



PHRN Population
Health
Research
Network



Mental health in mothers: a practical use of population data

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National Research
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An Australian Government Initiative

The Research

Two comprehensive mental health studies analysing the data of more than 450,000 new mothers have revealed some striking trends. These findings could have a significant impact on mental health treatment and public policy in Australia.

Maternal mental health has been a heavily researched subject in recent years. It is widely known that postpartum depression affects up to 15 percent of women. What's more, it is also now understood that poor physical health in early pregnancy is linked with poor mental health in the year following birth.

However, there are still significant gaps in knowledge in this area. Firstly, researchers have queried the rate of hospital admissions for postpartum mental illness in Australia, as this was unknown. Secondly, the impact of physical ailments during pregnancy on the likelihood of developing postpartum depression had not been thoroughly investigated either.

Research teams, both led by Dr Fenglian Xu, set out to answer these questions.

The first study looked at the data of more than 300,000 mothers who gave birth in New South Wales between 2001 and 2010 and found there has been an increase in hospital admission rates over the ten-year period. Of the 300,000 women, more than 6,000 were admitted to hospital with a psychiatric disorder in the first year following birth. Most admissions were from anxiety and adjustment disorders, but unipolar depression was also a common diagnosis.

The second study examined New South Wales hospital data of more than 154,000 first-time mothers who gave birth between 2006 and 2010. Twenty per cent – or nearly 32,000 women – presented to the emergency department with a

physical problem during pregnancy. It was found that pregnant women who visited the emergency room were more likely to be admitted to hospital for postpartum depression after birth. The rate is higher than in other developed countries and also when compared to previous studies. However, the researchers suggested the variation may be, in part, due to the accessibility of health services.

Both studies uncovered these findings with health records linked through the Centre for Health Record Linkage (CHeReL) a participant in the Population Health Research Network (PHRN). The first was a population-based descriptive study and utilised linked data from the NSW Midwives Data Collection and the NSW Admitted Patients Data Collection. The second was a population-based study using linked data from the NSW Emergency Department Data Collection, the NSW Perinatal Data Collection and the NSW Admitted Patients Data Collections.

WHO ARE WE?

The Population Health Research Network (PHRN) is an initiative of the Australian Government being conducted as part of the National Collaborative Infrastructure Strategy. We enable existing data from around

the nation to be brought together and made available for health and human services research. The PHRN greatly improves the availability of linked data for researchers, allowing population

level research to be carried out thoroughly and effectively. Find out more at www.phrn.org.au association between ED admission and a diagnosis of postnatal depression when planning a woman's care.

REFERENCE

Xu, F., E. A. Sullivan, Z. Li, L. Burns, M. P. Austin and T. Slade (2014). "The increased trend in mothers' hospital admissions for psychiatric disorders in the first year after birth between 2001 and 2010 in New South Wales, Australia." *BMC Womens Health* 14: 119.

Xu F, Sullivan E A, Forero R and Homer C S E (2017). "The association of Emergency Department presentations in pregnancy with hospital admissions for postnatal depression (PND): a cohort study based on linked population data" *BMC Emergency Medicine* (2017) 17:12

Privacy and security

Privacy protection and data security lie at the heart of the Population Health Research Network. The collection, use and disclosure of personal information by government agencies and other agencies are bound by strict legislative and regulatory conditions. Researchers wishing to access linked data must also adhere to stringent conditions, including ethics approval, data custodian approval and the development of a detailed data security plan.

Researchers are typically given access to a linked data set put together to meet the specific needs of their project. This de-identified data includes only the minimum information required for the research, such as age rather than date of birth.

Government agencies handle personal information in highly-secure environments. Data is delivered to researchers through a secure remote access facility, ensuring no information is stored on the researcher's personal computer or their institutional network. Researchers cannot export raw data from this system, only their analyses, and these are checked.

Researchers must only use the data for the approved purpose and are not allowed to link any other information. At the conclusion of the project, all data must be destroyed or returned.

Penalties for researchers and government employees can include criminal conviction, jail time or substantial fines. In the more than ten years since the network began, there has never been a breach.

