

Comparing perinatal mortality rates between jurisdictions

Statistical Services Branch
August 2017

Definition of terms

- Fetal death (stillbirth) is defined as the death of a fetus which did not at any time after delivery breathe or show any other evidence of life, such as a heartbeat. Fetal deaths by definition include only infants weighing at least 400 grams or of a gestational age of at least 20 weeks.
- Neonatal death is the death of a live born infant within 28 days of birth.
- A perinatal death is a fetal or neonatal death.

Recording and reporting of data about perinatal deaths in Australia

There are two national data collections that contain information about perinatal deaths:

- The Australian Bureau of Statistics collates data for all deaths registered in Australia to form the ABS Death Registrations collection (<http://meteor.aihw.gov.au/content/index.phtml/itemId/396126>)
- The Australian Institute of Health and Welfare collates data from state and territory Perinatal Data Collections to form the National Perinatal Data Collection (NPDC) (<http://meteor.aihw.gov.au/content/index.phtml/itemId/392479>).

There are two key publications produced by national agencies where perinatal deaths are benchmarked across jurisdictions and these publications use different data sources to describe perinatal deaths:

- In the Report on Government Services (RoGS), stillbirths and neonatal mortality are based on birth and death registration data as reported by the ABS.
- In the Australian Institute of Health and Welfare (AIHW) Australia's Mothers and Babies reports, stillbirths and neonatal mortality are based on the National Perinatal Data collection (NPDC).

There are differences between legislative definitions of stillbirths and data collection practices across jurisdictions that may impact on numbers reported in each data collection. Some of these include:

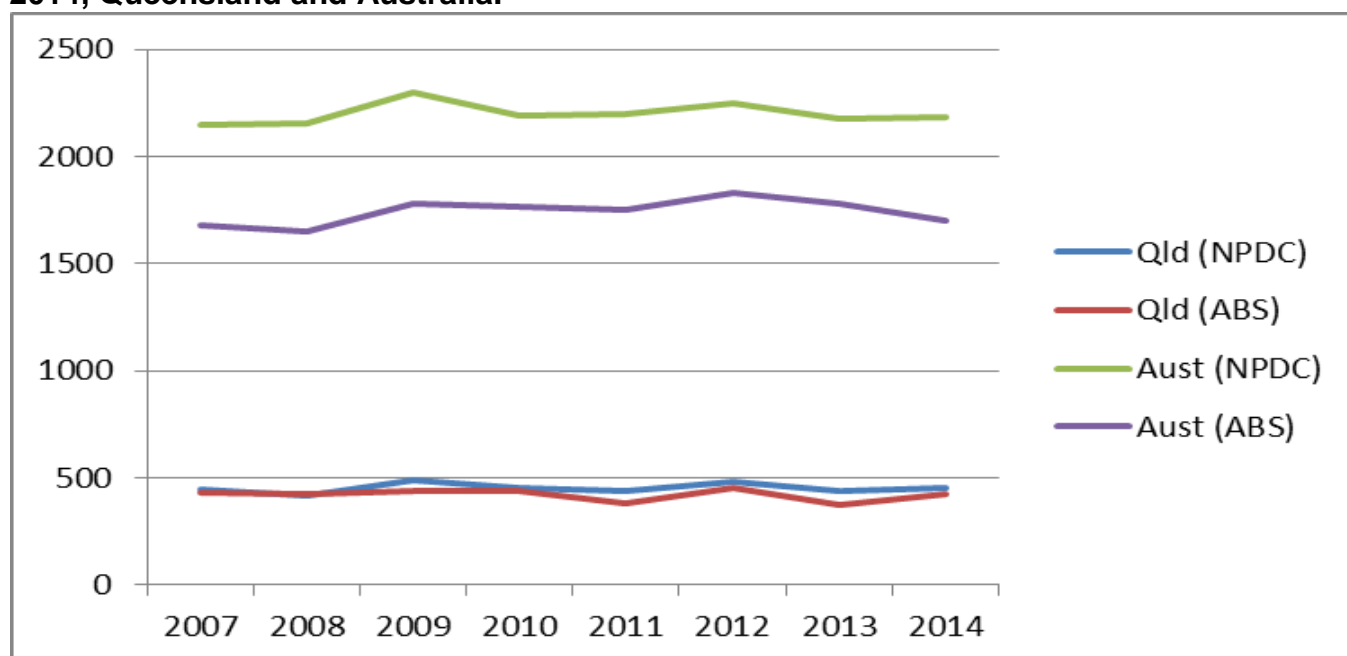
- In all jurisdictions registration of stillbirths requires notification by a doctor or coroner and by one or both parents. In Queensland alternative informants may provide the second part of a notification to fully register a perinatal death.
- In Queensland stillbirths are registered as a birth and a death, whereas in the majority of jurisdictions (apart from Western Australia) they are only registered as a 'stillbirth' as part of the birth registration process¹. This may make inclusion in vital statistics more likely for stillbirths occurring in Queensland and Western Australia.

