

- A partnership of public health researchers across the five universities in North East England
- Working with policy makers and practice partners to improve health and wellbeing and tackle inequalities
- A founding member of the NIHR School for Public Health Research (SPHR)

# How do socioeconomic inequalities affect health in pregnancy?

Pregnancy is a critical time to improve the life chances of future generations. This review set out to understand the extent that an individual's socioeconomic status (often measured as education, income or occupation) relates to problems in pregnancy, across the UK and Ireland.

This project stemmed from a collaboration between Public Health Wales and researchers from Newcastle University which was enabled by AskFuse (the responsive research and evaluation service run by Fuse, the Centre for Translational Research in Public Health). We identified the available research on this topic (a systematic review) and combined the results of existing studies using a statistical approach called meta-analysis. These methods allowed us to explore the extent that individual and household-level socioeconomic inequalities are associated with the health of women and their babies in pregnancy.

Thirty-five unique studies including over 17 million mothers and babies were identified. They reported on a variety of pregnancy outcomes including the death of the mother or baby in pregnancy or a few weeks after birth, babies being born prematurely or having a low or high birth weight, and how the baby was delivered.

The most common way socioeconomic data was measured for this review was mother's occupational records held by national statistical institutes in England and Wales, Scotland and Ireland. We found limited data for other measures of socioeconomic status, such as housing, income or car ownership.

The findings provide evidence that both babies and pregnant women with lower levels of socioeconomic status suffer the worst health in pregnancy. For example, we compared the pregnancy health of women who had occupations in the lowest socioeconomic category (i.e. those with more manual types of work that are usually lower paid) with women whose occupation was in the highest category (i.e. professional occupations that are usually higher paid). We found that women in the lowest category had a 40% increased risk of

themselves or their baby dying, and the baby being born prematurely or having a low birth weight.

Women with occupations in the lowest category were less likely to have a caesarean delivery. On the one hand, this could protect against the increased risk associated with a caesarean delivery. However, this could also be due to women from deprived communities being less likely to either request a caesarean or be involved in discussions around birthing options. We also found some evidence for worse health outcomes for women with the lowest level of education, housing inequality and low income. Our results highlight the scale of the problem and the importance of a range of stakeholders coming together and taking action to reduce socioeconomic inequalities in pregnancy.

## Key findings

- Occupational data is the most common measure of socioeconomic status. Future studies should explore alternative measures of socioeconomic status (e.g. housing, income and car ownership).
- Women in lower occupational groups have a significantly increased risk of a range of problems in pregnancy, including either the woman or baby dying, and the baby being born prematurely or having a low birth weight. However, we found that these women were also less likely to have a caesarean delivery.
- There is some evidence to suggest there is an increased risk of women and babies dying and babies being born prematurely among unemployed parents, and an increased risk of poor pregnancy health for women with the lowest level of education, housing inequality and low income.
- Findings support the need for 'whole system' approaches to explore and address socioeconomic inequalities to improve pregnancy outcomes for women, their babies and future generations. Specifically, employment and workplace policies have an important role to play.

## Policy relevance and implications

- Results suggest that pregnancy outcomes are impacted by factors that lie upstream of the health behaviours of women and the care they receive in pregnancy and labour.
- A ‘whole system’ approach is therefore needed to explore and address socioeconomic inequalities and pregnancy outcomes (e.g. improved data collection and monitoring, analysis of the policy landscape impacting pregnant women and their families, and timely and rigorous research and evaluation efforts).
- Due to the impact of austerity, more children are born into poverty with associated inequalities in health outcomes. The pandemic will only serve to increase this further. This has implications for the post-COVID-19 economic recovery and the need for governments to focus on policies that will not further exacerbate inequalities, particularly for women and children.
- Improvements to the quality and completeness of routinely collected national data (relating specifically to individual measures of socioeconomic status) in the period before, during and after birth could have a powerful impact on policy development.

*“... this review highlights that employment and workplace policies need to consider their role in supporting better pregnancy outcomes.”*

## BRIEF DESCRIPTION OF THE RESEARCH

This review set out to understand the extent that an individual’s socioeconomic status relates to pregnancy health. The research included data for over 17 million mothers and babies in the UK and Ireland. We identified that women with lower socioeconomic status have worse pregnancy health outcomes. Our results highlight the importance of ‘whole system’ approaches when exploring and addressing how socioeconomic inequalities affect pregnancy health.

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