HEALTH EQUITY NORTH

INFANT MORTALITY IN ENGLAND

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nhsa Northern Health Science Alliance
A Health Partnership for Northern England

Child of the North

N8 RESEARCH PARTNERSHIP

EXECUTIVE SUMMARY

2,240

infants died before their first birthday in 2022 in England, **a rise from 2,209 in 2021**, corresponding to **3.9 infant deaths per 1,000 live births**.

The increase in IMR from 2021 to 2022 is largely driven by regions in the North of England

In 2022, the IMR in local authorities in the **most deprived areas of the country was**

4.7 deaths per 1,000 live births, compared to

2.8 deaths per 1,000 live births in the least deprived areas

West Midlands had the highest rate (at **5.6 per 1,000** live births), followed by **Yorkshire and the Humber (5.1 per 1,000)** and the **North West (4.4 per 1,000)**, the **East Midlands and North East both had 4.3 and 3.9 per 1,000** live births respectively

Infant mortality rates were highest for babies from the Black ethnic groups (6.8 per 1,000 live births), followed by those from Asian background (5.7 per 1,000 live births) - compared to White British which was the lowest at 3.1 per 1,000 live births

Within Europe, the **UK is one of the worst performing countries** with rates significantly higher than the European Economic Area (EEA) average of 3.1 in 2022, and rates twice as high as Finland and Norway

The UK's infant mortality rate fares poorly compared to other similar countries in the Organisation for Economic Co-operation and Development (OECD) - declining from 10th in 1960 to 29th out of 38 countries in 2021

KEY FINDINGS

- Long-term declines in infant mortality have slowed and the UK lags behind other high income countries. The recent increase in IMR has been linked to risk factors such as prematurity, congenital anomalies, low birthweight, ethnicity, maternal age, deprivation and poverty.

- **Inequalities in infant mortality between the most and least deprived local authorities are the same as in 2008, highlighting 14 years of stagnation. This reflects a backdrop of cuts to local government (commissioners of the 0-19 pathway), a struggling NHS (maternity services) and increasing numbers of families living in poverty.**

- **The most deprived parts of the country, the North of England and Black and Asian ethnic groups are experiencing an increase in infant mortality rates.**

  This is a reversal of previous declining rates and exposes stark inequalities across society. A serious investigation into the underlying drivers of higher IMR among the most deprived populations is needed.

- **Increases in infant mortality in the North of England appear to be driving the increase in the national rate.**

- Looking ahead there is cause for concern as recent outbreaks of whooping cough and other infections in childhood may increase infant mortality in the coming years.

- **Action is needed to address the causes of infant mortality with better support during pregnancy, appropriately resourced maternity and early years services and fiscal measures to alleviate poverty.**

Introduction

The latest infant mortality figures released by the Office of National Statistics (ONS) for England and Wales reveal that the most deprived parts of the country, the North of England and Black and Asian ethnic minority groups are experiencing an increase in infant mortality rates (IMR).[1] This is a reversal of previous long-term declining rates and exposes stark inequalities across society. Nationally, declines in infant mortality have slowed and the UK lags behind other high income European countries.

The latest data released by the Office of National Statistics (ONS) reveals that 2,240 infants died before their first birthday in 2022 in England, a rise from 2,209 in 2021, corresponding to 3.9 infant deaths per 1,000 live births. (ONS, 2024). IMR is now at the same level as in 2012 highlighting 10 years of stagnation.

Additionally, there has been an erosion of the relative success in declining IMR in the pre-pandemic years of 2017- 2020 and a reversal of declining rates seen pre-2014. The increase in IMR has been linked to risk factors such as prematurity, congenital anomalies, low birthweight, ethnicity, maternal age, deprivation and poverty.

Infant mortality is increasing in the most deprived parts of the country

Infant mortality is disproportionately higher in the most deprived parts of the country. In 2022, the infant mortality rate in England local authorities in the most deprived distribution of the IMD quintile was 4.7 deaths per 1,000 live births, compared to 2.8 deaths per 1,000 live births in the least deprived local authorities (Figure 2).

The ONS report also highlighted a threefold difference in IMR between the most deprived 10% and the least deprived 10% of Lower Super Output Areas in England and Wales (ONS, 2024).

Our analysis shows that inequalities in IMR between the most and least deprived local authorities in England are the same as in 2008, highlighting 14 years of stagnation. Over the past few years, England has observed a gradual decline in IMR among the least deprived local authorities in the country. However, the most deprived local authorities have experienced a reversal of previously declining rates, now seeing a rapid rise that exacerbates existing inequalities (see Figure 2).

