

Good Practice Paper No. XX
Peer review draft – July 2025

Provision of Planned Caesarean Birth Services in the UK

This is the first edition of this guidance. This guidance is for healthcare professionals who care for women, non-binary and trans people preparing for a caesarean birth, and those clinicians and non-clinicians tasked with commissioning and delivering this care.

Within this document we use the terms woman and women’s health. However, it is important to acknowledge that it is not only women for whom it is necessary to access women’s health and reproductive services in order to maintain their maternal health and reproductive wellbeing. Services and delivery of care must therefore be appropriate, inclusive and sensitive to the needs of those individuals whose gender identity does not align with the sex they were assigned at birth.

1. Introduction

The caesarean birth rate has increased steadily over more than three decades, accounting for over 41.4% of all births in England [1], and 40.1% in Northern Ireland [2] in the financial year* 2023/24. The most recent data for Wales shows a caesarean birth rate of 37.3% in 2023 [3], whereas in Scotland the rate was 43.4% in 2024 [4]. The growth in rates of planned and unplanned caesarean births have kept pace with one another and, despite a fall in the overall birth rate over the same period, the number of planned caesarean births each year in the UK continues to rise. Despite this, there is no unified national guidance on how planned caesarean birth services should be organised. Historically they have arisen organically from unplanned care in response to growing need, rather than being designed *de novo* to meet the requirements of women, their birth partners, or the teams who deliver these services.

Royal Colleges, professional associations, and national government healthcare agencies have published clinical guidance on the provision of obstetric care in the past [5–10]. However, prior to this Good Practice Paper there has been no specific guidance pertaining to the organisation of care for women who have a planned caesarean birth. The aim of this document is to serve as a standard against which organisations can compare their services and to encourage the development of best practices in this area.

Whilst women may *elect* to have a caesarean birth at any point in their pregnancy, the period in which this should be undertaken is more constrained than in non-obstetric elective surgical settings, fixed in relation to their expected delivery date [5]. The term “elective caesarean” may create false equivalence between planned obstetric work and non-obstetric elective care. It will therefore not be used in this paper.

For the purposes of this guidance, the following definitions will be used:

- **Category one caesarean birth [Cat1]**

A caesarean birth undertaken because there is immediate threat to the life of the woman or fetus. The National Institute for Health and Care Excellence (NICE) guideline on *Caesarean birth* [NG192] [5] targets delivery as soon as possible, and in most circumstances within 30 minutes of the decision to proceed.

- **Category two caesarean birth [Cat2]**

A caesarean birth undertaken because there is maternal or fetal compromise, but not immediately life-threatening. The NICE guideline [5] targets delivery as soon as possible, and in most circumstances within 75 minutes of the decision to proceed.

* The UK financial year denotes the tax year from 6 April to the following 5 April (inclusive).

- **Category three caesarean birth [Cat3]**

A caesarean birth undertaken where there is no maternal or fetal compromise, but where an early birth is required. The NICE guideline [5] does not put a target on the decision-to-birth interval for Cat3 procedures.

- **Category four caesarean birth [Cat4]**

A caesarean birth timed to suit a woman or healthcare provider. The NICE guideline [5] stipulates that this timing should not routinely be before 39 weeks of gestation.

- **Unplanned caesarean birth**

This term is not yet formally defined in national guidance, but is commonly held to refer to all caesarean births with Cat1–3 level urgency. However, for the purposes of service design and delivery it is important to recognise that not all Cat4 cases can be considered planned. For example, a non-labouring woman with an uneventful pregnancy at 39 weeks of gestation, newly requesting a caesarean birth, cannot fairly represent a planned case, yet clinically she is a Cat4. Consequently, the following formal definition of **unplanned caesarean birth** is proposed: *any caesarean birth where the decision-to-birth timeframe lies within the current working week.*

- **Planned caesarean birth**

This term is not yet formally defined in national guidance, but is commonly held to refer to all caesarean births with a Cat4 level of urgency. However, for the purposes of service design and delivery it is important to recognise that not all Cat3 cases should be considered unplanned. A woman at 28 weeks of gestation with recurrent antenatal haemorrhage from a placenta praevia may require a caesarean birth before she reaches 39 weeks. She requires early birth and is therefore a Cat3. Assuming she and her fetus remain stable, this can be known about several weeks in advance, and is a suitable case for a planned caesarean birth pathway. Consequently, the following formal definition of **planned caesarean birth** is proposed: *any caesarean birth where the decision-to-birth interval spans into the next, or subsequent working week(s).*

- **Unplanned obstetric operating list**

The 24/7 provision of operating theatre space, teams, and equipment for the delivery of unplanned obstetric surgical care.

