Saving Babies' Lives 2024: A report on progress

Scotland briefing

Sands & Tommy's Policy Unit

Working together to save babies' lives

Summary of progress

- Rates of stillbirth and neonatal death have declined in Scotland since 2010 overall but progress has been more variable since 2014.
- Perinatal-related deaths were the most common cause of child deaths in Scotland between April 2022 and March 2023.
- The Scottish Government is currently working with Public Health Scotland (PHS) to improve miscarriage data recording and build a more accurate picture of the number of miscarriages in Scotland.

What needs to change

Although there is an ambition in England to halve rates of stillbirth, neonatal death, preterm birth, maternal death and brain injury by 2025, relative to 2010, there is no equivalent public ambition in Scotland. There are locally agreed aims to reduce neonatal death, neonatal morbidity and stillbirth (1) but a national ambition is important to measure the impact of national policy efforts and to monitor differences between health Boards and population groups. Any future targets must have a clear and agreed baseline to measure progress against.

These targets should be the driving force behind a co-ordinated programme of policy activity, with funding and resources to meet them, and a commitment to evaluate progress. This should include:

- Embedding the new Scottish Pregnancy, Births and Neonatal Data dashboard and using insights to monitor changes in outcomes over time and any variation across different health Boards and population groups. PHS should continue efforts to improve the quality and completeness of ethnicity data. PHS should also consider including more comprehensive metrics on social risk factors to identify the groups at most risk of pregnancy and baby loss, understand what is driving inequalities, and inform potential solutions.
- Continued work to develop a methodology to record miscarriages in Scotland. Once in place, PHS should start to use the data to inform policy priorities.
- Processes to deliver more regular and consistent oversight of maternity and neonatal services. Findings should be made public where possible to allow external scrutiny of performance. This should also draw on learning from individual reviews and inquiries from Scotland and across the UK, which have consistently identified similar systemic issues with maternity and neonatal services.
- More regular and consistent insight into staff and patient experience; the last national survey of pregnancy and birth experiences in Scotland took place in 2018. This should also include a process to capture insights from bereaved parents.
- Steps to ensure that local reviews of perinatal deaths and adverse events are timely, consistent and of good quality.
- The resources to deliver the short-, medium-, and long-term priorities developed by the Short Life working group on racialised inequalities. Impact evaluation should be integrated into all interventions to build an understanding of what works to tackle inequalities.
- Continued commitment to the work of the Nursing and Midwifery Taskforce, including resources to deliver on the priorities it identifies. The taskforce should evaluate the impact of its work on patient safety outcomes, including the rates of pregnancy loss and baby deaths in Scotland.

Introduction

The Saving Babies' Lives 2024 Progress report brings together data on pregnancy and baby loss across the UK and assesses progress to save more babies' lives and reduce inequalities. Health is a devolved matter, with policies, funding and the healthcare system overseen by devolved governments in each of the four nations. While each nation faces similar systemic issues, much of the data are reported separately. To analyse the data and support devolved policy makers, the Sands and Tommy's Joint Policy Unit is publishing a series of tailored briefings with the most recent data for each of the four UK nations.

This briefing is focused on Scotland. For additional analysis of trends across the UK, please see the Saving Babies' Lives 2024 report.

About the Sands and Tommy's Joint Policy Unit

Sands and Tommy's Joint Policy Unit is focussed on achieving policy change that will save more babies' lives during pregnancy and the neonatal period and on tackling inequalities in loss, so that everyone can benefit from the best possible outcomes.

Rates of pregnancy loss and baby deaths in Scotland

Since 2010, rates of stillbirth and neonatal mortality have declined in Scotland, by 24.5% and 15.4% respectively (see Figure 1). After year-on-year decline, progress has been more variable since 2014.

Stillbirths and neonatal deaths, which together are called perinatal deaths, were the most common cause of death among children (aged 0 – 17 years), representing 30% of deaths in Scotland between 1 April 2022 and 31 March 2023 (2).

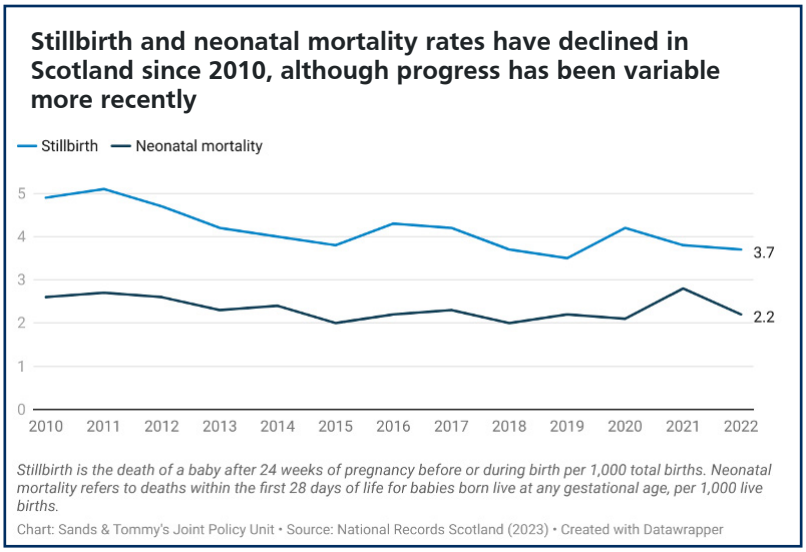

Figure 1. Stillbirth and neonatal mortality rates in Scotland between 2010 – 2022

