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A pathway to improved maternity research in Northern Ireland? Novel linkage of Northern Ireland Longitudinal Study and Northern Ireland Maternity Services System

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Objectives

Our primary objective was to determine the social and demographic determinants of interpregnancy weight change. A secondary aim is to highlight the novel linkage of two data resources in Northern Ireland (NI) and the potential for transformative research in maternal health.

Approach

We piloted a process to link two datasets in a safe, legal and ethical manner. The NI Maternity Services System (NIMATS) provides access to biological variables collected during the gestational period. The NI Longitudinal Study (NILS) is a rich source of Census information providing a demographic, social and economic background we would not otherwise obtain from NIMATS alone.

Results

The linkage of these two datasets has allowed us to link pregnancies to the same mother, enabling exploration of weight changes during the interpregnancy period(s). In NI, just over half of women giving birth (52%) were overweight. This is the highest in the UK. Descriptive statistics provided further insight into the current situation together with logistic regression which identified socio-economic and demographic correlates of interpregnancy weight changes.

Conclusion & Implications

Observation of women during pregnancy, linked with longitudinal, administrative data has provided valuable insights into the important public health issue of maternal obesity and into which socio-economic groups are most vulnerable to weight gain between pregnancies. Further research in maternal health has the potential to be facilitated by the unique linkage of NILS and NIMATS. This is important given the rise in complicated pregnancies during recent years and changes in maternal socio-demographic profiles.

