Date published: 11 September, 2025
Date last updated: 11 September, 2025

Maternity and neonatal infrastructure review findings

Publication (/publication)

Content

Introduction

Each day, over 1,500 babies are born in hospitals in England, with 1 in 7 of them needing specialist neonatal care.

In 2023, as part of the Three year delivery plan for maternity and neonatal services (https://www.england.nhs.uk/publication/three-year-delivery-plan-for-maternity-and-neonatal-services/), NHS England committed to undertaking a comprehensive infrastructure review (survey) of the estate that enables maternity and neonatal service delivery across the NHS in England. This survey is the first of its kind, bringing together estates leads and clinicians to review and understand service specific infrastructure.

This report summarises the data collated from a national survey of all maternity and neonatal units in England. It responds to the Ockenden review (https://www.gov.uk/government/publications/final-report-of-the-ockenden-review) and the Care Quality Commission's (CQC) national review of maternity services in

England (https://www.cqc.org.uk/publications/maternity-services-2022-2024), both of which cited how poor infrastructure contributes to significant challenges to maternity and neonatal services for patients and staff.

This report sets out the key findings from the survey. It also highlights ways to enhance patient and staff experience and improve services for women, babies and their families – giving children the very best start in life.

The NHS England Maternity and Neonatal team partnered with the Estates team on this service-level approach to:

- establish the current infrastructure baseline of acute maternity and neonatal estate (the survey excludes community-based estate)
- understand existing estate conditions
- develop an approach to understand the investment required to ensure existing estate is compliant with building standards

Key findings

There is a clear link between the condition of service infrastructure, the experience of service users and staff, and safety.

In the last 3 years, there have been 14,519 formally reported instances in the maternity and neonatal estate where clinical services have been interrupted or service delivery has been impacted as a direct result of poor physical conditions.

Significant clinical time has been lost to estate-related issues, such as power outages, water leaks and faulty nurse call systems. This puts additional pressure on already stretched staff to provide high-quality and safe care and can directly lead to procedures delays, such as planned caesarean sections.

Since the most recent version of the Maternity and Neonatal Health Building Note (https://www.england.nhs.uk/publication/maternity-care-facilities-planning-and-design-hbn-09-02/) (HBN) in 2013, 35% of maternity and neonatal facilities have undergone some level of refurbishment work, of which 5% included a new build element. Following these improvements, survey results captured that 57% of the estate is compliant in all 4 safety areas of: electrical, water, fire safety and hazardous substances (COSHH). This level of compliance is expected to increase, with the 2025-26 Estates Safety Fund allocating further investment to trusts to tackle infrastructure risk and to enhance compliance against standards.

Despite this, further improvements are needed across the 831,739m^2 acute maternity and neonatal estate. Against a backdrop of a £13.8 billion maintenance backlog (https://digital.nhs.uk/data-and-information/publications/statistical/estates-

returns-information-collection/england-2022-23) across the entire NHS estate, over half of organisations reported the formal condition (https://www.england.nhs.uk/publication/land-and-property-appraisal/) of their maternity and neonatal estate as unsatisfactory, with 42% in need a major repair or replacement and 7% running a serious risk of imminent breakdown.

Significant deficiencies were found in health and safety indicators across the maternity and neonatal estate, with 43% of the maternity and neonatal estate not meeting basic levels of compliance. This is representative of the wider state NHS estate, with 45% reported as not being fit for delivering current services and 30% operating beyond its useful lifespan.

Feedback from staff highlights critical challenges related to space, privacy, equipment and wellbeing in these facilities. The most significant issues reported by many trusts can be organised into 4 main areas.