In 2021, the neonatal mortality rate in Scotland increased by a third to 2.8 per 1,000 live births, relative to 2020. The Scottish Government commissioned a review into neonatal death rates between April 2021 and March 2022; however, it found no new or unusual causes of death, or systemic failures of care which could explain the rise in deaths (3). Some changes which may have influenced the neonatal mortality rate included more babies being born extremely preterm (before 28 weeks' gestation), with a higher risk of mortality; and a higher neonatal mortality rate than expected among babies born moderately to late preterm (between 32 and 36 weeks' gestation). The review noted the possible direct and indirect impact of the Covid-19 pandemic although this could not be concluded definitively. The review also found significant variation in the quality of local investigations of neonatal deaths, which is likely to have led to missed opportunities for learning. The importance of learning from reviews into deaths is explored in more detail in this briefing paper.

Although the neonatal mortality rate declined to 2.2 per 1,000 live births in 2022, it remained higher than the rate in 2020. Provisional data from January to September 2023 also suggest a return to a higher rate again in 2023.

Unlike stillbirths and neonatal deaths, the total number of miscarriages and miscarriage rates are not currently reported in Scotland, or by any UK nation. The Scottish Government is currently working with PHS to improve miscarriage data recording and build a more accurate picture of the number of miscarriages in Scotland. To inform their scoping study (4), health Boards were surveyed to establish what miscarriage-related data are currently collected and where they are recorded, which highlighted variation across and within health Boards. PHS has created a draft dataset which is out for consultation and refinement before it is integrated into maternity data systems.

Establishing a robust method to count the number of miscarriages is essential to understand the impact on the Scottish population and whether the rate of miscarriage is increasing or decreasing. It will also enable the government to set reduction targets and evaluate the impact of measures to reduce miscarriages.

Comparisons across the UK

Stillbirth rates in Scotland have typically been the second lowest across the UK. Rates in Scotland and England followed a similar trajectory of decline between 2011 and 2015, although rates in Scotland have been more variable since. This is likely to partly reflect the smaller population size, which is also linked to more variable year-on-year rates in Northern Ireland and Wales. Despite this variation, stillbirth rates have declined the most in Scotland and England (both -24%) between 2010 and 2022. Progress has been slightly lower in Northern Ireland (-17%) and Wales (-17%) where stillbirth rates have been the highest out of the four nations since 2014.

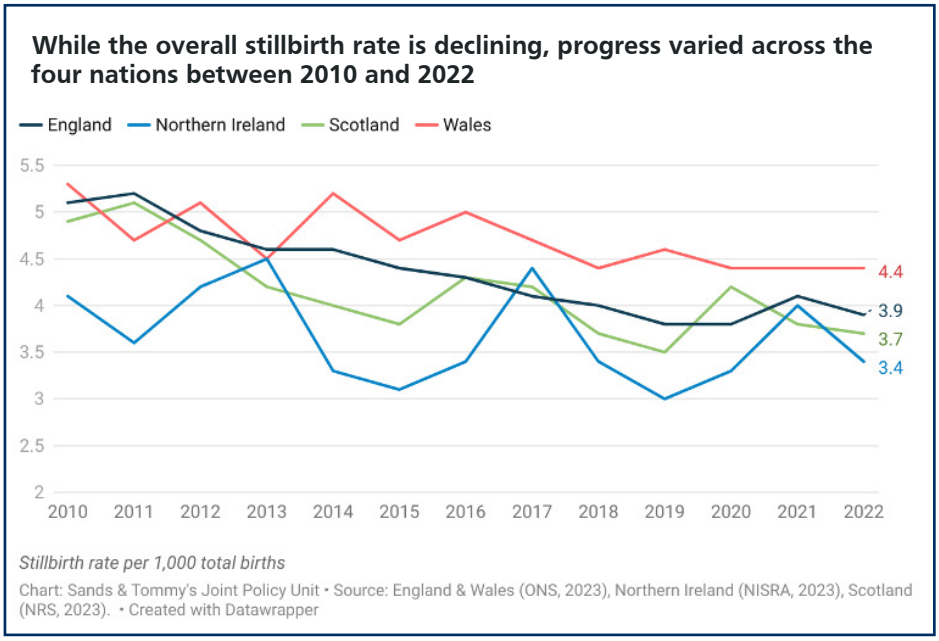

Figure 2. Stillbirth rate across the four nations between 2010 - 2022

After having the lowest neonatal mortality rates across the four nations between 2017 and 2020, Scotland saw a substantial rise in neonatal mortality in 2021, while rates remained stable or declined elsewhere (see Figure 3). Overall, neonatal mortality rates declined in England (-6.9%), Northern Ireland (-17.8%) and Wales (-3.7%) between 2010 and 2021, while they rose 7.7% in Scotland (mainly due to the high rate in 2021). Despite declining by the largest percentage overall, neonatal mortality rates have been highest in Northern Ireland between 2010 and 2022 (see Figure 3).