- **Planned caesarean operating list**

The sessional, scheduled, and job-planned provision of operating theatre space, teams, and equipment for the delivery of planned caesarean care.

- **Unplanned obstetric surgical services**

A system, comprising staff, facilities, resources, and governance processes, tasked with providing unplanned obstetric surgical care (including caesarean birth) to women. These services are outside the scope of this document.

- **Planned caesarean services**

A system, comprising staff, facilities, resources, and governance processes, tasked with providing planned caesarean birth to women.

This guidance has been provided to support the design and development of high-quality services for women who have a planned caesarean birth, to promote safer and more equitable care for all women across all four devolved UK nations, and comparable settings internationally.

2. Background

In the 2023/24 financial year, the caesarean birth rate in England was 41.4% [1], almost quadruple the 11.2% rate from 1989/90. Despite cyclical rises and falls in the overall birth rate, the absolute number of caesarean births each year is rising (see Appendix I). The number of caesarean births in England in 2023–24 was over three times that seen in 1989–90 (225 762 versus 70 952) [1]. Open access datasets for the other devolved nations [2–4] demonstrate similar trends over the last decade. Apart from cataract surgery [11], caesarean birth is the single most common surgical procedure provided by the NHS, outnumbering total hip and knee

replacements combined [12]. The increase in numbers of caesarean operations performed each year has been driven by equal growth in planned and unplanned care (see Appendix I).

Despite the growth in demand for planned caesarean births, there remains a paucity of guidance on how services that provide it should be configured to meet the needs of local populations. Survey data of UK practice [13–14] demonstrates disparities in the programming of surgical time for planned caesarean birth. A survey of UK obstetric anaesthetists found that almost a quarter of maternity units did not provide separate operating schedules for planned caesarean birth [14]. In the absence of national guidelines, local differences have arisen in the provision of planned caesarean birth services, with significant potential for real-world inequalities in the safety and quality of care that women receive.

The 2023 MBRRACE-UK report of the 2019–21 triennium highlighted a fatality following a Cat3 caesarean birth undertaken out-of-hours [15]. A busy labour ward, the lack of an 'elective' operating list, and Cat4 cases taking precedence during the day, were all cited as contributing factors. The delay in summoning additional staff and administering blood products in the evening also contributed to this adverse outcome. The Royal College of Anaesthetists 7th National Audit Project (RCOA NAP7) project [16] identified that 27% of Cat3 caesarean births occurred outside of regular working hours [17].

The RCoA NAP7 project also identified that, for every four Cat4 births in the UK, there was one Cat3 [17]. There were 99 783 Cat4 births in England in 2023/24 [1]; the current Cat3 burden in England is therefore approximately 25 000 per annum. At least some of this work can and should be planned for, where possible, incorporating it into services that provide planned caesarean care to women during normal working hours. This will reduce Cat3 birth's exposure to the risks of out-of-hours operating, as outlined in the 2023 MBRRACE-UK report [15].

This paper specifies the features of high quality and more equitable planned caesarean birth services, the safety of which should be reflected in the experiences of those receiving and providing this care. Delivering these services will improve the quality of care afforded to women. It will help maternity units achieve a more predictable workflow and provide training opportunities for clinical staff, in line with the recommendations of the Ockenden report [18].

The specifications outlined in this guidance will assist with benchmarking and assessment of planned caesarean birth services by statutory care quality regulators, by indemnity providers, but most importantly by the women for whom services are configured to care.

