Aotearoa’s perinatal and maternal death rates remain inequitable and unjust

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Summary

There has been no significant decrease in all-cause perinatal mortality over the years of 2006-2021 according to the Perinatal and Maternal Mortality Review Committee's Annual Report. Inequities continue in perinatal and maternal outcomes relating to demographic and socioeconomic factors, including ethnicity and poverty. Māori, Pacific peoples and Indian populations, those younger than 20 years, and those living in areas of higher deprivation, have worse perinatal outcomes.

The report has also found:

- A significant decrease in stillbirths, mainly between 2007-2012 with little change in the last 10 years.
- A greater likelihood of a pregnancy ending in perinatal death where Covid-19 infection occurred during pregnancy.
- A decrease in maternal mortality rates (MMR), although with the continued disproportionate burden of maternal mortality for wāhine Māori, Pacific pregnant women and people and those living in higher deprivation.
- Some evidence of a small increase in neonatal encephalopathy, although it is not possible to determine causation.

Introduction

The Perinatal and Maternal Mortality Review Committee (PMMRC) has recently published its latest Annual Report.[1] It acknowledges the individuals and whānau affected by the grief that is contained in the report. The PMMRC considers the data a taonga and has coordinated data collection since 2006.

This Briefing aims to describe the key findings in the PMMRC's latest Annual Report (the 16th Annual Report). It opens a conversation about what is needed in response to these findings.

Over the previous 15 Reports, approximately 125 recommendations have been made, with only about 40% being fully achieved.

Data collection methods

Since 2006, data has been collected on every fetal death from 20 weeks' gestation (or over 400g if gestation is unknown), neonatal deaths (up to 27th day of life), and deaths of people who are pregnant or within 42 days of the end of pregnancy, from any cause related to or aggravated by the pregnancy or its management. Since 2007, data has also been collected on babies with moderate or severe neonatal encephalopathy (NE). Detailed methods are found in the PMMRC methods and definitions document .[2]

This 16th Report looks at perinatal mortality (2007-2021), the impact of Covid-19 infection (2020-2021), maternal mortality (2006-2021), and NE (2010-2021).

Findings on perinatal deaths

In 2021, there were 707 fetal and neonatal deaths (collectively referred to as perinatal related deaths) with a mortality rate of 11.2 per 1,000 births. This includes 205 terminations of pregnancy, 311 stillbirths, and 191 neonatal deaths. Indian, Māori and Pacific women and birthing people experience a higher burden of perinatal mortality.

The leading causes of perinatal death in NZ in 2021, were congenital anomaly (27.9% of all deaths) and spontaneous preterm labour and rupture of membranes before 37 weeks (17.4% of all deaths). Unexplained antepartum fetal death accounted for 12.4% of all deaths, including deaths where there were limited or no investigations and deaths where there was a full investigation, and no cause was able to be determined.

There was a decrease in the rate of stillbirth between the years of 2007-2021. However stillbirth rates remain inequitable in 2021 when reported by ethnicity, maternal age, deprivation quintile and rurality.

The neonatal death rate was 3.04 per 1,000 live births in 2021. While this rate has remained static, addressing the underlying clinical causes and contextual factors remains a priority. The leading cause of neonatal death was preterm labour or preterm rupture of membranes (<37 weeks gestation) accounting for 34% of the deaths following the birth of a live baby.

Findings on Covid-19 and perinatal deaths

Pregnant individuals with confirmed Covid-19 infection were 7.4 times more likely to experience perinatal death. Although the numbers were small and the confidence interval broad (95%CI = 3.0 to 18), the association was statistically significant ($p < 0.01$). Notably, the infection rate for pregnant women/people after 20 weeks gestation was much lower when compared with all women in the population aged 20-49 years. This may be related to pregnant women/people being more likely to adopt Covid infection-avoidant behaviours, which this data suggests may have prevented more perinatal deaths.

Service delivery changes during the pandemic response had the potential to contribute to outcomes. These changes were not explored as part of this Report.

Findings on neonatal encephalopathy (NE)

In 2021, there were 86 babies diagnosed with moderate or severe NE. There is some evidence of a small increase in the rates of NE in the 2016-2021 period. The reason for this is currently unknown, but may be associated with an actual increase or by improved detection after the implementation of the national NE consensus statement in 2019.

Between 2017 and 2021, 14.8% of babies with moderate NE did not receive magnetic resonance imaging (an MRI scan) for diagnostic investigation. Māori were the least likely group to receive an MRI.

There were no clear inequities in diagnosis or treatment by maternal prioritised ethnic group. However, babies with higher rates of NE included those with extremes of birthweight, birth before 37 weeks, rural location and first baby.

Findings on maternal mortality

In the 2006-2021 period, the maternal mortality rate was 14.8 per 100,000 maternities. The NZ European ethnic group (using prioritised ethnicity) experienced 55% the rate of maternal mortality of Māori and Pacific ethnic groups**.**

Suicide remains the leading cause of maternal mortality accounting for over 40% of direct maternal mortality events. This level is significantly higher than the rate in the UK. Wāhine Māori have over three times the suicide rate of NZ Europeans.

What this Briefing adds:

- Detailed data collection and analysis enables the health and social sectors to understand mortality and health inequities for whānau in the perinatal period in Aotearoa.
- Findings from these Annual Reports guide recommendations on systems, practice, processes or policies that need changing, and that if implemented successfully, would be likely to lower avoidable mortality and morbidity.
- Reporting identifies areas where more research is needed and where improvements to support whānau can be made.

Implications for policy and practice:

- Recommendations within this latest Annual Report echo key areas previously identified as needing improvement. A full description of these recommendations can be found in the PMMRC 16th Annual Report[1], and a list of recommendations yet to be fully implemented can be found as Appendix B of the PMMRC 15th Annual Report.[3]
- Prevention, optimisation and preparation in the management of preterm birth would lower neonatal and perinatal mortality, especially if equity of outcomes is addressed.
- Ongoing data collection and reporting to monitor progress will ensure visibility of outcomes and accountability of the sector.
- Dedicated focus and resourcing are needed on: pre-term birth prevention and post-birth care, national guidelines, cultural safety, and complete and robust data collection.

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Statement on competing interests

The authors of this Briefing are health professionals employed by various institutions and Universities including: Te Whatu Ora, New Zealand College of Midwives, University of Otago, Te Tātai Hauora o Hine Victoria University, and the University of Auckland. Other potential competing interests relate to: Perinatal and Maternal Mortality Review Subject Matter Experts for Te Tāhū Hauora, National Mortality Review Committee Chair, Board Member Ronald MacDonald House Charity, Health Research Council of NZ grants funded by HRC in the area of whānau hauora.

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