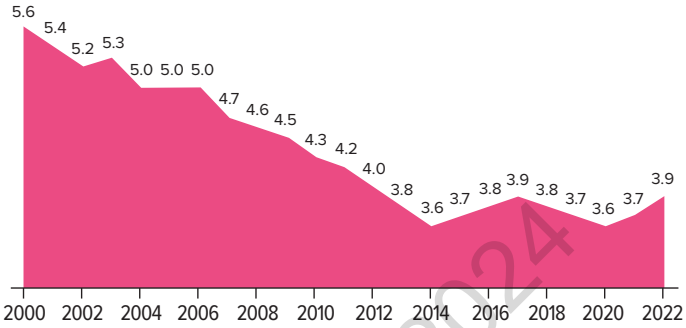
This increase in IMR has been linked to risk factors such as prematurity, congenital anomalies, low birthweight, ethnicity, maternal age, and deprivation levels, this alarming inequality gap should prompt a serious investigation into the underlying drivers – the causes of the causes – of higher IMR among the most deprived populations.

Infant mortality is increasing in the North of England

The increase in infant mortality rates is not evenly distributed across regions and socioeconomic demography, with the North of England an outlier, when compared to the rest of the country and to London (Figure 3). The Child of the North report (Pickett, Taylor-Robinson and et al, 2021) had previously exposed the regional differences in IMR in years prior to 2022 in England.

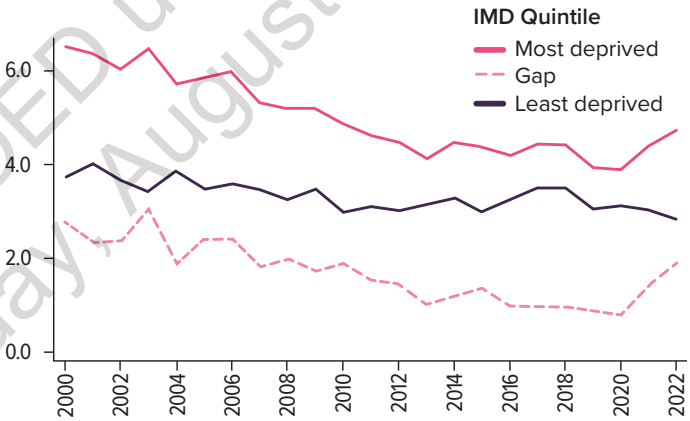
We now observe that the regional differences noted in 2021 have continued into 2022 with widening inequalities in infant mortality observed across regions. IMR per 1,000 live births in 2022 was highest in the West Midlands region (at 5.6 per 1,000 live births), followed by Yorkshire and the Humber (5.1 per 1000) and the North West (4.4 per 1,000), the East Midlands and North East both had 4.3 and 3.9 per 1,000

Figure 1: Infant mortality trend in England, 2000 to 2022
Note: The figure shows the trend in infant deaths, aged 0 to 11 months, for every 1000 live births in England



Note: The figure presents the trend and gap in infant mortality per 1,000 live births for England local authorities in the most and least deprived quintiles.

Figure 2: Infant mortality rates by deprivation of local authorities, 2000 – 2022.



Note: The figure presents the trend and gap in infant mortality per 1,000 live births for England local authorities in the most and least deprived quintiles.