3. Summary of features of high quality, safer, and more equitable planned caesarean birth services

- i. The service should be led by a senior obstetrician, a midwife and an anaesthetist, with job programmed time set aside for administering the functions of the service.
- ii. All women booked for planned caesarean birth should receive midwife-delivered pre-anaesthetic assessment and counselling. Women identified as being medically or surgically complex should receive a review by a senior anaesthetist (in a scheduled clinic) prior to the day of their planned caesarean birth.
- iii. A pre-determined number of dedicated planned caesarean operating sessions should be provided to meet the needs of the population utilising the service.
- iv. Dedicated planned caesarean operating sessions should be resourced such that:
 - a. Planned caesarean birth services do not subtract human resources, materials, or theatre space or time from unplanned obstetric care.
 - b. Planned caesarean births can progress without interruption from unplanned care.
 - c. Planned caesarean births can take place as scheduled.
 - d. Planned caesarean births can occur within predefined working hours.

- v. The service should publish standard operating procedures, utilising locally agreed complexity-balancing decision aids, to result in a balanced case-mix across the allocated theatre time, on a week-by-week basis.
- vi. The service should develop modelling systems to prospectively identify weeks in which demand for planned caesarean birth is predicted to outstrip supply of dedicated theatre time and publish standard operating procedures for mitigating for predicted peaks in advance of these occurring.
- vii. The service should publish standard operating procedures for urgently activating extra operating capacity during weeks in which demand for planned caesarean birth unexpectedly outstrips the supply of dedicated theatre time.
- viii. The service should develop processes to retrospectively investigate weeks in which demand for planned caesarean birth unexpectedly outstripped supply of dedicated theatre time, to inform their modelling, update their standard operating procedures, and reduce such occurrences in future.
- ix. The service should audit its concordance with the specifications in this guidance and publish these data, alongside feedback from women and birth partners regarding their experiences of planned caesarean birth.

4. Clinical leadership of planned caesarean birth services

Clearly defined clinical leadership structures and governance processes are a key component of high-quality healthcare services. In the historical context of low overall caesarean birth rates and numbers, it is reasonable that planned care could be managed as an offshoot of labour ward activity. However, in the present context, where rates of planned and unplanned care have grown significantly, shared leadership of these services is not sustainable.

- i. **The service should be led by a senior obstetrician, a midwife and an anaesthetist, with job programmed time set aside for administrating the functions of the service.**

Organisations that deliver planned caesarean birth services should appoint a lead senior (consultant or Specialist, Associate Specialist and Specialty [SAS] doctor) obstetrician, a senior midwife, and senior (consultant or SAS doctor) anaesthetist, each with job-planned time and shared responsibility for co-ordinating and administrating the functions of the service.

The leadership team's responsibilities should include (but not be limited to): reviewing forthcoming lists to ensure appropriate complexity and colleague skill mix; auditing the work of the service; setting the agenda for and leading improvement work pertaining to the service; developing and maintaining Enhanced Recovery After Surgery (ERAS) pathways [19–21]; and undertaking regular morbidity reviews as part of the wider governance processes of the maternity service.

5. Preparing women for their planned caesarean birth

Antenatal optimisation and counselling are important components of ERAS recommendations for obstetric care [19]. Within non-obstetric planned surgical pathways, it is standard practice for all patients requiring surgery, anaesthesia, or anaesthesia-led sedation, to undergo a preoperative anaesthetic assessment before their day of surgery [22]. To be equitable with these pathways, women preparing for a planned caesarean birth should be afforded an equivalent level of care.

- ii. **All women booked for planned caesarean birth should receive midwife-delivered pre-anaesthetic assessment and counselling. Women identified as being medically or surgically complex should receive a review by a senior anaesthetist (in a scheduled clinic) prior to the day of their planned caesarean birth.**

Midwife-delivered pre-anaesthetic assessment of women booked for a planned caesarean birth will be sufficient in many cases. Alongside ensuring the timely collection of appropriate blood tests and other investigations, midwife-delivered pre-anaesthetic assessment appointments should be used to prepare women for their planned caesarean birth, counsel them about what to expect, and address any concerns about their anaesthetic, surgery and recovery.

The Obstetric Anaesthetists' Association maintain the labourpains.org website for the purposes of educating women regarding analgesia and anaesthesia options during labour and birth [23]. Their planned caesarean, or other locally produced resources, should be used to facilitate thorough information sharing with women, as part of routine pre-anaesthetic counselling.