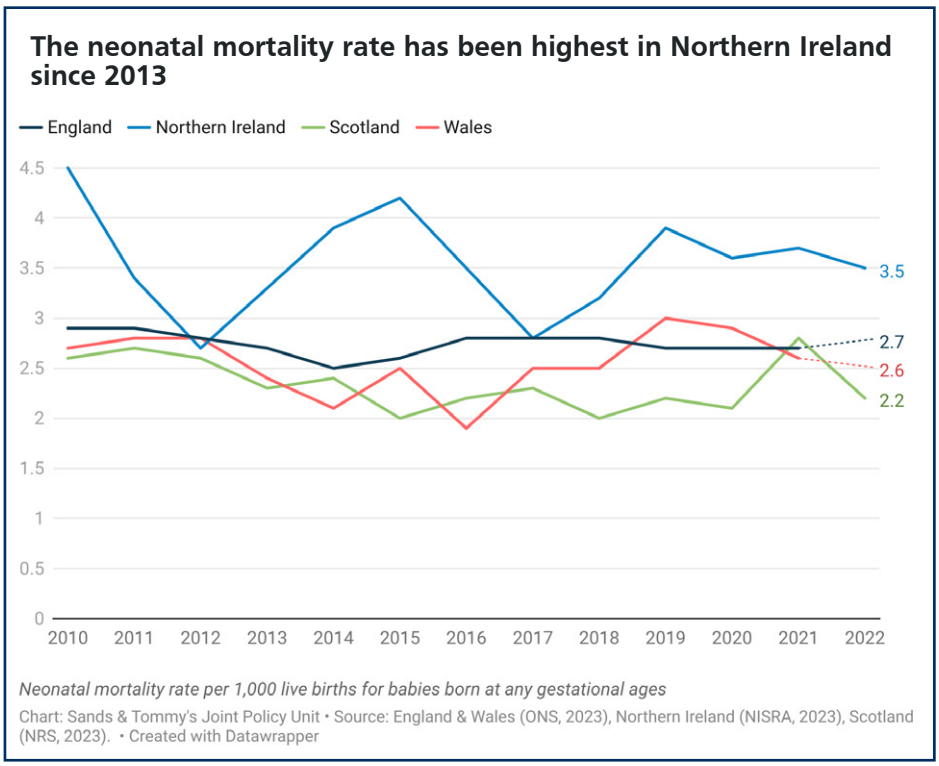

Figure 3. Neonatal mortality rates for all gestational ages across the four nations between 2010 and 2022

Inequalities in pregnancy losses and baby deaths

Across the UK, there are stark and persistent inequalities in pregnancy loss and baby deaths, with higher mortality rates among minoritised ethnic groups and people living in more deprived areas (5). Better data are needed to identify the groups at most risk of pregnancy and baby loss in Scotland as well as understanding what is driving inequalities and identifying potential solutions. The review of child deaths (age 0 – 17 years) found that ethnicity information was recorded in 75% of reviews in 2022-23, with the remaining data missing (2). This level of completeness makes analysis of deaths by ethnicity unreliable. The Neonatal Mortality Review was also not able to draw any conclusions on the impact of ethnicity due to low completeness of ethnicity data (3).

Although the Neonatal Mortality Review did not find any correlation between socioeconomic deprivation and neonatal mortality (3), UK-wide data and child death data from Scotland does suggest that higher mortality is associated with those living in more deprived areas. In 2022-23, the child death rate was 40 per 100,000 population in the most deprived quintile, around four times higher than the rate in the least deprived quintile (6).

Some explanations for inequalities include differences in access to, and treatment by, maternity services, health behaviours, and personal and social contexts. Multiple reports have highlighted the impact of racism and discrimination which some individuals experience when engaging with health services. Drivers of inequalities are explored in more detail in the Joint Policy Unit's 2024 Progress Report.

The Scottish Government has recently released two strategy documents: a data strategy and an Equality Evidence Strategy, which include a focus on improving the availability of ethnicity data and increasing the evidence base on racialised health inequalities (7). Since 2021, recording a mother's ethnicity has been a mandatory field on the maternity hospital record which is completed after a mother is discharged from hospital (SMR02). Data on ethnicity are also now routinely collected in the new Antenatal Booking Collection dataset. Using this dataset, which had 94% completion rate for ethnicity, PHS has begun to analyse gestation at antenatal booking and maternal smoking status at antenatal booking according to maternal ethnicity.

The Scottish Government has also created a Short-Life Working Group on Racialised Inequalities in Maternity Care. The group will identify immediate, medium-term, and long-term priorities for action to address racialised inequalities in maternity care. Part of the group's remit is also to contribute to the wider policy discussions and consider solutions which could be implemented across the UK.

Systemic issues in maternity and neonatal services need to be addressed

Without regular and transparent scrutiny of maternity and neonatal services[1], monitoring service quality across Scotland is challenging. However, many of the one-off reviews such as the Perinatal Mortality Review have echoed some of the systemic issues raised by reviews of maternity and neonatal services across the UK, which will be explored in this section.

Staffing levels and training

Comparing average full-time equivalent (FTE) staffing totals for different health professional roles with the total births (live births and stillbirths) in the same calendar year, shows an increase in FTE staff across maternity and neonatal roles. (see Table 1).

2015[2]	2022
1 midwife for every 20 births	1 midwife for every 16 births
1 neonatal nurse for every 114 births	1 neonatal nurse for every 79 births
1 neonatal midwife for every 359 births	1 neonatal midwife for every 308 births
1 obstetrician or gynaecologist for every 92 births	1 obstetrician or gynaecologist[3] for every 69 births

Table 1. Staff to total birth ratios in 2015 and 2022, National Education for Scotland

While these figures show a broadly positive trend in the maternity and neonatal workforce, progress is less positive when considering the gross change in FTE staff, rather than using the number of births as a comparator (see Figure 4). The 6.6% increase in FTE midwives was lower than the increase across all staff groups (total increase of 13.2% between 2015 and 2022), although the increase in obstetricians and gynaecologists (13.4%) was broadly in line with overall growth in FTE staff and neonatal nurses was higher (23.1%).

