stats.govt.nz/ (Accessed: 21/07/2022)</p> <p>Statistics New Zealand. "Table: Live births (by sex), stillbirths (Maori and total population) (Annual-Dec)". Available online: https://infoshare.stats.govt.nz/ (Accessed: 21/07/2022)</p> <p>Data licensed by Stats NZ for reuse under the Creative Commons Attribution 4.0 International licence: https://creativecommons.org/licenses/by/4.0/</p>
Period covered	1888-2021
Code in database	Stats NZ
Coverage and completeness	<p>Birth registration for the non-Maori population became compulsory in New Zealand in 1859. Further improvements in the registration of vital events concerning the non-Maori population were introduced in 1876. However, under-registration of births of non-Maori infants who died soon after birth persisted until the beginning of the 1910s¹.</p> <p>Registration of Maori births became compulsory in 1913. However, Maori births were under-registered until after the end of World War II. In 1946, there was a sudden increase in the number of Maori births registered, which corresponds partly to the late registration of previously unregistered births. This increase is linked to the introduction of universal family benefits under the Social Security Amendment Act 1945, which stipulated that the parents of any child under 16 years of age born in New Zealand (or with permanent resident status), could apply for a family benefit, irrespective of their income or property². Nevertheless, under-registration of Maori infants who died soon after birth persisted until the beginning of the 1960s¹.</p> <p>Up until 1961, data on births by plurality come from the non-Maori register, thus excluding the Maori population. On the registration of vital events concerning the Maori population, the Official Yearbooks indicate that: "Until the end of 1961 Maori registrations were entered in a separate register, which did not, however, make provision for as many particulars as is the case with registrations of Europeans (...) For registration purposes a Maori was defined as 'a person belonging to the aboriginal race of New Zealand, and</p>

¹ Statistics New Zealand. 2006. *A History of Survival in New Zealand: Cohort life tables 1876-2004*. Wellington: Statistics New Zealand. 145 p.

² Statistics New Zealand. *The New Zealand Official Yearbook, 1947-49*. Available online: https://www3.stats.govt.nz/New_Zealand_Official_Yearbooks/1947-49/NZOYB_1947-49.html?_ga=2.153766256.910921441.1658745095-1608595415.1658408456 (Accessed: 26/07/2022)

	<p>includes a half-caste and a person intermediate in blood between half-castes and persons of pure descent from that race'. Only registrations relating to persons possessing half or more Maori blood were made in the register of Maori births or Maori deaths. All registrations in respect of persons possessing less than half Maori blood had to be made in the European register. These provisions were repealed at the end of 1961 and commencing on 1 January 1962 the separate registers for Maori and European births were abolished. Registration particulars are now the same for all races"³.</p> <p>However, in practice, some Maori births (according to the definition provided above) were included in the non-Maori register, as "many Maori-Europeans of half or more Maori blood appear as Europeans in the records of births and deaths". Furthermore, it is likely that in the 19th century, the non-Maori register includes some Maori births, corresponding to Maori living among non-Maori. Likewise, vital events concerning non-Maori living among Maori may have gone unrecorded¹.</p> <p>Data before 1991 include births to mothers resident in New Zealand and mothers visiting from overseas. The Official Yearbooks from 1934 to 1962 (see References) further indicate that "a child born out of New Zealand but arriving before attaining the age of eighteen months may be registered within six months of arrival". Data from 1991 onwards include births among New Zealand resident mothers only.</p> <p>Unless otherwise indicated, data on births provided by Statistics New Zealand are based on date of registration (not date of occurrence). These data generally exclude late registrations (i.e., children whose birth is registered more than two years later). Under Section 16 of the Births, Deaths, Marriages, and Relationships Registration Act 1995 (Section 14 of the Births and Deaths Registration Act 1951), no birth can be registered after two years without the approval of the Registrar-General⁴. Estimates for the period 1876-2005 indicate that late registrations constituted less than 1 percent of total births occurred in each year¹.</p>
Definitions and treatment of births by vitality	<p><u>Live births:</u></p> <p>A live birth is:</p> <p>"The birth of a child, who breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. All live born infants should be registered and counted as such, irrespective of length of gestation or whether alive or dead at the time of registration. If they die at any time following birth, they should also be registered and counted as deaths"⁴.</p>

³ Statistics New Zealand. *The New Zealand Official Yearbook, 1962*. Available online: https://www3.stats.govt.nz/New_Zealand_Official_Yearbooks/1962/NZOYB_1962.html?_ga=2.253895304.1447122761.1658408512-1608595415.1658408456 (Accessed: 22/07/2022)

⁴ Statistics New Zealand. Births (Data Dictionary). Available online: <https://datainfolplus.stats.govt.nz/Item/nz.govt.stats/e10fa9d7-2cd8-417b-a6b6-f5d0c2adb6d6/2> (Accessed: 25/07/2022).