If during this routine pre-anaesthetic assessment a woman is identified as having complex medical or surgical needs (as defined by local policies and procedures), or if they request to speak with one regarding their care, they should receive further assessment and counselling from an appropriately trained anaesthetist, in a job-planned clinic, prior to the day of surgery.

6. Adequate provision of dedicated planned caesarean theatre time

Existing national guidance has long supported 'adequate' provision and staffing of dedicated planned caesarean operating lists [6–10]. However, there exists no universally adopted definition of what constitutes adequacy in this context. As a result, it is difficult for planned caesarean birth services to benchmark their provision of operating sessions against existing guidance, or equivalent units.

iii. A pre-determined number of dedicated planned caesarean operating sessions should be provided to meet the needs of the population utilising the service.

The universal adoption of an objective measure for determination of what constitutes an adequate number of half-day planned caesarean operating sessions per week is recommended, with reference to local birth and caesarean rates. A tool is provided (see section 10) by which this number can be determined for individual services, based on the total number of births and overall caesarean rates within their units.

Planned caesarean birth services should determine and publish the minimum required weekly number of dedicated operating sessions that would meet the need of their local population, utilising the tool provided or through analysis of their own current and projected activity levels. Failure of a service to provide dedicated operating time at this agreed minimum adequate level should trigger discussions with local risk management teams and placement of the discrepancy on the organisational risk register.

Where specialised services exist that care for pregnant women with the highest risk of complications (for example women with congenital or acquired heart disease, or those with placenta accreta spectrum disorder), local processes should be developed to arrange adequately staffed operating sessions *in addition* to those provided for routine planned caesarean birth.

7. Providing dedicated operating sessions

A session of planned caesarean operating can only be considered 'dedicated' if it does not share material, infrastructure, or human resources with unplanned care. The general and orthopaedic surgical communities in the UK have a long-established culture of delineating planned and unplanned work, such that it is deemed inappropriate for each to encroach routinely upon the other [2423–28].

The co-resourcing of planned and unplanned obstetric care remains a feature of current UK practice [13–14], almost a quarter of a century after other surgical disciplines abandoned such approaches. However, the line between planned and unplanned care is more complex in obstetrics than for other surgical disciplines. It is likely that separately resourced services may still require *co-location* within the same clinical areas, to maximise safety through accessibility of shared services (for example, rapid access to neonatal or maternal resuscitation support).

An appropriate staffing model for planned surgery is provided by the Association for Perioperative Practice (AfPP) [29]. In the obstetric context, the planned caesarean birth team should comprise:

- 1 × senior obstetrician with no other duties
- 1 × trained obstetric surgical assistant with no other duties
- 2 × registered scrub practitioners
- 1 × circulating member of theatre staff
- 1 × registered midwife *per woman*
- 1 × circulating midwifery care assistant
- 1 × registered recovery practitioner *per woman* during phase one anaesthetic recovery
- 1 × senior obstetric anaesthetist with no other duties
- 1 × anaesthetic assistant with no other duties

This represents the baseline staffing for a planned caesarean operating session. Colleagues assigned to training opportunities within the planned caesarean birth service should be allocated *in addition* to the above.

Local policies should be created to codify enhanced staffing above this baseline required for cases involving, for example: planned caesarean birth under general anaesthetic (resulting in a longer phase one recovery); multiple pregnancies (requiring extra midwifery support); intraoperative cell salvage (requiring extra anaesthetic assistance); births as part of local specialised services (requiring multiple senior clinicians); any other commonly encountered clinical scenario requiring extra staff.

iv. Dedicated planned caesarean operating sessions should be resourced such that:

a. Planned caesarean birth services do not subtract human resources, materials, or theatre space from unplanned obstetric care.

The provision of safer, high quality, and more equitable planned caesarean birth services must not come at the cost of diminishing these qualities in the unplanned care that maternity units provide. Service design that minimises utilisation of resources allocated to unplanned care in the planned setting is recommended.

Mechanisms should be established for reporting and auditing incidents where unplanned care is delayed by one or more of its team, pieces of equipment, or operating theatres being deployed in the delivery of planned care. Quality improvement work should be undertaken to reduce multiple such occurrences within the service.

b. Planned caesarean births can progress without interruption from unplanned care.

