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The safety of Waterbirth in the UK: a feasibility study of routine data linkage – The POOL Study.

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Background

POOL is a cohort study designed to establish whether waterbirth, compared to leaving a pool prior to birth, is as safe for mothers and infants. It is a novel case study using routine maternity and neonatal data for research purposes, including the adaptation and addition of locally collected electronic data at sites.

Aim

We aimed to establish the feasibility of the study design, which combines data from maternity information systems(MIS) and neonatal data using a dissent-based linkage model and the addition of new variables into the MIS.

Methods

The study will utilise individual level data entered into local MIS at 30 NHS Trusts linked with the National Neonatal Research Database(NNRD). New variables were added to one pilot site before rolling out to the remaining sites. A third party added the new variables, extracted data from the MIS to send to the study team and transferred data for matching to the NNRD, ensuring the study team receive only anonymised data. The feasibility study aimed to establish the quality and completion of the newly added variables, the levels of missingness for key outcomes from an extract of 4 years of retrospective data, and ensured the datasets could link using the study ID generated by our third party.

Results

The new variables were added into the MIS and data were extracted after a 10week pilot. New variables were present and had been entered as per specified metadata requirements. 23,140 records were extracted from the retrospective data and

key variables assessed for missingness e.g.place of birth(<0.1% missing). The datasets could link using the studyID generated by the third party.

Conclusion

Through study set-up and in this pilot, we provide evidence that the main study is feasible, satisfies governance requirements and likely to generate data of sufficient quality to address our main research questions.

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