

International Journal of Population Data Science

Journal Website: www.ijpds.org



Creating an intergenerational cohort of mothers and their children using administrative data from health, education and social care in England (ECHILD)

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Objective

Maternal physical, psychological, and social risk factors extend beyond impacting maternal wellbeing to significantly influence their children. Sibling dynamics also play a crucial role in individual development, health and wellbeing. We established a national intergenerational cohort of mothers and their children using administrative health, education and social care data in England (ECHILD).

Approach

We extracted 14.5 million baby records from hospital records for births between 1997-2022 and linked 13.6 million (94.1%) of these to delivery records of 8.0 million mothers using a validated probabilistic algorithm. We then identified clusters of mothers with only-children and mothers with sibling-children by identifying livebirths linked to the same mother.

Result

The cohort captures 87.7% of all livebirths in England and includes mothers aged up to 37 and their children. We identified 4,086,648 mother-only-child clusters and 3,957,856 mother-sibling-children clusters. Compared with only-children, children with siblings were more likely to live in more deprived areas and have younger mothers, but were less likely to be overdue births (≥ 42 weeks gestation), or to have very low birth weight (< 1500 g). Among the mother-sibling-children clusters, sibship sizes varied between 2-15, with a mean of 2.4 children per mother. The median birth interval was 3.0 years.

Conclusions and Implications

This national cohort of 8 million mothers and their children (including 4.1 million mother-only-child and 4.0 million mother-sibling-children clusters) linked to hospital, education and social care data is an important resource for investigating the effects of maternal exposures, sibling dynamics and their interplay on individual development, health and wellbeing.