- **Inadequate space** for critical clinical activities in some trusts, such as scanning and birthing suites, reduces staff effectiveness and compromises privacy for women during assessments. 69% of organisations failed to meet the space standards set out in the HBN, and staff feedback makes clear an urgent need for larger waiting areas and other essential facilities.
- **Lack of storage facilities** for equipment and medicines, adding stress to daily activities. 86% of service areas reported insufficient storage to avoid equipment being stored in corridors. This can negatively impact staff and service user experience and can compromise safety and efficiency.
- **Insufficient rest areas,** with 30% of units being found to be non-compliant with the space requirements outlined in the HBN standards. This indicates a significant proportion of units falling short of the prescribed benchmarks for adequate rest area provision.
- **Poorly maintained physical infrastructure** in many trusts, affecting the quality of care, staff and patient experiences, and overall service efficiency. This includes non-opening windows, peeling paint and mismatching flooring, which contribute to over 30% of negative experience incidents.

The survey findings demonstrate that much of the current maternity and neonatal estate lacks sufficient physical space to operate in accordance with best practice under current activity levels. These existing infrastructure issues will be further exacerbated with the trend towards more complex births, requiring larger teams and more specialist equipment, and many women and families staying longer in hospital.

Immediate next steps

Together, NHS England, integrated care boards (ICBs) and trusts will continue to establish systems, standards and ways of working to address the condition of the estate and improve services for patients.

In the immediate term, **NHS England** will:

- support allocation of capital funds to trusts to address critical infrastructure risks within their maternity and neonatal estate
- initiate work to modernise the Maternity and Neonatal Healthcare Building Notes (HBNs) technical design standards to incorporate new clinical models and other changes aligned with new building programmes

We ask **trust boards** to:

- review their estate (survey) data and seek assurance that all healthcare premises, from which they are delivering maternity services, are of appropriate standard. This should include a review of community-based maternity services, which were not in-scope of the estate survey. In instances where the estate is not of appropriate standard, trust boards should ensure mitigating action is being taken accordingly

Service background – the context for change

There are 120 trusts with maternity services incorporating 155 obstetric units and a similar number of midwifery-led units (alongside and freestanding).

There are over 1,500 births every day in England, 77% are in NHS obstetric units. In 2023-24, (https://digital.nhs.uk/data-and-information/publications/statistical/nhs-maternity-statistics/2023-24) 545,149 live births occurred in England.

1 in 7 babies are admitted to neonatal care. Neonatal service provision in England includes:

- 43 neonatal intensive care units (level 3)
- 74 high dependency units (level 2)
- 39 low dependency units (level 1)

In 2021/22, overall spend on NHS maternity services was around £4 billion (£3.37 billion on obstetric-led services and £679 million on midwifery led) with £926 million spent on neonatal services.

Office for National Statistics projections suggest that the number of births will increase. Alongside this, the Darzi independent investigation (https://www.gov.uk/government/publications/independent-investigation-of-the-nhs-in-england) highlights that the complexity of pregnancies continues to rise, largely due to

increasing maternal age and the prevalence of conditions such as obesity and diabetes.

This shift is evident in labour trends, with fewer than half of women now going into labour spontaneously, a significant decrease from around 70% in the early 2000s. Additionally, births by caesarean section have become much more common, increasing at an annual rate of 4.6% since 2005, while inductions have risen at an annual rate of 2.9% over the same period.

These trends require a different arrangement of estate, with larger rooms and increased operating theatre capacity to cope with the need for larger teams and more specialist equipment. Additionally, the complexity of neonatal care is rising as the survival rates of extremely preterm infants improve, resulting in longer hospital stays.

A small number of births sadly result in stillbirth or neonatal death. Currently, 4 in every 1,000 births is a stillbirth. There will therefore need to be dedicated bereavement suites, with discrete exits away from the labour ward so that those affected can be afforded every dignity at this difficult time.

Only 35% of maternity and neonatal units have a dedicated bereavement room. Of these rooms, over half (61%) require patients to pass through a maternity ward to access them, with 58% of these facilities being located in a place where bereaved parents can hear other babies. 63% of trusts have sensitive rooms for early pregnancy loss, and 43% have sensitive rooms in their emergency departments.

