

The impact of remoteness on the outcomes of children with prenatal drug exposure: A population-based cohort study

Out-of-home care

Parental substance use

Health inequities

Rural and remote

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Context: Children with prenatal drug exposure (PDE) face elevated risks of death, hospitalisation and OOHC, and PDE is growing fastest in regional and remote areas. This is the first population-level study of geographical disparities in PDE outcomes. Using linked records for all babies (~1.8 million) born in NSW between 2001 and 2020, it compares children with exposure to smoking, alcohol or other substances in pregnancy (n=208,492) with unexposed children (n=1,607,662), adjusting for First Nations status, maternal age, maternal mental illness and social disadvantage.

Key findings:

208,492

NSW children born with prenatal drug exposure, 2001-2020

52x

More likely to be placed in OOHC than unexposed children

2.9x

More likely to die than unexposed children

68%

More likely to die if children diagnosed with NAS living outside major cities

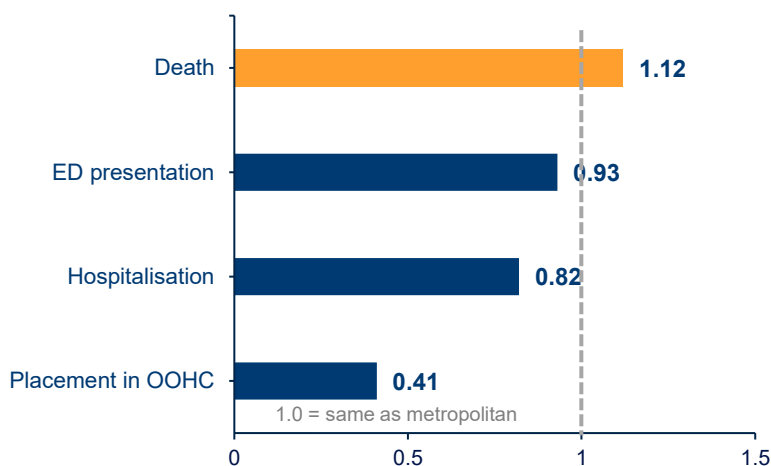
Note: Incidence Rate Ratio (IRR): A statistical measure used to compare how much more frequently a health event happens in one specific group compared to another over time.

Neonatal Abstinence Syndrome (NAS): The medical withdrawal symptoms infants with PDE experience.

Children with vs without PDE exposure

Compared with other NSW children, children with PDE were more likely to die (IRR 2.90), be placed in **OOHC (52.43)**, be hospitalised (1.22) and attend an emergency department (1.06). Disparities persisted into adolescence, even for children without a NAS diagnosis.

Regional vs metropolitan children with PDE (adjusted IRR)



Regional vs metropolitan

Compared to metropolitan children with PDE, regional children were less likely to be hospitalised (IRR 0.82) and were far less likely to be placed in OOHC (0.41), yet were more likely to die (1.12), mainly from preventable causes such as accidents.

- Emergency department (ED) presentations for regional children with PDE increased up to 2.5-fold between 2001 and 2020, and OOHC placements rose in remote and very remote areas while falling in most metropolitan areas.
- NAS appears underdiagnosed in rural cohorts, attributed to limited antenatal screening and fear of child removal, particularly in First Nations communities, which could delay intervention and support.

Summary

Lower service use combined with higher mortality indicates an access problem, not lower need: children with PDE in regional and remote areas are not reaching the preventative health and psychosocial support that metropolitan children receive. The authors call for equitable access to preventative health care and psychosocial support, with implications for how child protection and health systems reach drug-exposed children outside the cities.