National Maternity and Neonatal Investigation

Data Annex

Supplementary Evidence

National Maternity and Neonatal Investigation Data Annex

Summary

This annex presents recent evidence on trends over time in maternity and neonatal care, including adverse maternal and neonatal outcomes, in order to inform the National Maternity and Neonatal Investigation. Using national administrative data, surveillance systems and survey evidence, it shows that while the majority of women are satisfied with their care, most babies are born healthy, and good progress has been made in some elements of long-standing maternity safety ambitions, this progress has stalled in recent years and some outcomes have not recovered to the levels seen before the COVID-19 pandemic.

Maternal mortality, an important marker of the safety and quality of health systems, declined steadily until the early 2010s but has since increased, with recent rates comparable to those observed two decades ago. Marked ethnic inequalities persist: Black women face substantially higher risks of maternal death, and confidential enquiries indicate that in nearly half of maternal deaths, improvements in care may have altered outcomes. Stillbirth and neonatal mortality rates fell steadily until 2021, but progress slowed following the COVID-19 pandemic. Although stillbirth rates have recovered to equal previous historical lows, neonatal mortality rates are recovering more slowly, and inequalities by ethnicity and deprivation remain pronounced.

Rates of neonatal brain injury have reduced only marginally since 2010 and have largely plateaued, though there has been some improvement in the rate of brain injury in babies born at term. Rates of brain injury are substantially higher for preterm babies and somewhat increased for babies from minoritised ethnic groups. Preterm birth rates remain above ambition targets, with a growing share resulting from clinical intervention. At the same time, rates of induction and caesarean section have risen sharply, with nearly half of babies now delivered by caesarean section. While women's reported experiences have partially recovered since the pandemic, postnatal care continues to lag behind other stages of the pathway.

The landscape of maternity and neonatal services has changed significantly in recent decades. The number of women giving birth each year increased throughout the 2000s, before peaking in 2011 and has decreased almost every year since, though population projections suggest future increases.[1] Women are increasingly likely to give birth in hospital-based obstetric units, with the proportion giving birth under midwife-led care in hospital or at home decreasing.[2] Almost half of babies born in English NHS hospitals are now born by caesarean section. Service specification, and its interaction with these

[1] Office for National Statistics, National population projections

[2] NHS England, NHS Maternity Statistics

changes, varies across the 119 NHS trusts delivering maternity care in England, which see anywhere between around 1,000 and 15,000 births a year. The costs of delivering maternity and neonatal care in the NHS has increased year on year between 2018/19 and 2024/25 in line with the increase in the cost of delivering secondary NHS care overall.

The trends described above reflect a complex picture of changing maternal demographics, persistent inequalities, and shifts in how care is delivered and the pressure put on services.

Contents

Maternal and neonatal outcomes

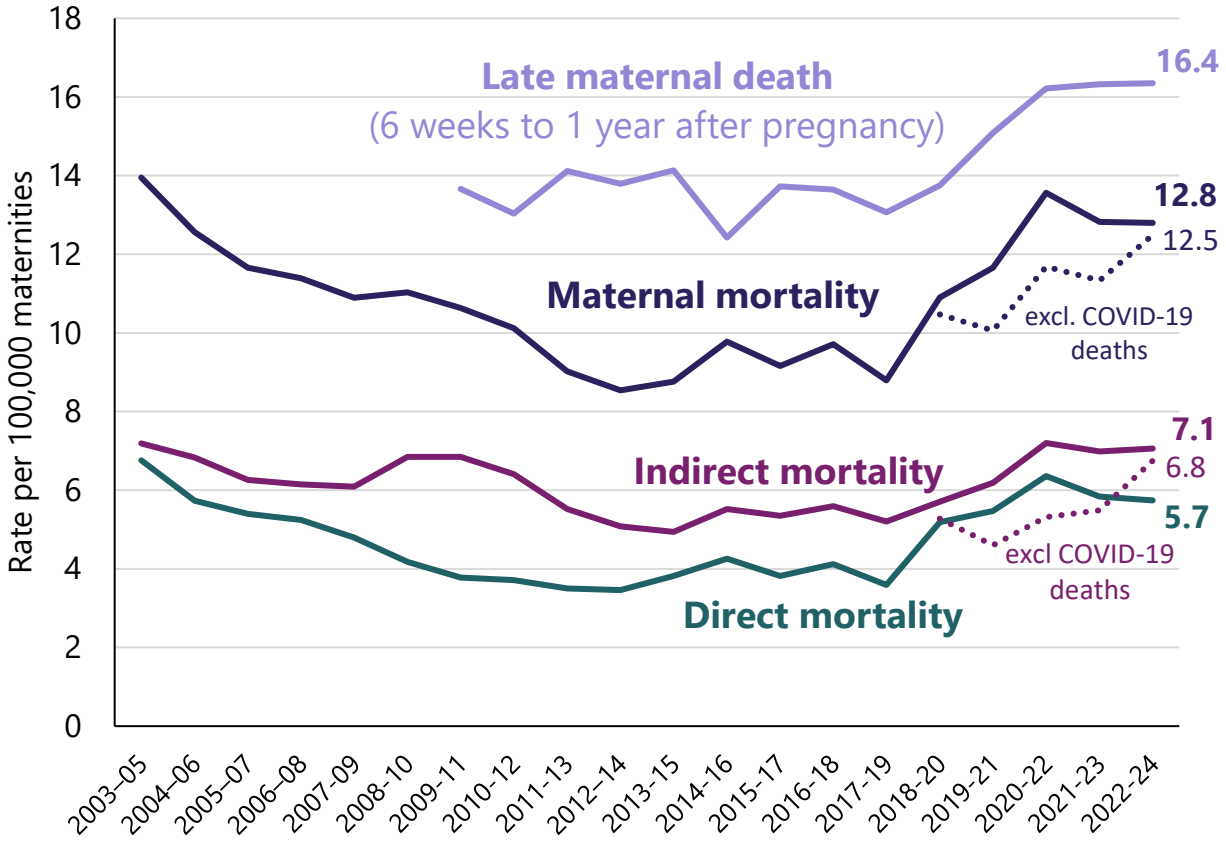
This section covers trends and variation in stillbirth, neonatal and maternal mortality, neonatal brain injury, and preterm birth, as well as pregnancy loss and maternal morbidity (including life-threatening and severe complications of labour and birth). This is not a complete list of maternal and neonatal outcomes – the majority of women are satisfied with their care, and most babies are born healthy – but intends to capture outcomes related to death or severe illness, harm, or trauma. While these adverse outcomes are comparatively rare, it is crucial to monitor and learn from them to understand where care is going wrong and where it could be improved.

Maternal mortality

Maternal mortality rates in the UK decreased steadily from the early 2000s until the early 2010s, with the lowest value on record being 8.5 per 100,000 maternities in 2012-14.[3] However, the rate then plateaued for several years before rising sharply from 8.8 in 2017-19 to 13.6 in 2020-22. While the most recent rate is slightly lower at 12.8 per 100,000 maternities in 2022-24, the decrease is not statistically significant, and the current rate is statistically similar to rates seen almost twenty years ago even when deaths from COVID-19 are excluded.

[3] MBRRACE-UK, Maternal mortality data brief 2022-2024

Figure 1: Maternal mortality rates, UK[4]



Source: MBRRACE-UK - Maternal mortality data brief 2022-2024; Saving Lives, Improving Mothers' Care report 2021-23

Thrombosis and thromboembolism were the leading cause of maternal death in 2022-24, followed by deaths from cardiac disease and deaths from psychiatric causes (drug- or alcohol-related causes or suicide). Cardiac disease was the most common cause of maternal mortality for every overlapping three-year period from 2009-11 to 2018-20, before being overtaken first by COVID-19 in 2019-21 and then thrombosis and thromboembolism from 2020-22 onwards.