Maternity services in Scotland use the Maternity workload tool which calculates the recommended FTE staff to deliver quality maternity services (8). In 2019, the recommended FTE from 14 NHS Boards (excluding Best Start[4] early adopter Boards) was 2,448.6 (9). The annual average FTE for midwives in Scotland in 2022 was 2,968, exceeding the recommendation. However, the tool has been criticised for not reflecting changes in practice, policy and the evolving needs of women and birthing people, and their babies (10). It also only accounts for direct clinical care, ignoring specialist and leadership roles.

National FTE levels often do not reflect the reality on the ground for maternity and neonatal services. Staffing levels vary across regions and between groups: the latest vacancy rates in September 2023 for obstetricians and gynaecologists were highest in southern regions, including NHS Borders (17.3%) and NHS Dumfries & Galloway (13.3%), compared to northern regions where some had no vacancies: NHS Western Isles and NHS Highlands (both 0.0%) (11). For midwives, the highest vacancy rates are in northern regions, including NHS Western Isles (14.6%) and NHS Highlands (10.7%), compared to southern regions, such as NHS Borders (3.6%). Remote and rural areas can face particular challenges in recruiting healthcare workers, including lack of affordable housing, childcare, schooling, digital infrastructure and transport (12). There is also a perception among some that roles in remote and rural settings will create challenges in keeping skills up to date, developing new skills and career progression.

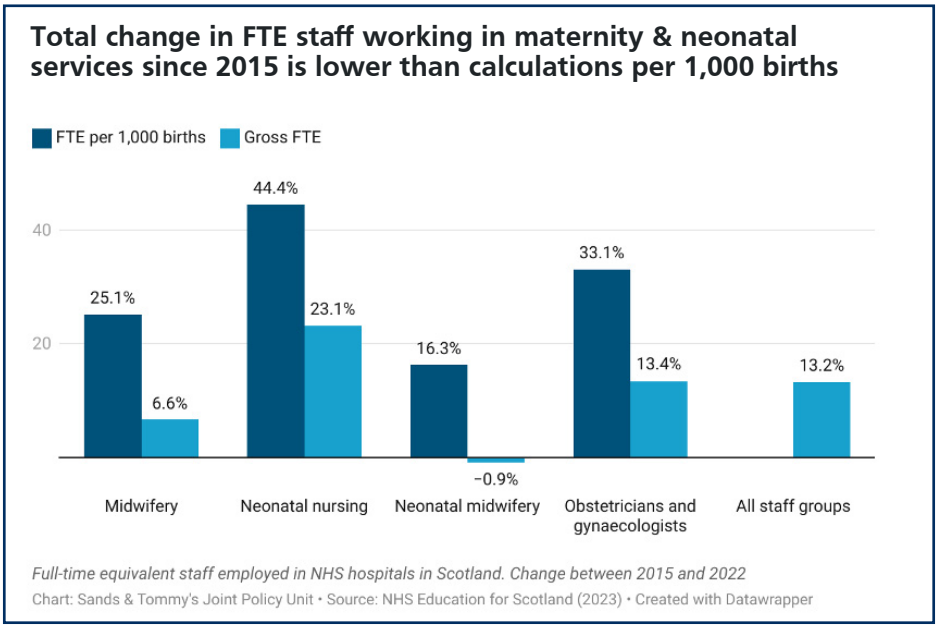

Figure 4. Percentage change in FTE staff per 1,000 births and total FTE change between 2015 and 2022

1. Recent improvements to reporting of maternity measures across Scotland (see Data collection), which have been in operation since October 2023, should enable better oversight of services going forward.
2. Midwifery FTE was recorded differently pre-2015 and is not suitable for comparison.
3. Not all staff in this role will work in maternity or neonatal services.
4. Scotland's Five Year Plan for Maternity and Neonatal care.

The headline view also does not reflect the changing profile of the birthing population. Rates of maternal obesity have increased by a third (32.2%) over the past decade while maternal diabetes has tripled (from 3.0% of maternities to 9.4%) (11). Pregnant women and birthing people are more likely to live in deprived areas than the general population: 1 in 4 maternities were among women and birthing people who lived in the most deprived 20% of Scotland in 2022-23, based on the Scottish Index of Multiple Deprivation. In NHS Greater Glasgow and Clyde and NHS Ayrshire and Arran, this increased to over a third of maternities among women and birthing people living in the most deprived areas.

Midwives responding to the Royal College of Midwives' (RCM) 2022 survey highlighted the impact of excessive workloads on the workforce and on patient safety (13). Half of all respondents felt there was rarely safe staffing in their workplace and shared concerns about introducing new models of care without the right staffing in place. Respondents also described the impact on staff: 1 in 12 respondents to the RCM midwifery survey referenced problems with their mental health or the mental health of their colleagues.

Despite claims that Scotland is short of midwives, there is a lack of evidence about the number of midwives required. NHS Education for Scotland modelled different demand scenarios for qualified midwives in 2021 which estimated a shortfall in midwives until 2023 based on the middle scenario or 2025 based on the high demand scenario (11). However, the assumptions underpinning these scenarios are not clear and they do not recognise or model the requirements for other key staff groups engaged in maternity and neonatal services.