- In South Australia, terminations of pregnancy are explicitly excluded from vital statistics reporting (that is, birth and death registrations), but are included in the data reported to the National Perinatal Data Collection¹.
- In some jurisdictions neonatal deaths for babies transferred to another hospital or readmitted to hospital and those dying at home may not be included in the NPDC².

Impact of data source on reported mortality rates

Comparison of numbers of stillbirths for Queensland and Australia from the two data sources over the last 13 years shows that for all of Australia a large number of stillbirths have not been included in data submitted to the ABS compared with those reported to the NPDC (an average of 79% of stillbirths included in the NPDC were included in ABS reports) whereas the numbers are consistent for Queensland (an average of 94% were included) (Figure 1).

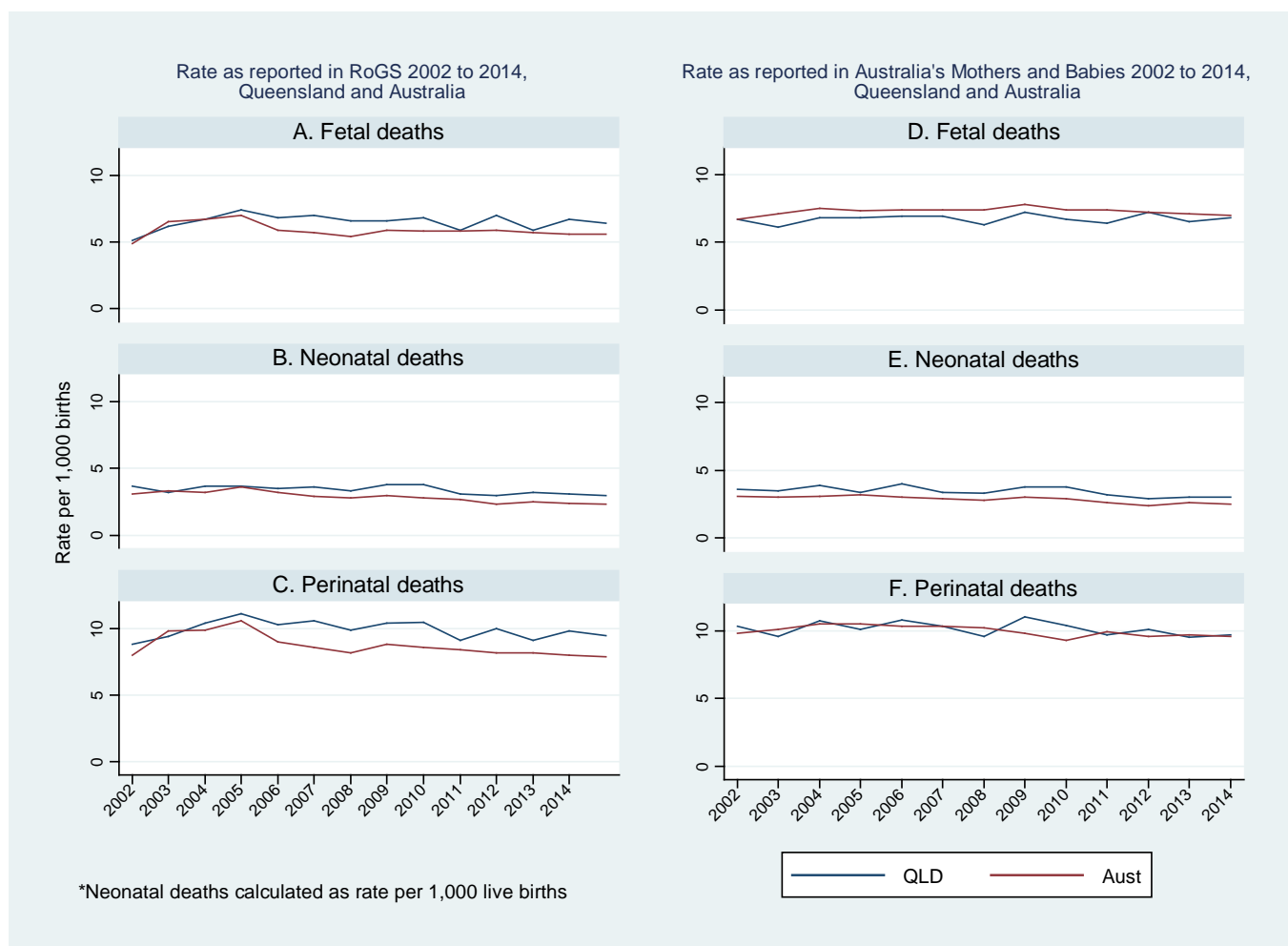
Figure 1. Count of stillbirths in Australia’s Mothers and Babies reports (based on data from the National Perinatal Data Collection (NPDC)) and RoGS (based on ABS data), 2007 to 2014, Queensland and Australia.