Figure 3: Infant mortality rates by region

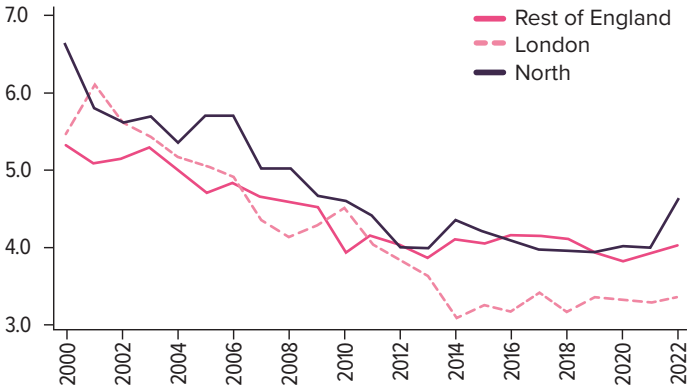


Figure 4: Infant mortality rates in 2022, by England region

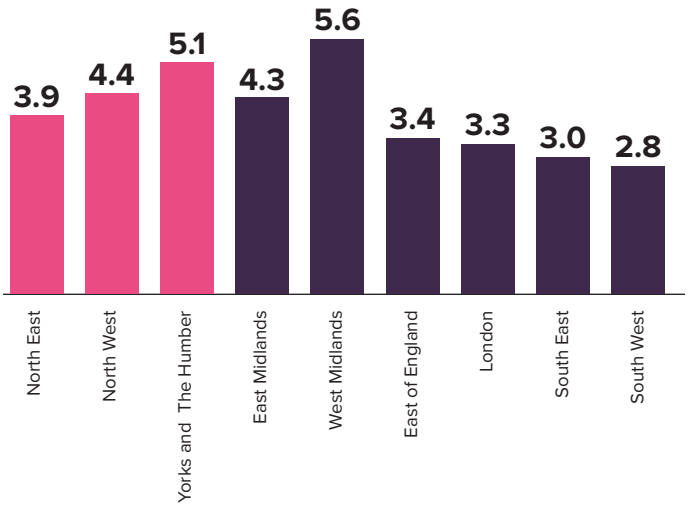


Figure 5: Changes in infant mortality rates across region 2021 - 2022

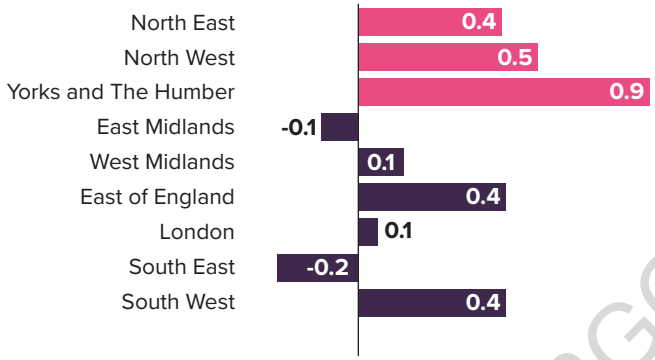


Figure 6: Infant mortality rate by ethnic groups

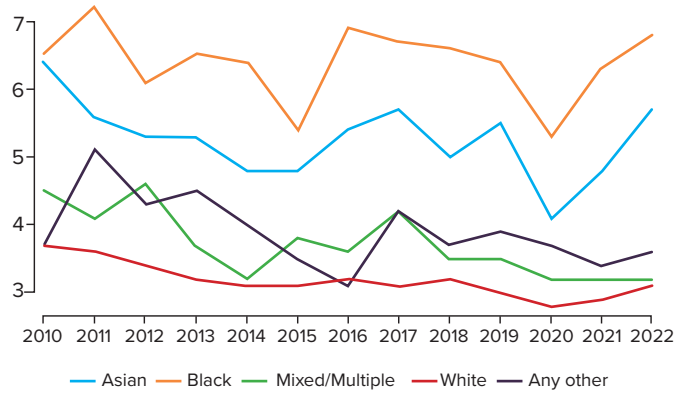


Figure 7: UK Ranking for IMR among OECD Countries (Source: OECD Data Explorer)

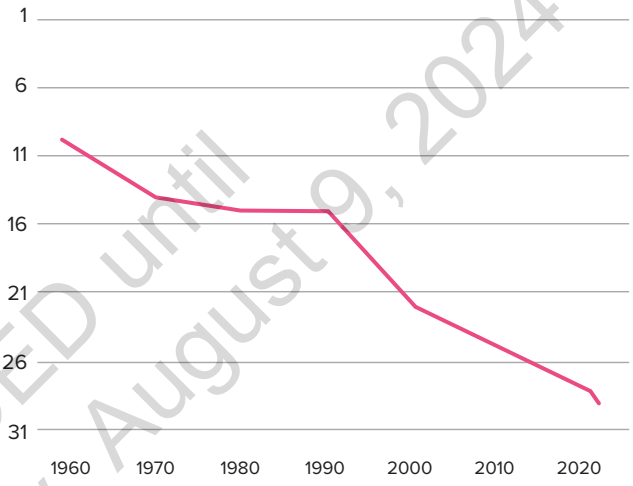
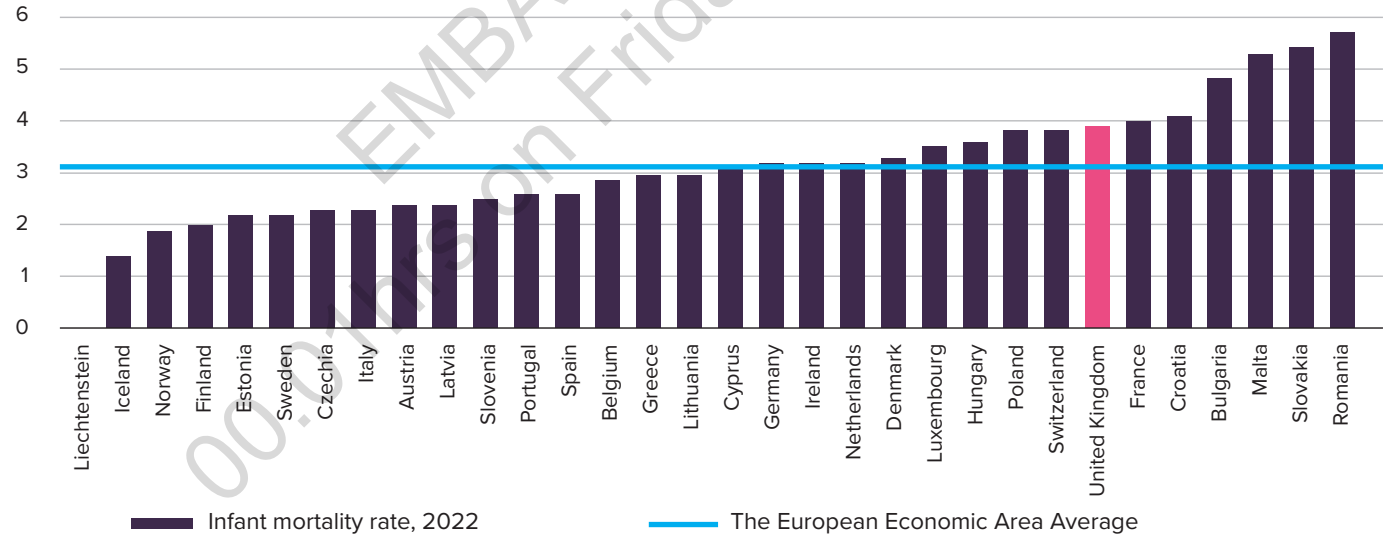