[4] Maternal mortality is reported over rolling three-year periods at UK level by MBRRACE-UK because of small case numbers increasing statistical uncertainty. It is defined as follows:

- **Maternal death:** The death of a woman while pregnant or within six weeks after the end of pregnancy, from causes related to pregnancy or made worse by it, regardless of how long the pregnancy was or how it ended (birth, miscarriage, termination, or ectopic pregnancy).
- **Direct maternal death:** The death of a woman resulting from complications of pregnancy, childbirth or the management of pregnancy including interventions or treatment.
- **Indirect maternal death:** The death of a woman due to a medical condition or disease that the woman had before pregnancy or developed during pregnancy. The condition or disease was not the direct result of pregnancy but may have been made worse by the physical changes of pregnancy.
- **Late maternal death:** The death of a woman, from any cause, which occurs between six weeks and one year after the end of pregnancy, regardless of how long the pregnancy was or how it ended.

Table 1: Top 5 leading causes of maternal death in 2022-2024, UK

Cause of death	Number of deaths	Rate per 100,000 maternities	Percentage of all direct/indirect deaths
Thrombosis and Thromboembolism	42	2.13	16.7%
Cardiac disease	38	1.93	15.1%
Psychiatric causes	35	1.77	13.9%
Other indirect causes[5]	30	1.52	11.9%
Indirect neurological conditions	29	1.47	11.5%

Source: MBRRACE-UK - Maternal mortality data brief 2022-2024

In 2022-24, the rate of late maternal death occurring between 6 weeks and 1 year following pregnancy was 16.4 per 100,000 maternities, 20% higher than in 2009-11. In 2021-23, one-third of these late maternal deaths were from psychiatric causes.[6]

After decreases in the two previous reporting periods, the maternal mortality rate for women in England from a Black ethnic background increased in 2022-24 and was comparable to earlier rates including 2019-21. Maternal mortality rates were 2.7 times as high for Black women and 1.3 times as high for Asian women compared with White women in 2022-24.

Of the 263 women who died in the UK or Ireland[7] in 2021-23 whose medical case notes were reviewed by panels of experts to assess the quality of their care, only 54 (21%) were assessed to have received good care. A further 90 (34%) women who died received care

[5] This includes deaths from pre-existing or non-obstetric causes including general medical and surgical conditions, but excludes indirect causes reported in the table as well as indirect sepsis (influenza, pneumonia, other infections) and indirect malignancies (cancer), which are reported separately.

[6] MBRRACE-UK, Saving Lives, Improving Mothers' Care report 2021-23 (most recent data on cause of late maternal deaths)

[7] Confidential enquiry classifications are reported for the UK and Ireland together because of small case numbers in constituent countries.

that could have been improved, but no difference would have been made to the outcome. For the remaining 119 (45%) women who died, improvements to their care may have made a difference to the outcome.

The UK has an enhanced surveillance system that identifies and ascertains cases of maternal mortality from multiple sources. This means that maternal deaths are identified that would have been missed in other countries that determine maternal deaths only through civil registration (for example, a checkbox or certain causes of death on a death certificate).[8] Countries without an enhanced surveillance system typically under-estimate maternal mortality rates to some extent, and the difference when compared with the UK maternal mortality rate is partially because of these variations in measurement. However, the maternal mortality rate in the UK is higher than in countries with a comparable enhanced surveillance system, including Ireland, Italy, and France.[9]

Stillbirth and neonatal mortality

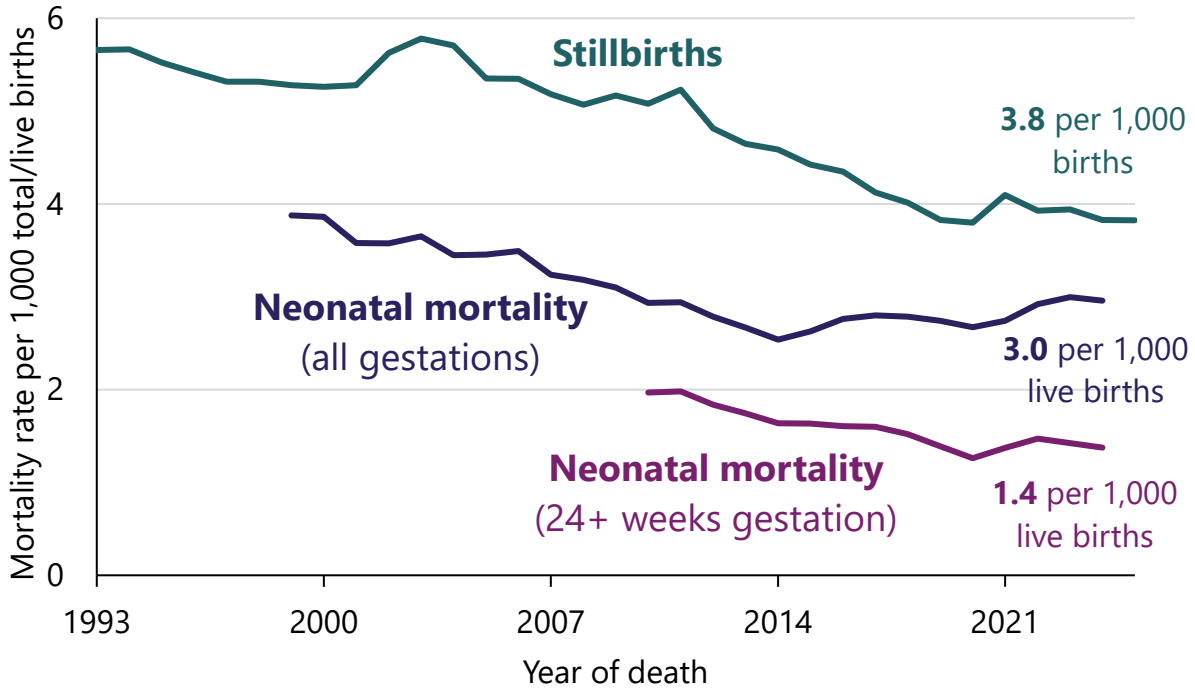
Rates of stillbirth and neonatal mortality decreased steadily from the early 2000s until 2021, when improvement reversed or plateaued following the COVID-19 pandemic.[10] Stillbirth rates have now recovered to 3.8 per 1,000 births, similar to the lowest rate on record in 2020. Neonatal mortality rates are also beginning to show signs of recovery, falling to 1.4 per 1,000 live births in 2023 and 2024, though not yet as low as the 1.3 per 1,000 live births recorded in 2020.

[8] Maternal mortality surveillance: Getting it right is essential to drive preventive actions

[9] Maternal mortality in eight European countries with enhanced surveillance systems: descriptive population based study

[10] Office for National Statistics, Births in England and Wales, Child and infant mortality in England and Wales

Figure 2: Stillbirth and neonatal mortality[11] rates in England, 1993-2025



Sources: Office for National Statistics – Births in England and Wales (2025 stillbirths), Child and infant mortality (1993-2024 stillbirths, 2008-2024 neonatal mortality), Mortality Statistics: Childhood, infant and perinatal (1999-2007 neonatal mortality)

Rates of stillbirth and neonatal mortality published by MBRRACE-UK, which exclude the small number of terminations of pregnancy at 24+ weeks gestation (which are subject to statutory stillbirth registration and therefore appear in ONS figures), show similar trends to the above, though the rate of stillbirths excluding terminations is lower at 3.2 per 1,000 births.[12]

The reduction in mortality rates over the past decade has been primarily driven by decreasing rates of antepartum stillbirth (babies delivered after 24 weeks known to have died before onset of labour) and early neonatal deaths (occurring in the first 7 days of life).