	<p>Statistics New Zealand's Official Yearbooks for the period 1904-1970 provide data on births by plurality excluding the stillbirths (in the input data file and in HMBD's pooled data file, this series can be identified with the variable <i>Stillbirths</i> = 0). In this series, the plurality of a confinement is determined according to the number of children born alive. For example, twin pregnancies resulting in two live-born children are counted as twin confinements, whereas twin pregnancies resulting in one live- and one still-born child are counted as single confinements.</p> <p>In the Official Yearbooks covering the period 1928-1970, there are some discrepancies between the number of twin deliveries (multiplied by two) and the number of twin children (in the cases of live-births only). These discrepancies are due to the fact that the numbers on deliveries are corrected in following years in more recent yearbooks, whereas the number of twin children are only from the first yearbook publishing the data for a given year. In the HMBD, corrected figures on Twin deliveries are retained.</p> <p><u>Stillbirths:</u></p> <p>Stillbirth registration became compulsory in New Zealand on March 1st 1913. In the Official Yearbooks, the definition of a stillbirth is first provided in the volume for the year 1925, where it is indicated that a stillborn child is one born dead after 28 weeks of pregnancy. This definition was used until 30/08/1995. Since 01/09/1995, a child is considered stillborn when it is dead at birth and either weighs 400g or more at birth, or is born after the 20th week of pregnancy.</p> <p>In addition to the series including only the live-births (see Live births), Statistics New Zealand also provides information on the number of confinements by plurality including the stillbirths since 1928. These data come from the Official Yearbooks for the period 1928-1970⁵ and from Statistics New Zealand's online data files from 1971 onwards (in the input data file and in HMBD's pooled data file, this series can be identified with the variable <i>Stillbirths</i> = 1). In this series, the plurality of a confinement is determined according to the number of children born, regardless of vitality at birth. For example, twin pregnancies resulting in two still-born children are counted as twin confinements.</p> <p><u>Confinement:</u></p> <p>The number of confinements indicates the number of women having babies rather than the number of babies born. Multiple births arising from a single pregnancy are counted as one confinement.</p>
Footnotes⁶	<p>1 - Until 1961, data refer to the non-Maori population only. Maori births are included from 1962 onwards (see Coverage and completeness).</p>

⁵ Data on vitality at birth among twins and triplets are available from 1928, beginning with the yearbook for 1946 (section 'Multiple Births'): Statistics New Zealand. *The New Zealand Official Yearbook, 1946*. Available online: https://www3.stats.govt.nz/New_Zealand_Official_Yearbooks/1946/NZOYB_1946.html?_ga=2.133899590.910921441.1658745095-1608595415.1658408456 (Accessed: 25/07/2022).

⁶ Number indicated in the variable *Footnotes*.

	<p>2 - In the data from the Official Yearbooks (i.e., data before 1971), some discrepancies are observed between the numbers of births by plurality based on information on deliveries and those based on information on number of children. For example, for the years concerned by this footnote, there is lack of coherence between the number of singletons calculated based on numbers of deliveries (i.e., <i>Total_deliveries</i> – <i>Multiple_deliveries</i>) and those calculated based on numbers of children (i.e., <i>Total_children</i> – <i>Multiple_children</i>). The discrepancies between both calculation methods are negligible for most of those years (≤ 3 children in total for any given year), except for 1941, 1962 and 1963 (in the series including the stillbirths, i.e., variable <i>Stillbirths</i> = 1). For those three years, the differences between both calculation methods are of 62, 665 and 35 children, respectively. Two possible explanations for these inconsistencies are publication of provisional figures and errors in the digital transcription of the volumes concerned, as information on the total number of deliveries (including the stillbirths) for a given year appears only once, in a paragraph of the Official Yearbook releasing statistics for that year. In contrast, the total number of live-births, stillbirths and the number of deliveries by multiplicity are repeated and updated in successive publications of the Official Yearbook, as these numbers are reported in tables that include statistics for previous years. Considering this and since there are no indications of births of unknown plurality in the original data sources, the annual number of singleton deliveries (in the series including the stillbirths) before 1971 is calculated in the HMBD as the difference between the total number of children born and the number of multiple children.</p> <p>3 - From 1971 onwards, the column <i>Triplet_deliveries</i> corresponds to the deliveries of triplets and more children, as it is not possible to distinguish between the number of deliveries of triplets and the number of deliveries of quadruplets and more children in the original data source. Furthermore, data are randomly rounded to protect confidentiality in the original data source. For this reason, the total number of confinements may not always equal the sum of confinements by plurality.</p> <p>4 - Change in the population concerned by the birth statistics: since 1991, data include births among mother residing in New Zealand only (see Coverage and completeness).</p> <p>5 - New definition of stillbirths introduced in 1995 (see Definitions and treatment of births by vitality: Stillbirths).</p>
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