Figure 8: 2022 infant mortality rates in UK and the EEA countries (Source: Eurostat Data Browser).



live births respectively (Figure 4). Overall, Figure 5 highlights that the increase in IMR from 2021 to 2022 is largely driven by regions in the North of England.

Ethnic inequalities in infant mortality

Black and Asian ethnic groups are experiencing an increase in IMR. Analysis of the 2022 data showed highest IMR for babies from the Black ethnic groups, comprising Black African, Black Caribbean and any other Black background (6.8 per 1,000 live births), followed by those from Asian background which includes Bangladeshi, Indian, Pakistani and any other Asian background (5.7 per 1,000 live births), then 'Any Other' ethnic group (3.6 per 1,000 live births).

The IMR for White British and other White Background in 2022 was the lowest at 3.1 per 1,000 live births following 3.2 per 1,000 live births for 'Mixed/multiple' ethnic groups category. Figure 6 shows the trends in IMR, by ethnic group, between 2010 and 2022. While the inequalities have changed over time across group, IMR have consistently been higher in the Asian and Black ethnic groups.

International Context

The UK's infant mortality rate fares poorly compared to other similar countries in the Organisation for Economic Co-operation and Development (OECD). It has declined from a position of 10th in 1960 to 29th out of 38 countries in 2021 (Figure 7).

Similarly, within Europe the UK is one of the worst performing countries with rates significantly higher than the European Economic Area (EEA) average of 3.1 in 2022, and rates twice as high as Finland and Norway (Figure 8). Furthermore, higher child poverty rates are linked to increased infant mortality at country level (Figure 9).

Why does a high-income country like England have increasing inequality in infant mortality?

Children die in infancy because of risk factors such as prematurity, congenital anomalies, low birthweight, ethnicity, maternal age, deprivation and poverty.

Policies to address health inequalities in England were in place up to 2010 as part of the English Health Inequalities Strategy. Research has shown this was successful in reducing inequalities in infant mortality, which continued to decrease after the period of the strategy (Figure 1)[2]. However, there was a reversal of this trend in 2014. Stagnation in thevoverall IMR and in the inequality in IMR between the most and least deprived LAs since this period suggests that without coherent action to address socioeconomic inequalities in health, we are unlikely to see improvements in the IMR in the years ahead.

