Investigating differences in gender mortality for children admitted to UK critical care units

What is this study about?

Every year more than 20,000 children are admitted to PICUs in the UK. Previous small studies have showed that baby girls may have higher mortality rates than baby boys in PICU. In 2017 we completed an analysis of all babies (0-12 months old) who were admitted to PICUs over an 11-year period. We obtained anonymous records for 68,000 babies and compared the rates of death between girls and boys during their admission to PICU. We discovered that girls had higher death rates than boys. This is different to what is seen in the general population where boys have higher death rates than girls for children of all ages. We carefully examined whether this difference could be due to differences in age, disease severity, infections, and a number of other factors. None of the factors could explain why girls died more than boys in PICU. We now want to examine these findings in greater detail as this could have implications for the care of critically ill children generally.

What are we going to do?

We will not be collecting any new information, just used routinely collected data. We will select all children who were admitted to a Paediatric Critical Care Unit (PICU) in the UK between 01 January 2010 and 31 December 2019. PICU data is collected for any child admitted to PICU nationally as part of the PICANet project. We will also use hospital data for mothers and babies that are collected by the National Health Service for births, and information on deaths, collected by the Office for National Statistics for the same period.

PICU admissions are available from PICANet, NHS Hospital Episode Statistics are made available by NHS Digital.

Hospital, PICANet and mortality data will be de-identified before it is transferred to the research team. This means that personal identifiers will be removed. We will use date of death, as it is important to take deaths into account as an important outcome measure within these analyses. It will not be possible to identify any individual within the data.

We will use electronic records that are routinely collected as part of health services to compare the risk of mortality between girls and boys. We will look at a range of health outcomes for children and their mothers to identify any reasons for differences in mortality in PICU. Researchers will only access anonymised data and will not be able to identify any individuals from the data.

Finding out whether what causes the differences in mortality between girls and boys will help improve targeting of resources and highlight groups in need of alternative support. Findings from the study will help policy-makers decide whether a risk of death scoring based on gender will help improve outcomes for children who are admitted to PICU. Evidence generated by this study will support commissioners in providing improved services for children who could benefit most, and lead to increased efficiency through more effective targeting of resources. It could potentially identify risk factors for mothers that impact on a child’s outcome in PICU.

What if I do not want my data (or child’s data) to be used in this study?

The research team will not be able to identify you and cannot remove your records from the study directly at your request.

You have the right to tell NHS Digital if you do not want the information you provide to the NHS to be used beyond the purpose of providing healthcare. This is known as a ‘opting out’. Please visit NHS

The PICANet Privacy Notice also provides information about the PICANet data collection process and how to remove your/your child’s information from the PICANet database.

Your choice will not affect the health care you receive.

**How do I contact the Research team (or Data Controller)?**

If you have questions or concerns about the study please contact Ofran Almossawi or the data controller Dr Katie Harron:

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Hospital Episode Statistics
http://content.digital.nhs.uk/hes

PICANet
https://www.picanet.org.uk/