Applications for midwifery courses in Scotland have declined 40.3% since 2021, a steeper decline than the UK overall (27.0%) and any other devolved nation. Only 20% of applicants for mainstream midwifery courses at universities go on to accept an offer (see Figure 5). This is mainly driven by a relatively low proportion of applicants receiving an offer: 28.4% over the past five years in Scotland compared to 74.6% in England. If applicant numbers continue to decline, there is a risk that the selection criteria may be weakened to meet recruitment targets.

The University of the Highlands and Islands has piloted a shortened midwifery programme for registered nurses to address geographical recruitment challenges in the midwifery workforce (11).

The Scottish Government established a Nursing and Midwifery Taskforce in February 2023 to develop retention and recruitment plans. The Taskforce has four sub-groups: Culture and Leadership, Attraction, Education and Development and Wellbeing (14). Retention is a reoccurring theme across all sub-groups. Since its launch in April 2023, the taskforce has also completed initial evidence gathering through the Listening Project, to understand the issues facing the workforce and influence the taskforce's strategy.

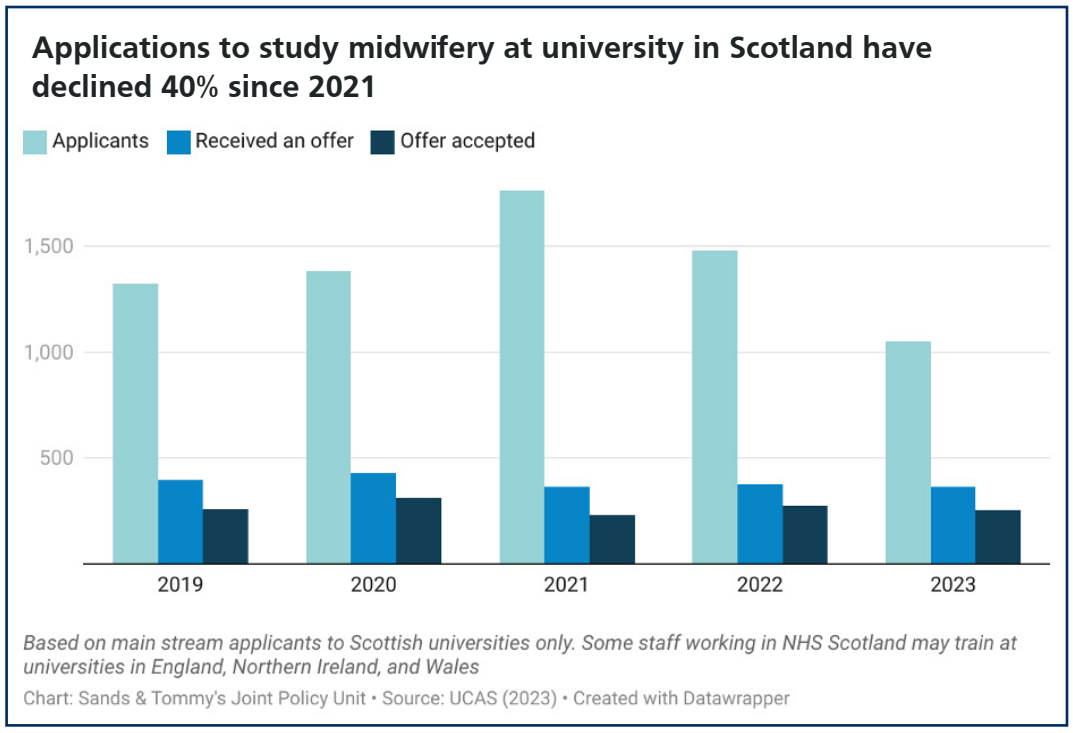

Figure 5. Number of applicants, offers received and offers accepted for midwifery courses at Scottish universities, between 2019 and 2023

Culture of safety

Promoting a culture of safety at all levels is one of the Scottish Patient Safety Programme (SPSP)'s Essentials of Safe Care (15), encompassing psychological safety, staff wellbeing, and creating a system for learning. Psychological safety creates an environment where individuals feel safe to learn, contribute and challenge the status quo. Results from the staff survey suggest that nurses and midwives feel safe to feedback on services, but fewer find that this leads to change (see Figure 6).

Bullying and harassment also undermines psychological safety and affects teamwork and communication. Although the Health and Social Care staff survey does not collect data on harassment or bullying, the RCM survey found that 1 in 5 respondents had experienced bullying by a line manager (13).

Unlike the NHS England staff survey, the Scottish staff survey does not include any questions on patient safety which could be monitored over time. The RCM midwifery survey did raise some concerns regarding safety, with 1 in 5 commenting on the quality of maternity care. Respondents raised concerns about being able to provide for women and birthing people with complex needs, including those requiring translation services.

Organisational leadership

An open learning culture should run from board-to-ward level and requires curious leaders who are problem sensing rather than comfort seeking (16). Effective leadership and governance require good quality data and intelligence being shared with leaders, a robust and candid review of the evidence and early action to address concerns.

Although confidence and trust in direct line managers was high, the Health and Social Care Staff Experience survey results highlight concerns regarding the visibility of, and trust in, board members (see Figure 7).

The RCM survey also highlighted a lack of support from senior management and a sense that they are detached from the realities of frontline work (13).

Personalisation of care and choice

Person-centred care is another part of SPSP's Essentials of Safe Care, including the structures and processes to facilitate communication and care planning (15). As well as good processes (e.g., documentation) and sufficient appointment time, staff need to develop the skills and confidence to engage with women and birthing people to plan their care. However, it is not clear how this ambition is being measured. NHS Scotland does not run a regular survey with women and birthing people which could provide useful insights on the implementation of personalised care.