In 2024, the leading causes of stillbirth were problems with the placenta, congenital anomalies, issues with the umbilical cord, and fetal health conditions that developed during pregnancy, though 35.8% of stillbirths had an unknown cause of death. The most common causes of neonatal deaths were congenital anomalies, problems with the brain

[11] *Note:* Due in part to a 2019 update to British Association for Perinatal Medicine guidelines on providing survival-focused care to extremely premature babies, the number of babies born before 24 weeks of pregnancy (the point at which RCOG considers a baby to be viable, or able to survive outside the womb) who showed signs of life has increased from 0.11% of live births in 2010 to 0.15% of live births in 2024. Around 4 in 5 of these babies sadly die in their first month of life, and because of this the neonatal mortality rate for babies born at any gestation shows a different trend than the neonatal mortality rate for babies born after at least 24 weeks of pregnancy. Effect of national guidance on survival for babies born at 22 weeks' gestation in England and Wales: population based cohort study

[12] MBRRACE-UK, State of the nation report 2024

or nervous system, extreme prematurity, heart or lung complications and infections. Congenital anomalies accounted for 7.2% of stillbirths and 34.8% of neonatal deaths.

In 2024, stillbirth rates were 2.1 times as high for Black babies and 1.6 times as high for Asian babies compared with White babies, and 1.9 times as high for babies born to mothers living in the most deprived areas compared with babies born to mothers living in the least deprived areas. Neonatal mortality rates were 1.7 times as high for Black babies and 1.4 times as high for Asian babies compared with White babies, and 1.8 times as high for babies born to mothers living in the most deprived areas compared with babies born to mothers living in the least deprived areas. Data shows that babies of Asian Bangladeshi, Asian, Pakistani and Black ethnicity continue to be disproportionately affected by the higher rates of stillbirth and neonatal mortality associated with socioeconomic deprivation.

The Perinatal Mortality Review Tool (PMRT) provides standardised local reviews of care when babies die from 22 weeks' gestation onwards. IIn the UK in 2024, PMRT reviews of late miscarriages, stillbirths, and neonatal deaths[13] found that 36% of cases had at least one issue with care which may have been relevant to the outcome.[14] Specifically, 19% of late miscarriage or stillbirth reviews and 21% of neonatal death reviews identified issues with care which may/would likely have affected outcomes.

Stillbirth and neonatal mortality rates in the UK are around average in Europe, but are consistently higher than rates in Norway, Sweden, and Finland.[15]

Brain injuries

In 2021, the rate of babies born with brain injuries occurring during or soon after birth[16] was estimated to be 4.2 per 1000 live births.[17] The brain injury rate has decreased by approximately 3% since 2010. The brain injury rate increased between 2012 and 2014,

[13] This includes deaths of all babies born after at least 22 weeks of pregnancy. Because the legal definition of a stillbirth begins at 24 weeks gestation, the deaths of babies who did not breathe or show signs of life after birth are referred to as late miscarriages.

[14] MBRRACE-UK/PMRT Collaboration, PMRT Seventh Annual Report

[15] European Perinatal Health Report, 2015-2019 - Euro Peristat

[16] Definition developed for the purpose of monitoring this ambition: babies admitted to a neonatal unit in England who have one or more of the following identified during their stay:

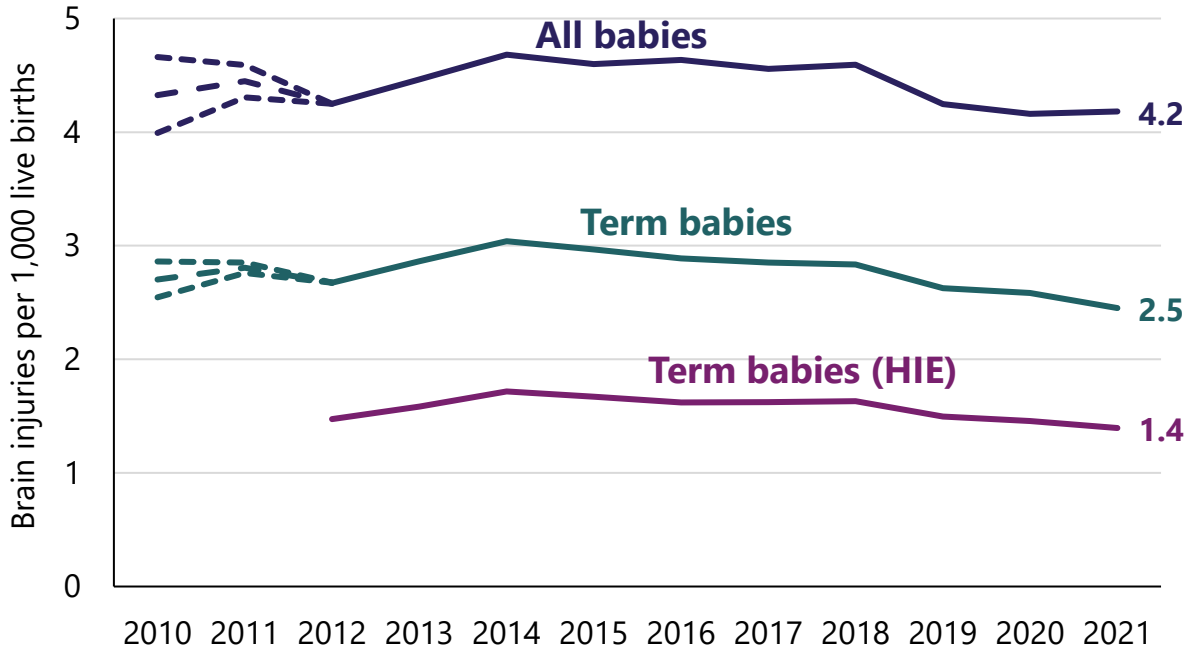
- a diagnosis consistent with hypoxic ischaemic encephalopathy *[term and near-term infants only]*
- a diagnosis of intracranial haemorrhage, perinatal stroke, hypoxic ischaemic encephalopathy, central nervous system infection, or kernicterus (bilirubin encephalopathy) *[all infants]*
- a diagnosis of preterm white matter disease (periventricular leukomalacia) *[preterm infants only]*
- a recorded seizure *[all infants]*.

See Brain injury occurring during or soon after birth: a report for the national maternity ambition commissioned by the Department of Health.

[17] Imperial College London, Brain injury surveillance, 2021

then plateaued until 2018. It reduced to 4.2 per 1,000 live births in 2019 and has remained at that level since.[18]

Figure 3: Brain Injuries occurring during or soon after birth, England



Source: Imperial College London - Brain Injury Surveillance Reports. HIE: hypoxic ischemic encephalopathy – moderate (grade 2) or severe (grade 3).

Babies born preterm (before 37 completed weeks of pregnancy) had rates of brain injury (25.6 per 1,000 live births) around ten times as high as babies born at term (2.5 per 1,000 live births) in 2021. The rate of brain injury in term babies decreased by 8% between 2012 and 2021, while the rate of brain injury in preterm babies increased by 3% over the same time period.

The most common type of brain injury identified is hypoxic ischemic encephalopathy (HIE), which accounts for more than half of brain injuries in term babies. HIE results from a lack of blood flow to the brain before, during, or shortly after birth. Risk factors for HIE include obstetric emergencies,[19] prolonged labour, failure to interpret, recognise, or respond to signs of fetal hypoxia, and delayed intervention. Some experts consider HIE to be potentially avoidable in ideal care conditions.[20]

Rates of HIE in term babies have been decreasing in recent years, falling from 1.63 per 1,000 live births in 2018 to 1.40 per 1,000 in 2021.