Source: National Perinatal Data Collection (stillbirths by usual residence of mothers from published Australia’s Mothers and Babies reports); Australian Bureau of Statistics Perinatal deaths, Australia, Catalogue Number 3303.0, Canberra (stillbirths by usual residence of mothers from published Causes of Death, Australia reports)

As a result, information contained in the 2017 RoGS³ (based on 2015 data) gives the appearance that Queensland has a higher perinatal mortality rate (9.5 per 1,000 total births) than the national rate (7.9 per 1,000 total births) because some stillbirths for some jurisdictions are not included in the data source used. The perinatal mortality rate for 2014⁴ in Queensland is similar to the national rate based on NPDC data (9.7 per 1,000 total births compared with 9.6 per 1,000 total births, respectively) (Figure 2).

Figure 2. Neonatal, stillbirth and perinatal mortality rate, as reported in RoGS and the AIHW Australia's Mothers and Babies reports, 2002 to 2014, Queensland and Australia



Source: National Perinatal Data Collection (deaths by place of occurrence from published Australia's Mothers and Babies reports); Australian Bureau of Statistics Perinatal deaths, Australia, Catalogue Number 3303.0, Canberra (deaths by usual residence of mothers from published Causes of Death, Australia reports)

Based on NPDC data from 2014⁴ the neonatal mortality rate is higher in Queensland (3.0 per 1,000 live births) than in Australia overall (2.5 per 1000 live births) whereas the stillbirth rate is lower (6.8 per 1,000 births in Queensland compared to 7.0 per 1,000 births in Australia). The reason for the higher neonatal mortality rate and lower stillbirth rate is not able to be understood based on available data.

Conclusion

Information contained in the Report on Government Services (and in the report of the former National Health Performance Authority) is based on the ABS Death Registrations collection where stillbirth rates are under-reported for many jurisdictions, which makes it appear that Queensland has higher perinatal mortality rates than other jurisdictions. Based on National Perinatal Data Collection data, neonatal mortality is higher in Queensland than in most other jurisdictions but stillbirth rates are lower, so the overall perinatal mortality rate is not higher.

References

1. AIHW: Hilder L, Li Z, Zeki R & Sullivan EA 2014. Stillbirths in Australia, 1991–2009. Perinatal statistics series no. 29. Cat. no. PER 63. Canberra: AIHW National Perinatal Epidemiology and Statistics Unit. <http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129548877>
2. AIHW: Monk A, Harris K, Donnelly N, Hilder L, Humphrey M, Gordon A & Chambers GM 2016. Perinatal deaths in Australia, 1993–2012. Perinatal deaths series no. 1. Cat. no. PER 86. Canberra: AIHW. <http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=60129557267>
3. Australian Government Productivity Commission 2017. Report on Government Services. <http://www.pc.gov.au/research/ongoing/report-on-government-services>
4. AIHW 2016. Australia's mothers and babies 2014—in brief. Perinatal statistics series no. 32. Cat. no. PER 87. Canberra: AIHW. <http://www.aihw.gov.au/publication-detail/?id=60129557656&tab=3>