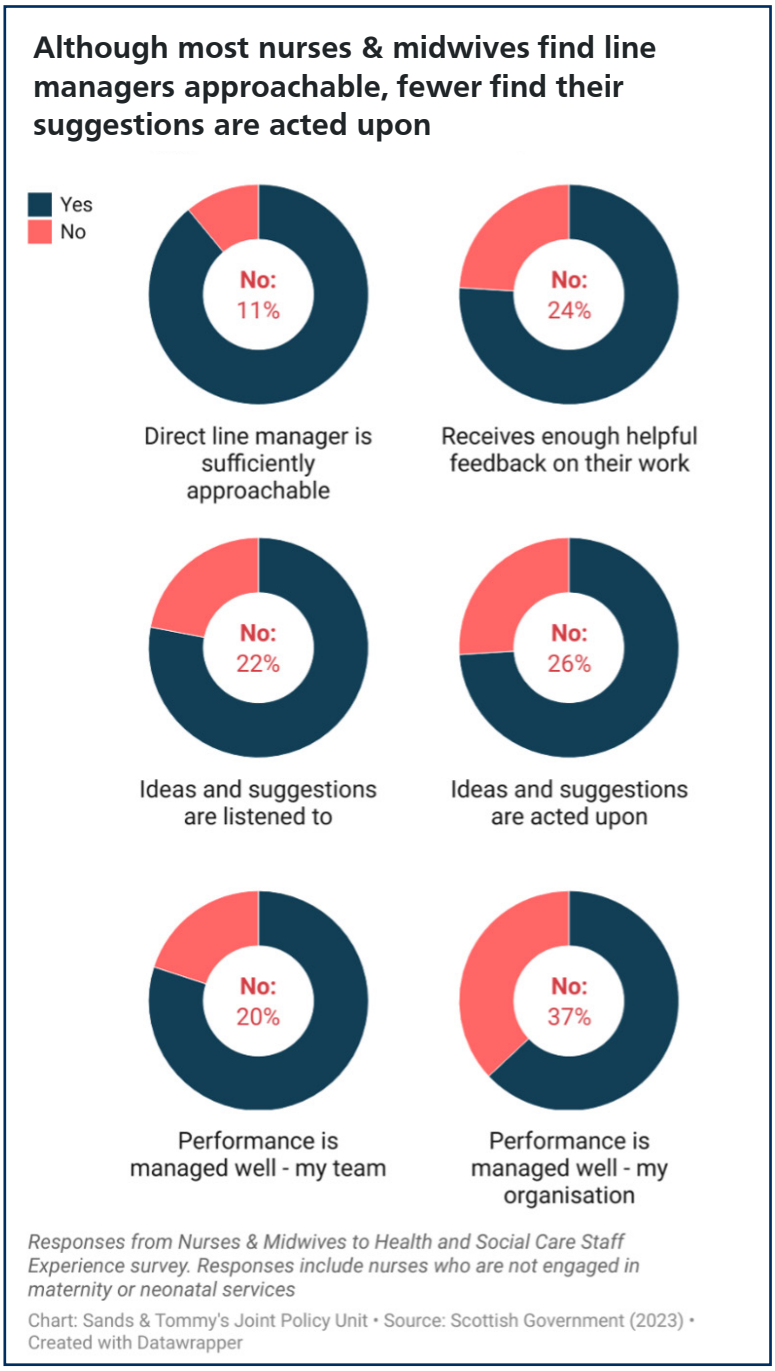

Figure 6. Nurse and midwife responses to Health and Social Care Staff Survey 2023.

Figure 7. Nurse and midwife responses on leadership to Health and Social Care Staff Survey 2023.

Data collection

The MatNeo Data Hub was established in 2019 as a collaboration between PHS, the Scottish Strategic Perinatal Network, Healthcare Improvement Scotland, Scottish Government and National Records of Scotland. A list of core maternity measures was developed in 2019 and incorporated in maternity dashboards to allow better comparisons across Scotland. This was replaced by a new Scottish Pregnancy, Births and Neonatal Data Dashboard (SPBAND) which was launched in October 2023 and is updated quarterly (17).

PHS has developed an expanded dataset for antenatal booking appointments. Data are disaggregated according to deprivation category, maternal age, and maternal ethnic group, as well as across health Boards and local authorities. However, data on complex social factors or socio-economic status of women and birthing people are not currently collected (18) which may affect how care is tailored to individuals as well as limiting service- and national-level analysis of health inequalities.

PHS is close to automating how nationally consistent maternity and neonatal data from clinical systems are reported, with the aim of improving information flows and PHS analysis of maternity and neonatal services across Scotland (17).

PHS is also leading the work to capture miscarriage data from early pregnancy settings.

Learning from reviews and investigations

When serious incidents do occur, it is important to have an independent, standardised method of investigating. As well as providing answers to families it is vital that learning from reviews and investigations is shared and acted upon to prevent avoidable deaths in the future. The Perinatal Mortality Review Tool (PMRT) has been developed to standardise the review of perinatal deaths and create action plans for improvement. A timely review of care is important for parents and the NHS. Since the launch of PMRT in 2018-19, the proportion of perinatal deaths with a review which has started within the same year has increased in Scotland (see Figure 8).