Service user and staff experience

The condition of hospital infrastructure plays a crucial role in staff experience and significantly impacts the maternity and neonatal care provided to women and their families. This impact is both direct, affecting the quality of care, and indirect, by constraining or influencing the performance and wellbeing of healthcare staff.

This section illustrates some of these impacts on service users and staff from our findings.

Inadequate maintenance of maternity and neonatal infrastructure creates safety risks. Poor building conditions increase the likelihood of service disruptions and pose significant threats to the wellbeing of both staff and patients.

Our survey showed that in some trusts, the estate is smaller than the current standard. Rooms must be adequately sized, well-maintained and specific for their designated purpose. For example, less than 50% of units had the space to permit

birthing partners to stay overnight.

Only 35% of survey respondents stated they had suitable private spaces in their emergency departments for those experiencing baby loss, away from public waiting areas, despite this being a recommendation of the independent Pregnancy Loss Review (https://www.gov.uk/government/publications/pregnancy-loss-review). This can lead to negative patient experience and may have mental health implications.

Staff experience can have an impact on the experience of the patient they treat. The available infrastructure for acute maternity and neonatal services is crucial for enabling clinical staff and their teams to provide high-quality care while ensuring patient and staff safety and dignity. Poorly maintained facilities can significantly affect staff morale, productivity, and overall job satisfaction.

Insufficient space to train staff, hold staff meetings and either host or train current or additional multidisciplinary team (MDT) staff can significantly impact service performance. 40% of organisations do not have MDT space. The ongoing need to find “workarounds” due to malfunctioning equipment or inadequate space can lead to frustration and burnout among healthcare workers.

Outdated equipment also includes heating systems that do not work properly. 2,913 incidents related to poor heating and ventilation systems were reported between 1 April 2020 and 31 March 2023. Working in a dilapidated environment can lead to feelings of neglect and undervaluation among staff. When employees perceive that their workplace is not being adequately maintained, it can result in decreased job satisfaction and a higher staff turnover rate.

Conversely, where maternity and neonatal estate has undergone renovation or rebuild, the survey results have shown that this investment has significantly improved the quality of care and experience for patients and staff. For example, on a recently expanded and refurbished neonatal unit, colleagues highlighted the importance of building design focused on the needs of patients and staff, such as:

- double armed pendants, enabling all routine equipment, including ventilators, to be mounted off the floor for a cleaner, tidier and more ergonomic space
- laundry facilities so that parents can do their washing onsite
- charging points by cots, meaning parents do not have to leave to charge their devices
- ensuite bereavement suites with a separate entrance, providing a private space for families experiencing loss

Experiences show that the maintenance of hospital infrastructure is a critical

factor in ensuring a positive staff experience. Investing in the upkeep of facilities not only enhances safety and productivity but also boosts staff morale and job satisfaction. Addressing maintenance issues proactively can lead to a healthier, more efficient and motivated workforce, which will positively impact patient experience.

The built environment

The NHS in England has a substantial acute maternity and neonatal infrastructure, excluding community care, covering 831,739m^2. However, much of this infrastructure is poor quality and fails to support modern healthcare delivery.

The Ockenden Review (https://www.gov.uk/government/publications/final-report-of-the-ockenden-review) cited failures in infrastructure contributing to service failures. Recent CQC reports into maternity services have highlighted issues with the estates, such as safety concerns, limited space, and inadequate access and adjacencies to theatres as drivers of inadequate ratings. Their recent national review of maternity services in England (https://www.cqc.org.uk/publications/maternity-services-2022-2024) reinforced these issues.

Condition

All physical assets in the NHS estate are required to have a regular 6-facet survey that looks at physical condition, functional suitability, space utilisation, quality, safety requirements and environmental management. Each survey produces a nationally comparable grade from A to D (https://www.england.nhs.uk/publication/land-and-property-appraisal/).

The ranking of each element is determined by subjective assessment and is given 1 of 4 grades to calculate what it will cost to maintain the estate at an acceptable standard and identify where opportunities for adaptation and rationalisation lie. These grades will be referred to within this report.