[18] The brain injury surveillance figures produced by Imperial College London for the purpose of monitoring progress against the 2010-2025 National Maternity Safety Ambition are commissioned ad hoc by the Department of Health and Social Care. The most recent year of data available is for 2021. Following this, the process of commissioning data for the years 2022-2025 has been delayed but is now in progress.

[19] For example, shoulder dystocia, placental abruption, cord prolapse, uterine rupture, or eclampsia. Obstetric emergencies as antecedents to neonatal hypoxic ischemic encephalopathy, does parity matter?

[20] Improving UK data on avoidable perinatal brain injury: review of data dictionaries and consultation

Table 2: Rate of neonatal brain injury by diagnosis type in England, 2021

Brain injury diagnosis type	Rate per 1,000 live births			Percentage of babies with a brain injury		
	All	*Term*	*Preterm*	*All*	*Term*	*Preterm*
Hypoxic ischemic encephalopathy (HIE)	1.59	1.40	4.07	38%	57%	16%
Recorded seizure	1.48	1.09	6.26	35%	45%	24%
Intracranial haemorrhage	1.24	0.21	13.9	30%	8%	54%
Central nervous system infection	0.69	0.41	4.16	17%	17%	16%
Perinatal/neonatal stroke	0.14	0.13	0.29	3%	5%	1%
Cystic periventricular leucomalacia	-	-	0.27	-	-	14%
Bilirubin encephalopathy	0.64	-	-	0.1%	-	-

Source: Imperial College London, Brain Injury Surveillance Reports

Note: Columns do not sum to total because these categories of brain injury are non-exclusive, meaning that a baby who (for example) received both a diagnosis of HIE and who had a seizure recorded would be counted in both categories. Figures for bilirubin encephalopathy cover all available years of data (2012-2021) because of very small annual numbers.

In England in 2021, the rate of brain injury in Black babies was 4.4 per 1,000 live births, 40% higher than the rate of brain injury in White babies (3.1), while the rate of brain injury in Asian babies (3.7) was 19% higher than in White babies.[21]

The Maternity and Newborn Safety Investigation (MNSI) programme reported that the number of referrals for severe brain injury have decreased by 44% from 2020/21 to

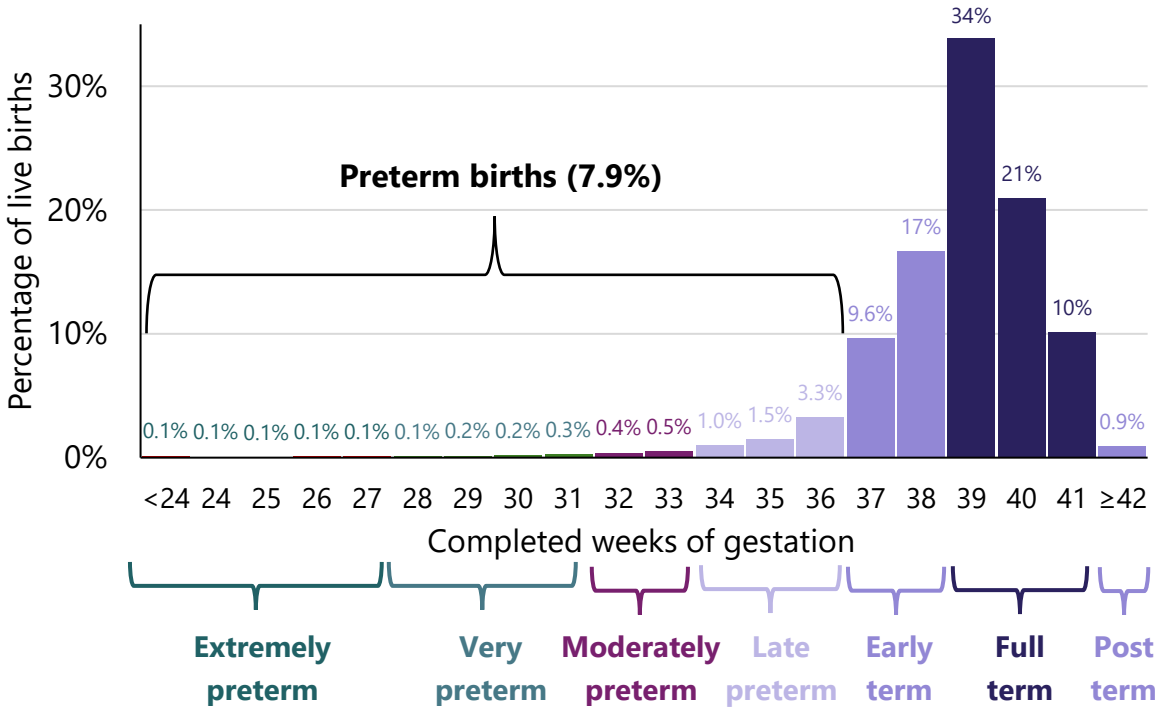
[21] Imperial College London, Brain Injury Surveillance Report, 2021, ethnicity tables

2024/25. While this gives an indication of progress, it is limited to referrals under MNSI requirements (babies born at term after labour).[22]

Preterm births

In 2025, the rate of preterm birth (including preterm stillbirth) in England was 8.0%,[23] an increase of 0.1 percentage points from 7.9% in 2024.[24] The preterm birth rate has gradually risen since 2010, with a slight decrease between 2017 and 2020, and then a return to the upwards trends in subsequent years but plateauing between 7.9% and 8.1% over the most recent 3 years of data.

Figure 4: Live births by gestation, England, 2025



Source: Office for National Statistics, Births in England and Wales
Note: The definition used for preterm births here is live births before 37 weeks of gestation, consistent with WHO and ONS definitions.

It should be noted that in some cases preterm birth is medically appropriate and safer for the mother and baby. For example, this may include where a woman develops pre-eclampsia (high blood pressure during pregnancy) and the condition worsens, or when a woman develops an infection inside the womb, then an early birth may be required for the health of both the mother and the baby.

[22] Maternity and Newborn Safety Investigations, Annual Report 2024-25

[23] To monitor the National Maternity Safety Ambitions, preterm births were defined as live births and stillbirths occurring between 24 and 36 weeks of gestation. To note, other sources like WHO and ONS define preterm births as all live births before 37 weeks of gestation (as presented in Figure 4).

[24] Office for National Statistics, Births in England and Wales

Preterm birth due to clinical intervention (i.e. induction or caesarean before labour onset) is increasing. Hospital data shows that the percentage of all preterm births where labour was induced or birth was by caesarean section before labour increased from 40% in 2010/11 to 59% in 2024/25.[25] Research shows variation in practice across the country.[26]

In England and Wales in 2025, Black babies continued to have the highest rate of preterm birth with 8.9%, while the preterm birth rate for Asian babies was 8.2% and 7.6% for White babies.