Similarly, service design that minimises the emergency utilisation of resources allocated to planned care is recommended.

Mechanisms should be established for reporting and auditing incidents where planned care is delayed by one or more of its team, pieces of equipment, or operating theatres being deployed in the delivery of unplanned care. Quality improvement work should be undertaken to reduce multiple such occurrences within the service.

c. Planned caesarean births can take place as scheduled.

Existing guidance recognises the need for women to be told a specific date and time for their planned caesarean birth [6]. Once a date is finalised, the planned caesarean should proceed on this date to minimise wider familial disruptions, for example, to birth partner's leave or pre-existing childcare provision. Should the clinical status of a woman or her baby change prior to this date, they may fall into unplanned services and outside the scope of this document.

Services should publish policies and procedures for managing the late cancellation of women on the day of their planned caesarean birth.

Mechanisms should be established for reporting and auditing when planned caesarean birth takes place *via* any mode, at any urgency category, on any day *after* the date originally agreed with a woman (excepting where variance from this standard arises because of maternal choice). Quality improvement work should be undertaken to reduce multiple such occurrences within the service.

d. Planned caesarean births can occur within predefined working hours.

In line with the specifications set out in this document, a planned caesarean birth service that meets local needs should expect to be delivered within predefined working hours. This includes supplemental operating lists agreed in advance during times of peak demand, or to deliver local specialised services.

Mechanisms should be established for reporting and auditing when planned caesarean birth operating sessions conclude after their scheduled finish time. Quality improvement work should be undertaken to reduce multiple such occurrences within the service.

For each of these requirements, the planned caesarean service leadership team should prospectively agree and document a local threshold at which rates of deviation from these specifications will trigger quality improvement processes, which might include business planning to provide more operating capacity, or to staff, and utilise the existing capacity more effectively.

8. Proactive planning for fluctuation in demand and workloads

The recommended number of half-day operating sessions provided in section 10 represents the baseline minimum to which planned caesarean birth services should aspire. However, it remains the case that there can be significant variation in workload and acuity across the calendar year, and on a week-by-week basis. Likewise, without careful planning to properly balance case acuity across the working week, some operating lists can become overly complex, whereas others may seem less complex by comparison.

v. The service should publish standard operating procedures, utilising locally agreed complexity-balancing decision aids, to result in a balanced case-mix across the allocated theatre time, on a week-by-week basis.

When booking for a planned caesarean birth, an assessment should be made of the surgical and anaesthetic complexity associated with the woman's case. Objective decision aids to help stratify each

case according to its predicted complexity ahead of planned caesarean birth have been described [30], although there is a paucity of validated predictive risk models in this area [31]. Developing such tools would ensure an appropriate case-mix within operating lists. One study found that, following implementation of a complexity scoring decision aid, the percentage of planned caesarean birth lists that overran was reduced from 21% to 10% [30].

Services should develop and utilise a complexity scoring system in the antenatal care of women who choose or are advised to have a planned caesarean birth. The score should be appended to the woman's surgical booking, and mechanisms should be created to update these if they change during the pregnancy.

Services should develop standard operating procedures to allocate women to specific planned caesarean operating lists, aiming to balance objective acuity scores and numbers of cases across the working week. Senior clinicians and managers should agree a maximum complexity score and number of cases acceptable for each operating session; audit and service improvement activities should aim to keep planned caesarean operating lists at or below this predefined maximum.

Daily reassessment of the planned operating week should be undertaken to ensure that lists remain balanced, and that all the remaining planned care is incorporated in a safe and timely manner. Where changes are made to operating lists to maintain balance, resulting in a significant disruption to plans already shared with women preparing for a planned caesarean birth, these should be communicated to those women as soon as possible (see specification iv c, above).

- vi. **The service should develop modelling systems to prospectively identify weeks in which demand for planned caesarean birth is predicted to outstrip supply of dedicated theatre time, and publish standard operating procedures for mitigating for predicted peaks in advance of these occurring.**

Planned caesarean birth services should use their unit's current post 20-week booking levels and most recent local planned caesarean birth rates to model forthcoming workloads. Where future weekly need is predicted to peak above the predetermined adequate level (see section 10) of dedicated planned caesarean operating sessions, units should have in place standard operating procedures for activating supplemental dedicated operating lists, well in advance of this excess requirement arising. These standard operating procedures should include consideration of thresholds for requesting (and providing) mutual aid between neighbouring services, where this has been agreed between provider organisations in advance.