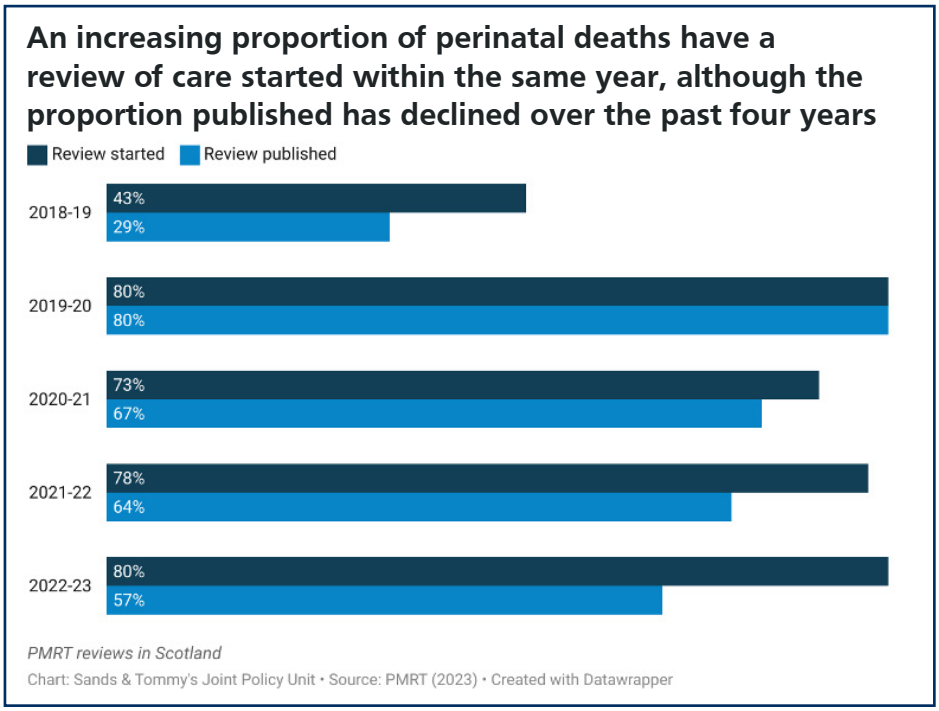

Figure 8. Proportion of perinatal deaths with a PMRT review started and a review completed by year in Scotland

One of the NHS Boards in Scotland has permission to use another tool to review perinatal deaths. While this is the case, the proportion of deaths that are reviewed by PMRT will not reach 100%. However, all deaths should be reviewed in line with the Maternity and neonatal (perinatal) adverse event review process: guidance which was published by the Scottish Government in September 2021.

The proportion of PMRT reviews which are completed (published) has declined in Scotland since 2019-20. Although not all deaths will be reviewed by PMRT, this should not affect the proportion of reviews that are completed. The proportion of completed reviews were lower for neonatal deaths (44%) in 2022-23 compared to stillbirths and late miscarriages (64%). The proportion of completed reviews is lower in Scotland compared to England (86%) and Northern Ireland (64%), although slightly higher than in Wales (54%).

Since the PMRT was launched, some measures of review quality have improved across the UK[5], including the composition of review teams which include more external members and are more multi-disciplinary than they were in the past. Involving parents is another critical component of reviews; ensuring that parents are given the opportunity to ask questions or share concerns. In Scotland in 2022-23, 95% of reviews noted that parents' perspectives had been sought, but only 50% of reviews included parents' comments (19).

To be able to ask questions, parents need support to understand the review and should be given multiple opportunities to ask questions. One in five of the UK-based parents surveyed by Sands did not understand what the review entailed, which limited their ability to engage with the process (20). Some parents may need additional support: the MBRRACE-UK Confidential Enquiries found that those parents with an identified language barrier never raised any questions or concerns as part of reviews (21,22).

The Neonatal Mortality Review found significant variation in the quality of local review reports into neonatal deaths which were submitted to the review by NHS Boards (3). The Review Panel found poor quality, inconsistent, and incomplete reviews which limited the conclusions that could be reached. The review concluded that NHS Boards must work together and with relevant national organisations to ensure that reviews are good quality, consistent and timely, with clear findings and actions.

A scoping review of the National Significant Adverse Event Review (SAER) in Scotland found that the biggest challenge is timely access to reviewers with the skills and capacity to lead the review (23). The scoping review recommended a national Lead Reviewer Training programme to upskill the workforce, which could create a database of candidates to help Boards find a Lead Reviewer. External panel members help to provide "fresh eyes" and additional capacity. However, a better process is required to connect Boards to external panellists and provide transparency over external panellists' experience and training.

5. For more information on PMRT trends across the UK, please see the main report.

Engagement with service users

Listening and learning from the experience of women and birthing people using maternity and neonatal services is vital to improving care. Although all individual services may engage with parents in some form, there is no regular national analysis of parents' satisfaction with the safety and quality of services. The last maternity survey took place in 2018, which found a positive review of care received during antenatal care (90% positive), labour and birth (90%), and postnatal care (80%) (24). Although service users can provide anonymous feedback to NHS Boards about their experience of care, including in maternity and neonatal services, this does not give the same level of oversight of experience of care and is not representative of the population. The Scottish Government should also consider how to include bereaved parents in these surveys.

Delivering care in line with nationally agreed standards

Nearly all (99%) of the PMRT reviews completed in Scotland during 2022-23 found at least one issue with the care that was provided (19). Across the UK, 1 in 5 reviews identified at least one issue with the care which may have prevented a late miscarriage, stillbirth or neonatal death. Too often, avoidable deaths occur as a result of care that is not in line with nationally agreed standards.