Other adverse outcomes

Pregnancy loss

Pregnancy loss before 24 weeks gestation is not subject to mandatory reporting or statutory registration and so cannot be monitored in the same way as stillbirths. Risk of miscarriage is estimated at 15.3% of recognised pregnancies,[27] or around 120,000 per year in the UK, however, due to lack of data on the earliest losses the true figure could be higher.[28] Many pregnancy losses, especially at early gestational ages, are managed at home or in primary care, and this can vary between groups. This presents barriers to using administrative health data to monitor population trends; however, rates of admission to hospital for management of a miscarriage or ectopic pregnancy have risen slightly in recent years.[29]

Maternal morbidity

Research shows that in recent years, more than 1 in 50 women experienced serious complications such as sepsis or serious bleeding while giving birth in NHS hospitals, and this appears to be increasing.[30] The recorded incidence rate of severe maternal morbidity rose from 8.7 per 1,000 maternities in 2013 to 27.8 per 1,000 in 2022.[31] T

Complications during pregnancy and childbirth can have significant long-term health impacts on women. In English NHS hospitals, the rate of 3rd or 4th degree perineal tears was 29 per 1,000 vaginal deliveries between October and December 2025,[32] and these injuries are associated with chronic conditions such as anal incontinence[33] and dyspareunia (pain during sex).[34] Conditions like pre-eclampsia (3.4% of deliveries in

[25] NHS England, NHS Maternity Statistics

[26] Iatrogenic and spontaneous preterm birth in England: A population-based cohort study

[27] Miscarriage matters: the epidemiological, physical, psychological, and economic costs of early pregnancy loss

[28] Sands and Tommy's Joint Policy Unit, Counting miscarriages in the UK, April 2026

[29] NHS England, NHS Maternity Statistics

[30] The association between different aspects of socioeconomic deprivation and severe maternal morbidity

[31] It is not possible to determine to what extent this change is due to a true increase in clinical cases, increased recognition, or changing clinical coding practices in hospital data.

[32] NHS England, Maternity Services Monthly Statistics

[33] Obstetric Anal Sphincter Injury and Anal Incontinence Following Vaginal Birth: A Systematic Review and Meta-Analysis

[34] Female sexual health after obstetric anal sphincter injury: a scoping review

2024/25)[35] and gestational diabetes (approximately 10%-20% of deliveries)[36] can increase the risk of developing cardiovascular and metabolic diseases later in life, including heart disease, stroke, and type 2 diabetes.

Approximately one in four women experience a mental health condition during pregnancy and/or after birth.[37] Among these, research indicates that one in twenty women – about 30,000 annually in the UK – develop post-traumatic stress disorder (PTSD) following childbirth, while around a third experience birth as traumatic.[38] The risk of developing PTSD is heightened by factors such as obstetric interventions (particularly emergency caesarean or instrumental deliveries), severe perineal tears (3rd and 4th degree), complications during childbirth, and delivering before reaching hospital.[39] Additionally, poor care, communication and/or treatment by staff can increase PTSD risk, for example, women who fear childbirth or whose birth plan was not able to be followed were three times more likely to develop PTSD.

Women and birthing people's experience

According to the NIHR-funded You and Your Baby survey, 84% of women who gave birth in 2024 were satisfied with their care during pregnancy, labour and birth.[40] Postnatal care remains an area of concern with women continuing to report less favourable experience compared to other stages of maternity care, with only 72% of women satisfied with their postnatal care in 2024.

[35] NHS England, NHS Maternity Statistics

[36] NHS England, National Gestational Diabetes Mellitus Audit

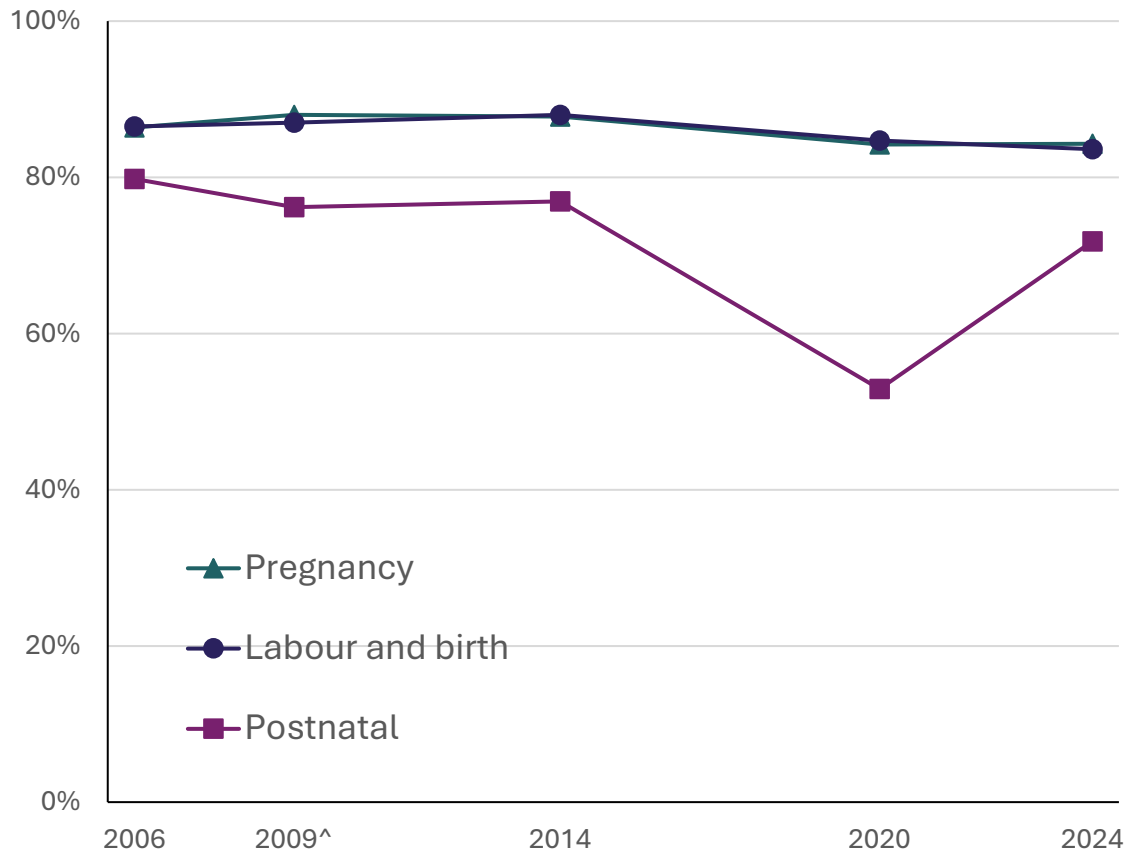
[37] Office for Health Improvement and Disparities, Estimated prevalence of perinatal mental health conditions in England, 2016 and 2019

[38] Birth Trauma APPG, Listen to Mums: Ending the Postcode Lottery on Perinatal Care

[39] Risk Factors for Post-Traumatic Stress Disorder after Childbirth: A Systematic Review

[40] NIHR Policy Research Unit in Maternal and Neonatal Health, National Maternity Survey, 2024

Figure 5: Proportion of women who were satisfied with their care during the perinatal period across You and Your Baby maternity surveys



^ Women gave birth in 2009 and the survey was conducted in 2010
Source: NIHR Policy Research Unit in Maternal and Neonatal Health, National Maternity Survey, 2024

The 2025 CQC maternity survey, which reports on experiences of specific aspects of care, shows that certain aspects of women's experiences with maternity services have improved in recent years, following a decline during the COVID-19 pandemic.[41] Between 2013 and 2019, survey results indicated steady progress in women's experiences of care. While the pandemic led to a notable drop in reported satisfaction, most elements of antenatal care have since returned to pre-pandemic levels, with improvements also seen in experiences during labour and birth. However, women are still reporting poorer experiences than in 2019 for some important aspects of care, including having confidence and trust in labour/birth staff, always getting help from staff when they needed it, and seeing or speaking to a midwife as much as they wanted after leaving hospital.