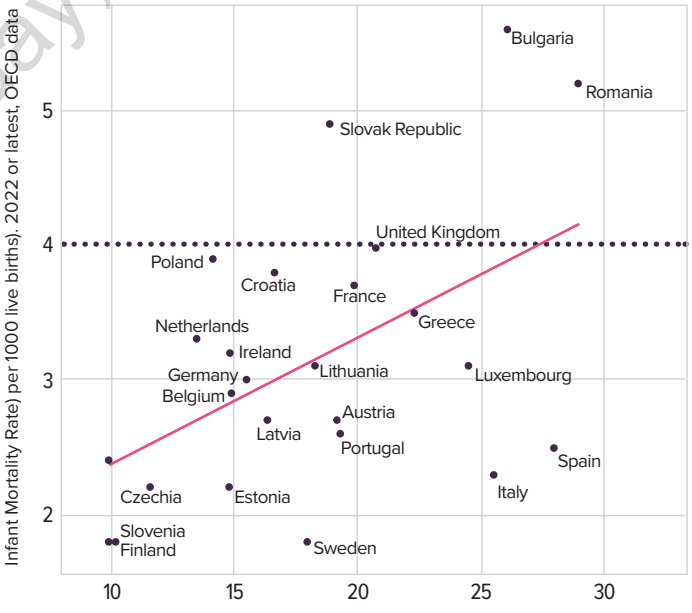
In England, increasing numbers of children are living in poverty.[3] Poverty and difficult socioeconomic conditions can contribute to infant mortality because risk factors for adverse pregnancy outcomes such as poor nutrition, inadequate housing and poor mental health are higher in more socially disadvantaged groups. [4] Redressing poverty to reduce these risk factors is imperative if we are to reduce infant mortality. Modelling studies highlight that a 1% increase in child poverty is associated with an estimated additional 5.8 infant deaths per 100,000 live births.[5]
In addition to tackling poverty, it is necessary to address socioeconomic inequality. Analysis of over 1 million births has suggested that socioeconomic inequalities account for a fifth of preterm births,[6] the leading cause of infant mortality in England. Research shows that the effect of adverse socioeconomic conditions on pregnancy outcomes is not only via risk factors of, for example, poor nutrition or increased smoking, but that there is also a direct effect (that is the effect of social circumstance on pregnancy outcomes are not all explained by increased risk factors). This highlights that policy to tackle socioeconomic inequalities in health are needed to reduce infant mortality.

Looking ahead there may be further increases in IMR because of the increase in prevalence of vaccine preventable diseases affecting infants and pregnant mothers, notably measles and pertussis (whooping cough). For example, there have been 4793 cases of pertussis in England and 8 deaths in infants from January to April 2024 compared to 858 cases in the whole of 2023, with the last reported infant death in 2019.[7] This is against a backdrop of declining pertussis vaccine uptake in pregnant women; down from 74% in 2017 to 59% in 2023.[7]

Poverty and inequality are not inevitable - other countries manage to protect more children and families from their devastating consequences. As Figure 9 shows, the UK has one of the highest rates of child poverty in Europe. It also has the highest income inequality in Western Europe, which is significantly related to its poor performance on infant mortality.[11]

Action is needed at local, regional and central level, to address the causes of infant mortality with better support during pregnancy, appropriately resourced maternity and early years services and fiscal measures to alleviate poverty.

Figure 9: Child Poverty vs Infant Mortality in EU Countries and UK



POLICY IMPLICATIONS

Rapid policy action is needed to address the worrying increase in infant mortality in areas of deprivation, the North of England and in Black and Asian ethnic groups. Action is needed to address the causes of infant mortality with better support during pregnancy, appropriately resourced maternity and early years services and fiscal measures to alleviate poverty and reduce onward intergenerational transfer of inequalities.

Regional government

Local maternity systems and integrated care boards working together in the roll out of the Women's Health Strategy should adapt to the specific needs of their population. This should involve considering women who live in adverse conditions, by targeting services and resource to need, and ensuring cultural sensitivity in the commissioning of services for women from Black, Asian, mixed and ethnic minority backgrounds.

Central Government

The government should commit to a policy to reduce health inequalities with a specific target to reduce overall infant mortality. As outlined in our Child of the North report[2], government need increase investment in welfare, health and social care systems that support children's health, particularly in deprived areas. Key measurable indicators of the efforts to reduce poverty with a particular focus on geographical areas within northern regions include household relative poverty rates, employment rates, and relative child poverty. These indicators can be included in more in-depth investigations of the drivers of infant mortality including other socio-demographic factors where data is available. There is no current government target to reduce overall infant mortality and the National Maternity Safety Ambition launched in 2015 has had several moving targets for reduction in stillbirths, neonatal deaths and maternal deaths.

Health System

The NHS must improve maternity staff retention and recruitment, with additional fiscal measures put in place, to make sure there is continuity of care for women living in disadvantaged areas and for those from Black, Asian, and mixed ethnic backgrounds. A target of 75% should be put in place for women from these communities and backgrounds to have access to the same midwife or team of midwives throughout their pregnancy journey and in the post pregnancy period. Culturally sensitive approaches should be incorporated across the entire system to improve access to healthcare, uptake of early booking in pregnancy and uptake of vaccines to reduce vaccine-preventable deaths.

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