NHS estate condition classifications

A: As new (that is, built within the past 2 years) and can be expected to perform adequately over its expected shelf life.

B: Sound, operationally safe and exhibits only minor deterioration.

C: Operational but major repair or replacement will be needed soon, that is, within 3 years for building elements and 1 year for engineering elements.

D: Runs a serious risk of imminent breakdown.

According to survey responses, 42% of the NHS estate was classed as category C, with 7% as category D.

Regionally, London reported the highest percentage of C and D condition estate at 68%, followed by South West (56%), North East and Yorkshire (47%), North West (45%), Midlands (45%), South East (42%) and the East of England (41%).

The condition of physical infrastructure affects the quality of care provided, staff and patient experiences, and overall service efficiency. Poorly maintained facilities not only contribute to negative working environments but pose greater safety risks to service users and staff.

Our survey gathered 4,500 comments from staff, which we categorised into 5 main issues affecting both patients and staff.

- **Inadequate space for emergencies** – some rooms are too small to safely remove patients in emergencies, and clinic rooms are too cramped to fit necessary equipment and staff, which could delay emergency responses.
- **Damaged and obsolete equipment** – staff reported that bulkheads and nurse call systems are frequently broken and take a long time to repair, posing a risk to patient safety. The outdated equipment also includes heating systems that do not work properly.
- **Overcrowded and inadequate facilities** – staff reported that overcrowded wards and nurseries with insufficient space between cots increase the risk of infection and make it difficult to provide necessary care, such as skin-to-skin contact for newborns.
- **Security concerns** – there is a need for improved security measures, such as CCTV and baby tagging systems, to safeguard babies and ensure the safety of patients and staff.
- **Environmental issues** – poor ventilation and heating systems in some trusts, along with inadequate natural light and ventilation in some areas, create uncomfortable and potentially unsafe conditions for both patients and staff.

We heard that, in some trusts, it is not always possible to fit the required staff and equipment into rooms where women give birth.

Staff stated that undersized waiting rooms and limited seating were leading to frequent overcrowding, forcing patients and their partners to stand in corridors, and compromising confidentiality and patient flow. The lack of visitor waiting areas worsens congestion, particularly in the antenatal assessment area, where long wait times further stretch available space. The absence of private waiting

areas and essential facilities, such as bathrooms, underscores the urgent need for improved, larger waiting areas.

These were sentiments highlighted in the CQC's review (https://www.cqc.org.uk/publications/maternity-services-2022-2024).

Significant deficiencies were found in health and safety indicators in some trusts. Trusts were asked to confirm they met the current health and safety regulations for 4 key areas: control of substances hazardous to health (COSHH), water safety, electrical safety and fire safety.

Compliance across organisations was reported as follows:

- compliant in all 4 safety areas – 57%
- compliant in 3 of the 4 safety areas – 24%
- compliant in 2 of the 4 safety areas – 11%
- compliant in 1 of the 4 safety areas – 5%
- compliant in none of the 4 safety areas – 3%

Linked to these deficiencies, between 1 April 2020 and 31 March 2023, there were 14,519 instances reported by 74 trusts related to maternity and neonatal services where clinical services were interrupted or service delivery was impacted due to poor physical conditions. These include problems with water, temperature control, ventilation and leaks.

Ventilation systems were in many instances (43%) non-compliant with health technical memoranda (HTM) guidance, with 55% failing to ensure the minimum number of changes (https://www.england.nhs.uk/long-read/guidance-on-minimising-time-weighted-exposure-to-nitrous-oxide-in-healthcare-settings-in-england/) is achieved.

In relation to theatres used for maternity services, current HBN compliance standards were not being met. 55% of theatres located in departments were not compliant, and 60% located outside of departments (but used for maternity services) were not compliant. This was due to either having fewer theatres than the HBN standard, smaller theatres than the HBN standard or due to other aspects of the standard, such as health and safety requirements or ventilation systems.