[41] Care Quality Commission, Maternity survey 2025

Maternal characteristics

One factor influencing these trends is the change in the characteristics of pregnant women. Women presenting at maternity services are increasingly older: in 2024, more than half of women who gave birth were 30 or older, and a quarter were 35 or older, whereas births by women under the age of 20 have reduced. Pregnant women also have increasing rates of obesity and some pre-existing health conditions, which, along with older age, are associated with a higher risk of developing complications during pregnancy, labour and after giving birth. Positively, rates of smoking during pregnancy (a major modifiable factor in adverse outcomes) have decreased, though the benefits of this will be seen mostly in groups with historically higher smoking rates.

Table 3: Changing maternal characteristics over time

Maternal Characteristic	Definition and source(s)	Baseline	Most recent data
Average age at birth	Standardised mean age calculated using population estimates and maternal age as recorded during birth registration. *ONS, Births in England and Wales – England and Wales*	29.5 years (2010)	31.1 years (2025)
Aged under 20	The percentage of live births where the mother was in each age group, based on maternal age as recorded during birth registration. *ONS, Births in England and Wales – England and Wales*	5.6% (2010)	2.1% (2025)
Aged 35 or over		19.9% (2010)	26.8% (2025)
Smoking at time of delivery	The number of women known to be smokers at the time of birth as a percentage of all maternities (live or still birth at least 24 weeks of gestation) with known smoking status. *NHS England, Statistics on Women's Smoking Status at Time of Delivery*	13.7% (2010/11)	6.1% (2024/25)

Maternal Characteristic	Definition and source(s)	Baseline	Most recent data
Obesity in early pregnancy	Percentage of women with a BMI of 30.0 or greater as measured in early pregnancy. *2018/19: Office for Health Improvement and Disparities (OHID),* *Report card: indicators of women's preconception health (BMI measured at antenatal booking appointment)* *2024/25: NHS England, Maternity Services Monthly Statistics aggregated internally to the financial year (BMI measured at 15 weeks gestation)*	22.3% (2018/19)	26.6% (2024/25)
Complex social factors	Proportion of deliveries where the women who gave birth had at least one complex social factor recorded by maternity services, excluding missing data. *2018/19: Office for Health Improvement and Disparities (OHID), Report card: indicators of women's preconception health* *2024/25: NHS England, NHS Maternity Statistics*	12.9% (2018/19)	12.5% (2024/25)

Note: 'Complex social factors' is defined as including those aged under 20, women who experience domestic abuse, women who are recent migrants, asylum seekers or refugees, or who have difficulty reading or speaking English or women who misuse substances including alcohol.

Pregnant women with multiple long-term conditions face compounded increases in risk.[42] In 2018, around one in five pregnant women in the UK had a multimorbidity (two or more long-term physical or mental health conditions).[43] Pre-existing conditions are a major contributor to adverse outcomes: compared to women without multimorbidity, these women face increased risks of miscarriage,[44] maternal morbidity, neonatal death, and perinatal mental health disorders.[45] Multimorbidity is also a driver of maternal mortality, accounting for an estimated 66% of the increased risk of maternal death in the UK.[46]

[42] Pregnancy with multiple high-risk factors: a systematic review and meta-analysis

[43] Epidemiology of pre-existing multimorbidity in pregnant women in the UK in 2018: a population-based cross-sectional study

[44] Multiple Long-Term Conditions, Clusters and Miscarriage Outcome in Pregnancy: A Population-Based Cross-Sectional Study in the UK

[45] Investigating the health and care needs of pregnant women with multiple long-term conditions

[46] Risk factors and newborn outcomes associated with maternal deaths in the UK from 2009 to 2013: a national case–control study

Women living in the most deprived areas are more likely to face increased risk factors, including having a BMI of 30 or higher at their initial antenatal appointment, smoking around the time of conception, having diabetes and being under the age of 20.[47] The prevalence of certain risk factors also varies between ethnic groups. For example, White and Mixed women are more likely to be younger than 20 and to smoke, while Black women are more likely to have a high BMI and have pre-existing hypertension, and Asian women are more likely to have pre-existing diabetes.

The ethnic background of mothers and babies in England has changed significantly in recent decades. In 2025, 64% of babies born in England were White (excluding the decreasing number of babies whose ethnic background was unknown), down from 76% in 2007.[48] At the same time, both the number and proportion of babies from Asian (19%), Black (8%), and Mixed/Multiple (7%) ethnic backgrounds have risen. Additionally, 41.1% of liveborn babies in England in 2025 had at least one parent born outside the UK, a figure that has continued to rise, largely driven by a growing proportion of births where both parents were born abroad.

Evidence suggests differences in the risk factors between ethnic groups partially explain the disparities in maternal and neonatal outcomes described in previous sections. However, some women from minoritised ethnic groups report experiencing racism and discrimination while under the care of maternity services.[49] Research also shows that women and babies from minoritised ethnic groups face higher risks of poor outcomes even when differences in demographic and health factors are accounted for.[50] Racism, discrimination, other forms of poor care, and variable levels of poor health can all contribute to poorer outcomes.

Changes in these population demographics lead to corresponding shifts in clinical activity, with some groups requiring more complex or intensive care. For example, older maternal age is associated with increased use of caesarean section; while White women are more likely to have elective caesareans, and Black women are more likely to have emergency caesareans.[51]

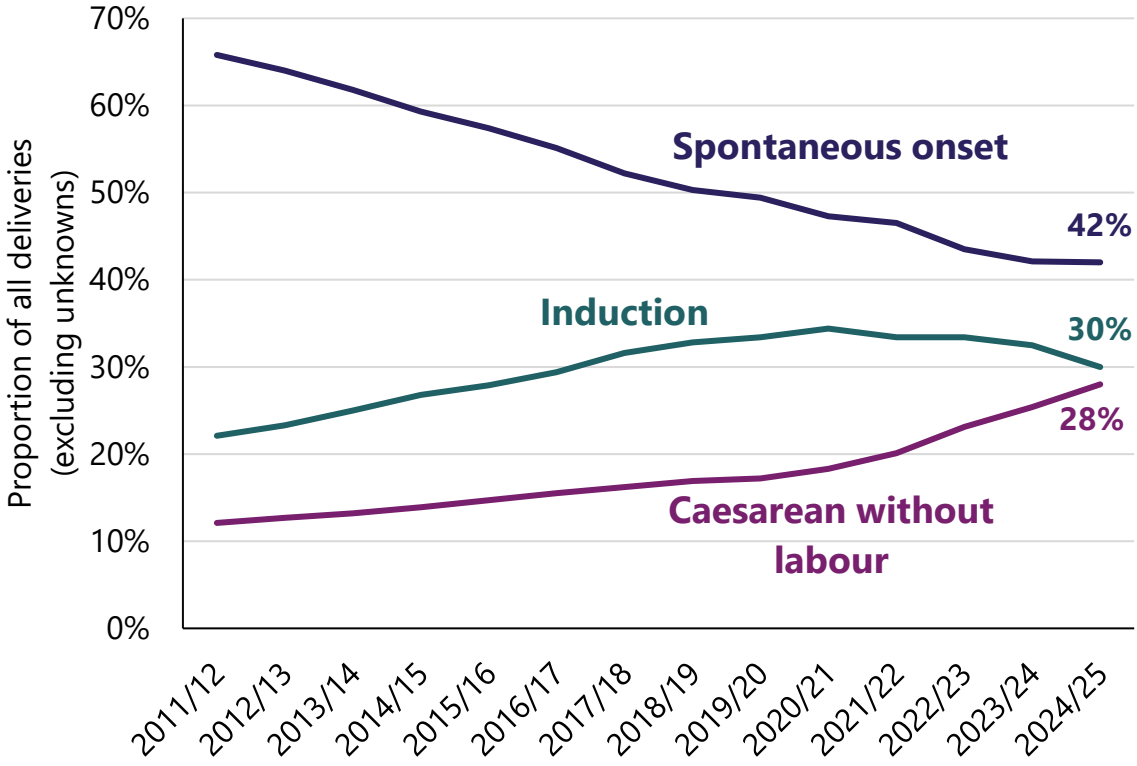
Mode of labour and delivery

Rates of intervention are increasing across the board. In 2024/25, labour began spontaneously in 42% of deliveries, a large decrease from 67% in 2010/11.[52] Rates of induction rose throughout the 2010s but appear to have peaked in 2020/21 at 34% and

[47] OHID, Report card: indicators of women's preconception health
[48] Office for National Statistics, Births in England and Wales
[49] Health and Social Care Committee, Black Maternal Health report, 2025
[50] Ethnicity, disadvantage and pregnancy outcomes in the UK
[51] NHS England, NHS Maternity Statistics
[52] NHS England, NHS Maternity Statistics

have decreased slightly to 30% in 2024/25. Rates of caesarean section before labour begins increased from 18% to 28% over the past five years.