- vii. **The service should publish standard operating procedures for urgently activating extra operating capacity during weeks in which demand for planned caesarean birth unexpectedly outstrips the supply of dedicated theatre time.**

The aim of predictive modelling is to enable forward planning and reduce exposure of the planned caesarean birth service to unexpected peaks in demand. However, when levels of demand are detected to have risen at short notice above the predetermined adequate level (see section 10) of dedicated planned caesarean operating sessions, units should have in place standard operating procedures for urgently activating supplemental dedicated operating lists. These standard operating procedures should also include consideration of thresholds for requesting (and providing) mutual aid between neighbouring services, where this has been agreed between provider organisations in advance.

- viii. **The service should develop processes to retrospectively investigate weeks in which demand for planned caesarean birth unexpectedly outstripped supply of dedicated theatre time, to inform their modelling, update their standard operating procedures, and reduce such occurrences in future.**

A marker of a high quality service is its ability to predict and respond to fluctuations in local need. Planned caesarean birth services should develop ongoing audit capability to retrospectively identify weeks in which supply of dedicated planned caesarean operating sessions was unexpectedly outstripped by excess demand. Units should aim to provide sufficient operating sessions for the required predicted workload, on a week-by-week basis. They should develop mechanisms for service improvement where this is consistently not achieved.

9. Women's experiences of their planned caesarean birth

The specifications outlined in this document are designed to facilitate maternity teams to deliver high quality, safer, and more equitable planned caesarean birth services. The experiences of women and safety are inextricably linked. While the safety focus of clinical staff may be on avoiding physical harm, for women safety encompasses physical *and* psychological elements [32]. Women who experience psychological trauma during birth are more vulnerable to postpartum depression and post-traumatic stress disorder [33]. Systemic causes of psychological harm in maternity services were the focus of a UK All-Party Parliamentary report published in 2024 [34]; planned caesarean birth services must be designed with a focus on reducing such harms to women.

Factors such as experiencing organised and coordinated care, with adherence to care plans, have been identified as important to women's psychological safety [33,35]. Therefore, patient-reported experience measures and critical examination of patient-centred care processes should be at the centre of quality improvement for planned caesarean birth services.

ix. The service should audit its concordance with the specifications in this guidance and publish these data, alongside feedback from women and their birth partners regarding their experiences of planned caesarean birth.

All women undergoing planned caesarean birth should be invited to give feedback about the quality of the care they received. Units should develop mechanisms for regular review of feedback data, including processes for identifying and addressing serious issues, such as complaints, patient safety concerns, or referring complex cases to the appropriate follow-up services. Women's views collected through this, and other locally-agreed means, should also be incorporated into ongoing development of planned caesarean birth services.

10. Tools for implementation

Figure 1 can be used to determine the number of half-day planned caesarean operating sessions per week that would be deemed adequate for any given service, based on its annual total births and the total caesarean birth rate. The mathematical assumptions and calculations used to generate these figures are detailed in Appendix II.

To determine the adequate number of half-day operating sessions required, round up to the next 500 births per year and to the next 5% total caesarean rate. For example, a unit with 5300 births/year and a 42% total caesarean birth rate would find the intersection between row '5500' and column '45%', to arrive at eleven half-day operating sessions per week.

Figure 1. Determining operating sessions per week based on annual and total caesarean birth rates.

Total caesarean birth rate (planned and unplanned)									
15%	20%	25%	30%	35%	40%	45%	50%	55%	60%