Some units reported that their entry and exit controls needed improvement. NHS England has asked all relevant trusts to take immediate action to rectify this.

Maintenance issues were identified to disrupt the workflow and reduce productivity. For instance, malfunctioning equipment or inadequate facilities can lead to delays in patient care, forcing staff to spend additional time and effort to

work around these problems.

The above incident data is echoed in recent reports where facilities and infrastructure are cited “as an issue for many services in the trust”. This clearly illustrates the scale of the impact poorly maintained and dated estates, compounded by the lack of investment, have on patient care.

Clinical service disruptions (1 April 2020 to 31 March 2023)

Top categories of incidents due to estates and facilities failures over 3 years:

1. **Water, sewerage and drainage:** 5,341 incidents (36.8%)
2. **Ventilation and heating:** 2,913 incidents (20.1%)
3. **Structural and building fabric:** 1,909 incidents (13.1%)
   Note: leaks and flooding frequently linked to this category.
4. **Patient safety and dignity issues:** 1,148 incidents (7.9%)
5. **Mechanical and engineering:** 945 incidents (6.5%)
6. **General maintenance and repair issues:** 921 incidents (6.3%)
7. **Other issues:** 521 incidents (3.6%)
8. **Safety:** 377 incidents (2.6%)
9. **Electrical and power:** 306 incidents (2.1%)
10. **Infection control issues:** 87 incidents (0.6%)
11. **Medical gases:** 51 incidents (0.4%)

Size of facilities

Many maternity and neonatal estates are currently inaccessible, too small, outdated, or were never designed to be healthcare facilities. To deliver care to a high standard, staff require sufficient areas to treat the increasing number of women and babies with complex needs, as well as to safely store the increasingly advanced equipment that is required for safe care. For example, storing items on the floor in areas that are not designed for that purpose prevents the floor from being cleaned properly, a clear breach of infection prevention control (IPC) guidelines. In addition, some labour rooms are not large enough to store lifesaving equipment.

Staff told us that many departments face significant space limitations that affect patient care, staff effectiveness and overall functionality. Issues include insufficient clinic and storage rooms, overcrowded waiting rooms and inadequate treatment rooms. They also said that some rooms are too small to safely remove patients in emergencies, and that some clinic rooms are too cramped to fit necessary equipment and staff, which could delay emergency responses.

Overcrowded wards and nurseries with insufficient space between cots increase

the risk of infection and make it difficult to provide necessary care, such as skin-to-skin contact for newborns. These issues were also specifically highlighted in the CQC's review of maternity care in England (https://www.cqc.org.uk/publications/maternity-services-2022-2024/estates).

Feedback from staff also highlighted that space provision impacts productivity and care. These examples include:

- inadequate rest and break spaces for staff, including a lack of overnight rest areas for consultants
- cramped delivery suites with insufficient capacity and only two-thirds of the required theatre space
- a significant increase in demand for scan rooms
- longer postnatal stays due to higher caesarean section rates without a corresponding increase in postnatal beds, affecting patient flow and experience
- a need for better staff rest areas with more reclining chairs and rest pods, especially in units with more students
- a need for improved office spaces with better wall finishes, windows, and soundproofing to enhance staff wellbeing and morale

The 2024 CQC report (https://www.cqc.org.uk/publications/major-report/state-care/2023-2024/areas-of-concern/maternity) sets out how insufficient space for in-person maternity triage in some trusts limits the effectiveness of care for women who have an emergency or concern during their pregnancy. For example, in some trusts the triage area did not allow for continuous observation of women, or its location did not support effective patient flows.

Multidisciplinary team (MDT) meeting rooms enable healthcare professionals to collaborate and co-ordinate patient cases effectively. The Kirkup Review emphasises the importance of effective teamwork with a common purpose, highlighting the need for better collaboration and communication among healthcare professionals to improve patient outcomes. Just 60% of departments currently have an MDT space.