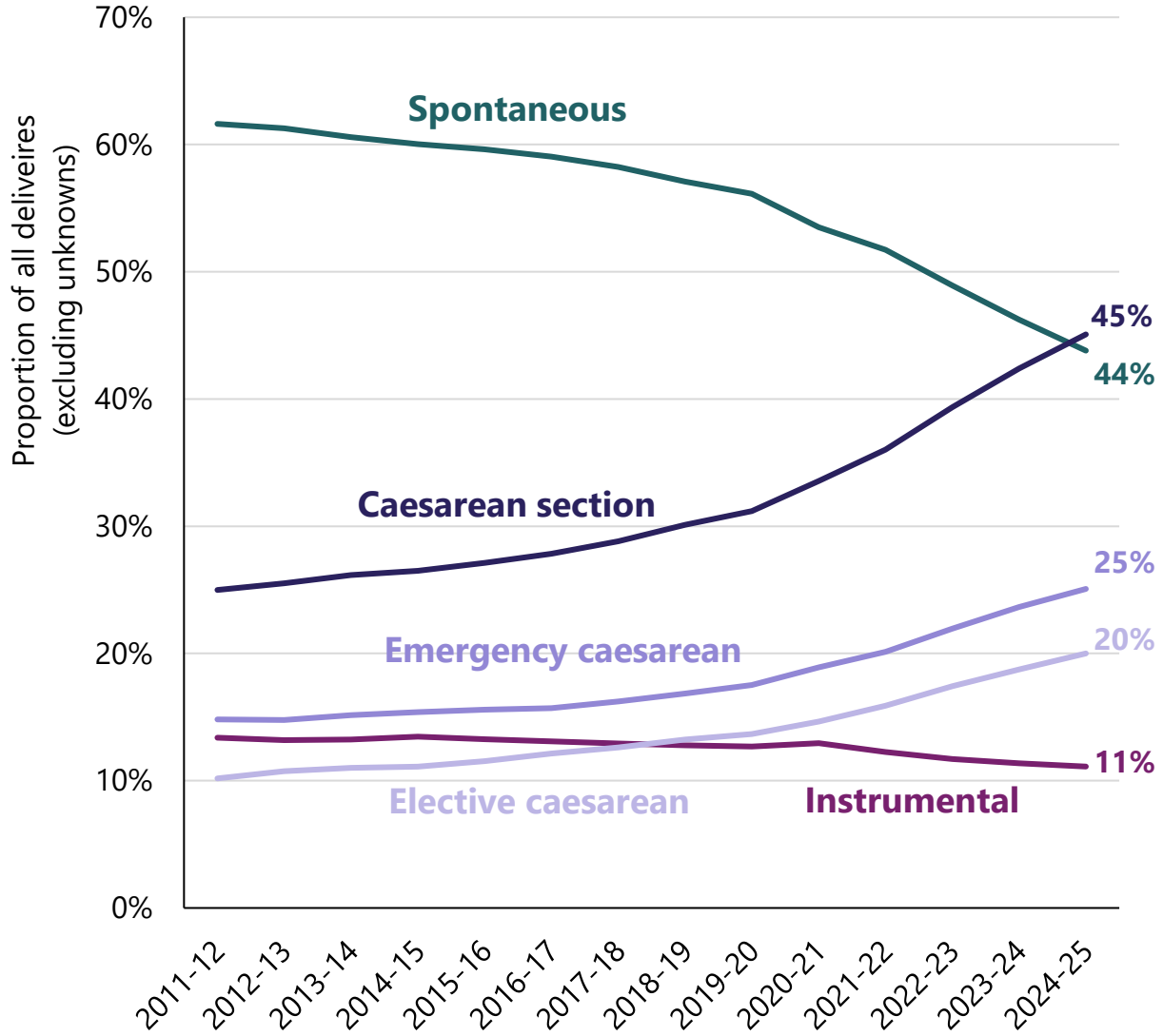
Figure 6: Proportion of all deliveries by mode of labour onset, England



Source: NHS England, NHS Maternity Statistics

Almost half of babies born in English NHS hospitals are now born by caesarean section. Rates of caesarean birth have been steadily increasing for decades, but the accelerated increase over the past five years from 34% in 2020/21 to 45% in 2024/25 is unprecedented. Both elective caesareans (a planned caesarean section scheduled in advance of labour) and emergency caesareans (an unplanned caesarean section performed when there are complications during pregnancy or labour) have increased, now making up 20% and 25% of births respectively.

