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Citation: Grollman, C., Carty, L., Plachcinski, R., Cortina-Borja, M. & Macfarlane, A. (2026). Potential for epidemiology of pregnancy-associated mortality using administrative data in the UK. International Journal of Population Data Science, 11(5), p. 3563. doi: 10.23889/ijpds.v11i5.3563

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Link to published version: https://doi.org/10.23889/ijpds.v11i5.3563

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International Journal of Population Data Science

Journal Website: www.ijpds.org

Potential for epidemiology of pregnancy-associated mortality using administrative data in the UK

Christopher Grollman[1], Lucy Carty[2], Rachel Plachcinski[2], Mario Cortina-Borja[3], and Alison Macfarlane[2]

[1]City St George's, University of London, London, United Kingdom; University of Liverpool, Liverpool, United Kingdom

[2]City St George's, University of London, London, United Kingdom

[3]University College London, London, United Kingdom

In the UK, administrative data alone under-ascertain pregnancy-associated deaths. The confidential enquiries into maternal deaths use a notification system, supplemented by administrative data and other sources, for the surveillance of pregnancy-associated death. The confidential enquiry method – the gold standard for ascertainment – does not routinely include population-based adjusted epidemiology to explore differences between social groups. Linkage of health and vital statistics data offers a cost-effective option for population-based analyses, including regarding inequalities, if ascertainment is adequate to minimise bias. This study compared numbers of deaths during or within one year of the end of pregnancy, in the confidential enquiries, administrative records from the Office for National Statistics in England and Wales and National Records of Scotland, and the City Birth Cohort of linked administrative and health data. There is structural non-ascertainment in England and Wales of deaths associated with pregnancies for which no birth was registered. We estimated numbers of deaths in the confidential enquiries excluding those associated with pregnancies that ended before 24 weeks' gestation. Against this more comparable denominator, administrative ascertainment was around 90%, meaning administrative under-ascertainment was not generalised across the dataset. The City Birth Cohort ascertained 80% of all-cause pregnancy-associated deaths within a year of a registerable live/stillbirth, and 60% of maternal deaths. Confidential enquiries will always be the gold standard for detailed case review and surveillance of pregnancy-associated and maternal deaths. Supplementary to this, linkage of administrative and health datasets may allow robust population-based adjusted epidemiology, to enable further insight into health inequalities.

https://doi.org/10.23889/ijpds.v11i5.3563
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