The most recent available standards for health infrastructure were set by the Department of Health and Social Care in 2013, HBN 09.02 Maternity care facilities (https://www.england.nhs.uk/publication/maternity-care-facilities-planning-and-design-hbn-09-02/) and HBN 09.03 Neonatal units (https://www.england.nhs.uk/publication/neonatal-units-planning-and-design-hbn-09-03/) respectively. Since these HBNs were issued, 115 units have undergone major refurbishments, of which 16 included a new build element.

The most significant issue identified by this survey is that the maternity and

neonatal Infrastructure estate lacks sufficient physical space to operate with the current service demand, let alone accommodate future growth.

Of 442 units that responded to the survey, 69% failed to meet the physical space requirements for the current number of births in the maternity estate, and only 29% of neonatal units are correctly sized. Our analysis shows that inadequate space directly leads to decreased efficiency and bottlenecks in the provision of basic care. This lack of adequate space impedes maintenance activities, as rooms cannot be vacated for repairs and checks, further worsening the condition of the infrastructure.

We have found significant issues with insufficient and inadequate space, deteriorating physical conditions, and non-compliance with regulatory and HBN standards.

Conclusion

Our survey results highlight issues with maternity and neonatal service infrastructure across England, including limited physical space, inadequate capacity for efficient services and poor building conditions. All of these issues impact women, their families and staff. Achieving a cohesive balance of maternity and neonatal services requires safe, upgraded, modern and well-equipped infrastructure.

A new structured approach to incremental investment will enable infrastructure improvements to address safety and user experience. This strategic investment is aligned with both immediate and long-term goals of the Three year delivery plan for maternity and neonatal services (https://www.england.nhs.uk/publication/three-year-delivery-plan-for-maternity-and-neonatal-services/) (March 2023) while also addressing concerns raised by other reporting recommendations from the CQC through to the Ockenden report.

See Immediate next steps for more details about actions linked to the review findings.

Appendix – Infrastructure survey methodology

In early 2024, all trusts with maternity or neonatal services in the NHS in England were asked to complete an infrastructure survey, with joint responses being collated from estates and clinical service leads. 119 of the 120 trusts with maternity and neonatal services responded to the survey over a 3-month period.

A 3-tier collection method was used to generate the data used in this report:

- existing data sets
- a joint estates and maternity survey was carried out to look at the condition of the physical infrastructure
- conducting a self-declaration survey

Following the collection, a data cleaning process was undertaken to eliminate any inconsistencies or errors. An exploratory data analysis was conducted to understand the dataset's structure and key characteristics. The relationships between variables within the dataset were examined using large language modelling to uncover meaningful patterns and trends. Additionally, the survey results were compared with data, such as live birth and CQC ratings, to provide further context. Data visualisations were created in PowerBI to illustrate key findings.

Overview of large language model for survey analysis process

1. Topic modelling and clustering

- Uncovering underlying themes and patterns in responses.

2. Sentiment analysis

- Assess the overall sentiment expressed in responses (positive negative, neutral).
- Track satisfaction (what works well) or pain points (frustrations and challenges).

3. Answer categorisation

- Group responses into predefined buckets (for example, efficiency, compliance).
- Simplify data to make it easy to understand.

4. Keyword extraction

- Identify essential keywords or phrases.
- Understanding and interpreting words which stand out in responses.

5. Comparative analysis

- Compare responses across questions.
- Explore variations in sentiment or topics.

6. Generating insights and summaries

- Summarise large volumes of text.
- Quickly grasp key findings.

7. Quality control and feedback

- Flag inconsistencies, which allow for further review.

Costs included in this report for the maternity and neonatal review considered the survey data received from trusts, comprising building condition, age, previous works carried out to units, health and safety compliance and conditions ratings for elements across each unit. In addition, a review of the HBN compliance data, providing the need for additional space to accommodate the growing demands across maternity and neonatal departments, was used to derive costs.

Publication reference: PRN01983

Date published: 11 September, 2025
Date last updated: 11 September, 2025
▲Back to top