Annual total births	500	0	1	1	1	1	1	1	1	1	1
	1000	1	1	1	1	2	2	2	2	3	3
	1500	1	1	2	2	2	3	3	3	4	4
	2000	1	2	2	3	3	4	4	5	5	5
	2500	2	2	3	3	4	5	5	6	6	7
	3000	2	3	3	4	5	5	6	7	7	8
	3500	2	3	4	5	6	6	7	8	9	9
	4000	3	4	5	5	6	7	8	9	10	11
	4500	3	4	5	6	7	8	9	10	11	12
	5000	3	5	6	7	8	9	10	11	12	13
	5500	4	5	6	7	9	10	11	12	13	15
	6000	4	5	7	8	9	11	12	13	15	16
	6500	4	6	7	9	10	12	13	14	16	17
	7000	5	6	8	9	11	12	14	16	17	19
	7500	5	7	8	10	12	13	15	17	18	20
	8000	5	7	9	11	12	14	16	18	20	21
	8500	6	8	9	11	13	15	17	19	21	23
	9000	6	8	10	12	14	16	18	20	22	24
	9500	6	8	11	13	15	17	19	21	23	25
	10 000	7	9	11	13	16	18	20	22	24	27

The minimum number of half-day operating sessions recommended per week for a given annual total births and total caesarean birth rates. Round up to next 500 total births and next 5% caesarean rate.

11. Future considerations

Over 40% of UK births occur *via* caesarean; it is the most common major surgical procedure carried out in the NHS. With more women having a planned caesarean birth than at any other period in history, maternity services should give due consideration to designing and delivering services that are more equitable to other surgical disciplines.

The past decade has seen an ongoing rise in caesarean birth rates and numbers, despite a decline in total births (see Appendix I). It is reasonable to believe that overall birth rates will increase again in the future. When they do, maternity units will need to be ready. The current model of reactively expanding planned caesarean birth services will not meet this growing demand. Mechanisms for incentivising healthcare providers to adopt the specifications outlined in this paper will need to be explored.

These specifications are designed to offer a common set of standards to which all planned caesarean birth services should aspire, and by which they can be assessed by healthcare regulators, indemnity providers, and (most importantly) by the women who use them. Ongoing advances in care can be developed from the foundations described in this guidance, with the primary goal of equitably achieving the highest possible standards of quality and safety for everyone who experiences a planned caesarean birth.

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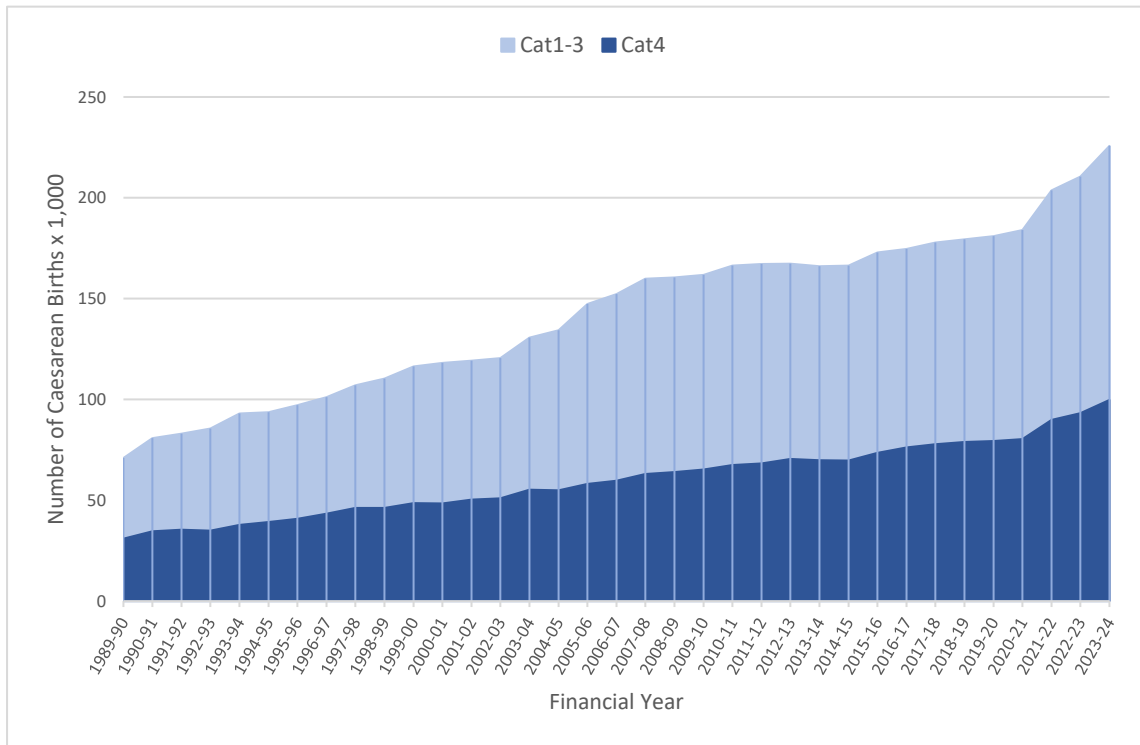
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Appendix I: Caesarean birth statistics for the devolved UK nations.

