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Using the Maternity Services Dataset for Research: Opportunities and Challenges

Catherine Stewart¹, Jennifer Hall¹, and Katie Harron¹

¹University College London, London, United Kingdom

Objectives

The Maternity Services Dataset (MSDS) provides information from NHS-funded Maternity Services in England, covering care from the first antenatal appointment through to delivery and discharge. We aimed to explore data quality and linkage potential to provide a resource for analysts intending to use MSDS for research.

Methods

MSDS captures detailed information on maternity care, including maternal demographics, appointments, admissions, screening tests, and delivery, as well as neonatal demographics, admissions, and diagnoses. There are two versions: V1.5 (May 2015–March 2019) and V2.0 (April 2019–Present). V1.5 data are contained in a single table, whereas data in V2.0 are spread across 12 tables. Patient identifiers enable linkage within MSDS (i.e. between tables and years in V2.0) and with other NHS datasets, such as Hospital Episode Statistics (HES). However, different methodologies were used to create the patient identifiers in V1.5 and V2.0, meaning linkage across versions is not possible.

Results

MSDS is a large, national level dataset, with 524,745 deliveries recorded within MSDS in 2023/24. While data has been available since 2015/16 there is limited use of the data until 2018/19 due to coverage; in 2016/17 only 55.9% of all deliveries recorded in HES were recorded in MSDS, rising to 90.7% by 2018/19. The transition to V2.0 initially reduced coverage, but by 2021/22 MSDS included 94.4% of all deliveries reported in HES, and this figure has continued to increase. The transition to V2.0 also brought new structure, variables, classifications and codes, which means direct comparison between the versions is difficult. Within MSDS, variables can be mandatory, required or optional, meaning there is variation in the completeness of variables, which may affect data usability for research.

Conclusion

MSDS provides detailed clinical data not available elsewhere and can be linked to other health and education data (e.g. within ECHILD). Challenges include incomplete submissions, variable completeness, and incompatibility between V1.5 and V2.0, limiting longitudinal analyses. As coverage and available years increase, MSDS will become a more robust research resource.