Year	<10 Weeks	10-12 Weeks	13-15 Weeks	16+ Weeks
2020	67.9%	25.8%	2.8%	3.5%
2021	66.6%	27.3%	2.7%	3.4%
2022	61.8%	30.9%	3.2%	4.0%

Percentage of those with gestational age at booking

Table: Sands & Tommy's Joint Policy Unit • Source: Public Health Scotland (2023) • Created with Datawrapper

Table 2. Percentage of booking appointments according to gestational age between 2020 – 2022 in Scotland

The first antenatal care appointment, or booking appointment, involves an important assessment of needs and risks to identify whether additional care and support is required. The National Institute for Health and Care Excellence (NICE) guidelines recommend the first antenatal appointment takes place by week ten of the pregnancy, although initial contact and referral may have been earlier (25). In Scotland, most women and birthing people attend their first antenatal booking appointment before 10 weeks' gestation (61.8%) and nearly all within 12 weeks (92.7%) (see Table 2). However, the proportion attending within 10 weeks has declined each year since 2020 suggesting renewed effort is required to meet this guidance.

Some groups are more likely to have a late first booking appointment: 14.3% of mothers under 20 years old and 11.1% of mothers from the most deprived areas had their first appointment after 12 weeks, compared to 9.6% of mothers overall. The average gestation at booking was highest among women and birthing people from the African (13.3 weeks) and Caribbean or Black (12.7 weeks) ethnic groups compared to an average of 9.6 weeks overall or 9.3 weeks among White mothers.

The National Neonatal Audit Programme (NNAP) assesses the care provided to preterm babies in neonatal networks across the Great Britain[6]. Care is assessed across key measures which are aligned to professionally agreed guidelines and standards. In 2022, the Scottish neonatal network met the NNAP standard for two out of five key metrics with a standard (target) attached: deferred cord clamping and the proportion of babies born at less than 27 weeks gestational age delivered on the same site as a designated neonatal intensive care unit. The Scottish network was also significantly higher than the average across Great Britain for this metric (see figure 9).

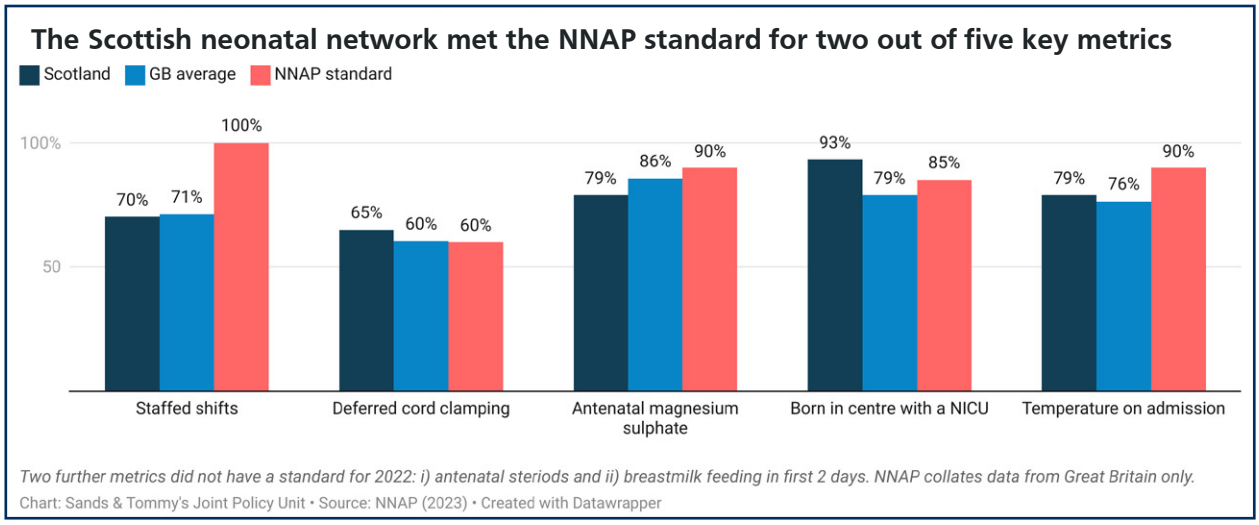

Figure 9. Proportion of babies provided with optimal perinatal care in Scotland compared to the NNAP standard

In 2023, the SPSP Perinatal Programme has created resources which bring together ideas, tools, evidence, and guidance to support clinical teams to reduce neonatal mortality and morbidity and stillbirth (1). The packages draw on best practice from research and experience and were co-designed with clinical and quality improvement experts. Local teams are responsible for setting locally agreed aims and deciding on the "change ideas" to pilot in their service. However, ongoing leadership from the SPSP Perinatal Programme will be important to provide oversight of local efforts, gather learning from across Scotland, and ensure that key safety measures are met.

6. Scottish Health Boards started participating in NNAP in 2015 but were not included in reporting in 2020 and 2021 due to a decision by Scottish Government. Whereas English and Welsh results for 2022 include a full calendar year, Scottish results only cover 9 months starting from 1 April 2022.

Acronyms

- **FTE:** Full-time equivalent
- **NNAP:** National Neonatal Audit Programme
- **PMRT:** The Perinatal Mortality Review Tool
- **RCM:** Royal College of Midwives
- **SAER:** National Significant Adverse Event Review
- **SPSP:** Scottish Patient Safety Programme
- **PHS:** Public Health Scotland

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