Figure 7: Proportion of all deliveries by mode of delivery, England

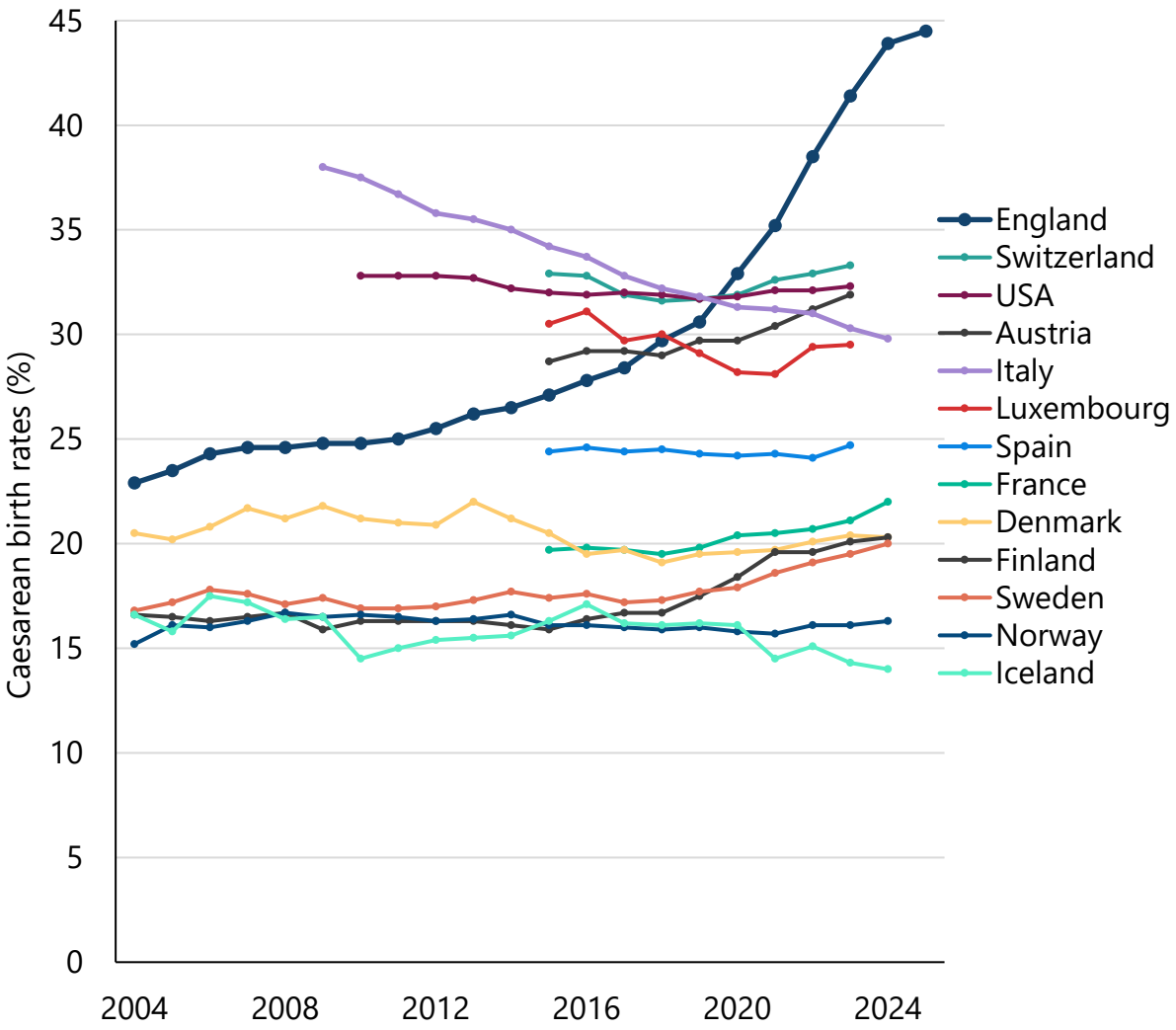


Source: NHS England, NHS Maternity Statistics

Caesarean rates are rising globally and vary widely between countries. In 2015, the caesarean rate in England was around average for Europe,[53] but in recent years the rate has increased faster than in other similar countries.

[53] European Perinatal Health Report 2015

Figure 8: Trends in caesarean births in England, western Europe and the USA, 2004-2025



Source: Ambia, J, Alderdice F, Knight, M, Rowe R, Sanders J, Carson, C, Short Report: International comparison of caesarean birth rates, 2020 – 2025, National Perinatal Epidemiology Unit, Nuffield Department of Women's and Reproductive Health, University of Oxford. 02 June 2026. http://www.doi.org/10.5287/ora-z6obzn5pq

There are benefits and risks associated with each of these interventions (or lack of intervention), highlighting the importance of appropriate use and informed choice. While vaginal birth is associated with better maternal recovery and fewer long-term risks, it is associated with a higher risk of perineal tears and emergency intervention, particularly in more complex births.[54] Induction of labour may be indicated in cases of prolonged pregnancy and can improve perinatal outcomes, but it is associated with higher intervention rates and requires additional monitoring and clinical input.[55]

[54] National Institute for Health and Care Excellence, NG192 Caesarean birth: Appendix A, Benefits and risks of vaginal and caesarean birth

[55] Induction of labour for improving birth outcomes for women at or beyond term

Caesarean section may become necessary when a vaginal birth poses a risk to the mother or baby, for example, when labour is not progressing, the baby is in breech transverse position, or an obstetric emergency like umbilical cord prolapse.[56] However, caesarean birth is associated with an increased risk of some adverse outcomes including infection, longer recovery, and complications in future pregnancies, as well as increasing length of stay in hospital and healthcare utilisation.

Factors affecting women's choices and plans for birth are complex and individual but research shows that some women who prefer elective caesarean birth cite fear of pain, injury, and uncertainty, or concerns about poor quality of care during vaginal birth. These women also have positive views on the relative level of control associated with elective caesarean births, which women with previous traumatic birth experiences or losses described as making them feel safer.[57]

Costs

Service provision

In 2024/25 the cost of maternity secondary care services[58] was approximately £5.7 billion.[59] Neonatal services[60] cost approximately £1.5 billion.

Maternity and neonatal services represented 6.4% of the cost of all NHS secondary care in 2024/25.

The average annual growth for both maternity and neonatal since 2018/19 to 2024/25 has been 5.3% when adjusted for inflation and efficiencies in healthcare. Despite this growth, maternity and neonatal services form no larger a share of NHS secondary care costs than in 2018/19 (when maternity and neonatal services represented 6.5% of NHS secondary care costs).

Between 2018/19 and 2024/25, there were 10% fewer births. However, births became more complex overall, with the average cost of a birth increasing by 13% after adjusting for inflation in the healthcare context. The increase in complexity was largely driven by a rise in caesarean births. The proportion of births by caesarean section increased from

[56] National Institute for Health and Care Excellence, Recommendations | Caesarean birth | Guidance

[57] Do women prefer caesarean sections? A qualitative evidence synthesis of their views and experiences

[58] Defined as the cost of maternity (obstetric and midwifery) outpatient care, community maternity care and obstetric Healthcare Resource Groups (HRGs).

[59] NHS England, National Cost Collection for the NHS. Note: some services are excluded from the public NCC, please see the publication for details. The NCC only includes ongoing costs, capital expenditure is excluded.

[60] Defined as the cost of all HRGs relating to neonatal critical care and neonatal disorders as well as neonatal critical care outpatient care.

30% in 2018/19 to 45% in 2024/25, representing a 34% increase in the number of procedures, from 181,000 to 240,000.[61]

Clinical negligence

When harm occurs during and after pregnancy, it can lead to substantial long-term costs. Although obstetrics claims only account for a small proportion (11%) of clinical negligence claims (excluding General Practice Indemnity), they accounted for 53% of the value of all notified claims received in 2024/25. More than half of this value relates to claims associated with neonatal brain damage or cerebral palsy.

In 2024/25, NHS Resolution made £1.3 billion in clinical negligence payments for claims made relating to obstetric services. Most of these payments relate to damages, which account for around 85% of total costs and are calculated based on the claimant's individual needs over their lifetime. For example, where babies have sustained serious injuries requiring lifelong care and support, damages payments can be very high and may be spread out over a number of years. The remaining costs relate to legal expenses.

Wider economic impacts of adverse outcomes

Research by the Office for National Statistics (ONS) found that women lost an average of £13,437 total in earnings in the five years following a stillbirth and an average of £12,305 total in earnings in the five years following a neonatal death.[62]

A 2018 UK-based study[63] estimated that mean health and social care costs per stillbirth amount to £4,191. The annual health and social care costs were estimated at £13.6 million, and total productivity losses amounted to £706.1 million.

A review of studies assessing the economic impacts of maternal morbidity found that only about a fifth of the total cost fell on the public health and social care system, with the majority being incurred by the individuals themselves or society[64]. For example, a study[65] estimated the value of lifetime costs per affected woman as £75,728 for perinatal depression and £34,811 for perinatal anxiety. When these per-case costs are spread across all women giving birth using prevalence estimates, the implied average cost per birth is approximately £8,500, corresponding to an aggregate burden of approximately £6.6bn for a UK annual birth cohort.

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[61] NHS England, National Cost Collection for the NHS. Note: some services are excluded from the public NCC, please see the publication for details. The NCC only includes ongoing costs, capital expenditure is excluded.

[62] The impact of adverse pregnancy events on monthly employee earnings and employment, England ONS, 2023 prices

[63] Healthcare and wider societal implications of stillbirth: a population-based cost-of-illness study, 2013/14 prices

[64] Economic burden of maternal morbidity – A systematic review of cost-of-illness studies

[65] Lifetime costs of perinatal anxiety and depression, 2012/13 prices

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