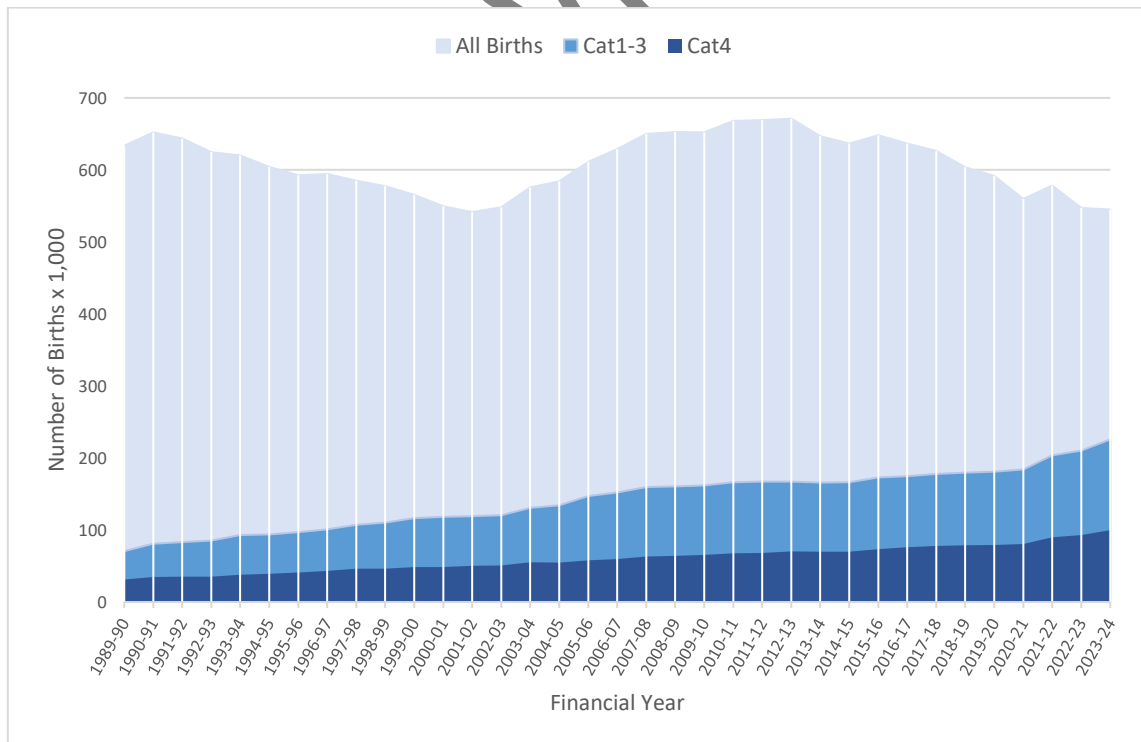
The four devolved nations of the UK each publish their own maternity statistics, which are freely available for download and interrogation. In England, NHS Digital publish annual reports of mode of delivery for each tax year, dating back over several decades; at the time of publication, the most recent data was for tax year 2023/24 [1]. The Northern Ireland Public Health Authority publish similar data by tax year, beginning 2011/12 [2]. StatsWales has published Welsh data for each calendar year between 2016 and 2023 [3]. Public Health Scotland has published birth mode statistics by calendar year from 2017 through to 2024 [4].

Owing to the discrepancies in the way these data are reported, and presumed discrepancies in the way they are collected, it is not feasible to present a combined dataset for the whole UK. Instead, the dataset from England [1] is used to demonstrate the historical context of the growth in caesarean workload over several decades. The available caesarean rate data from Northern Ireland, Wales, and Scotland are then presented for comparison.[2–4]

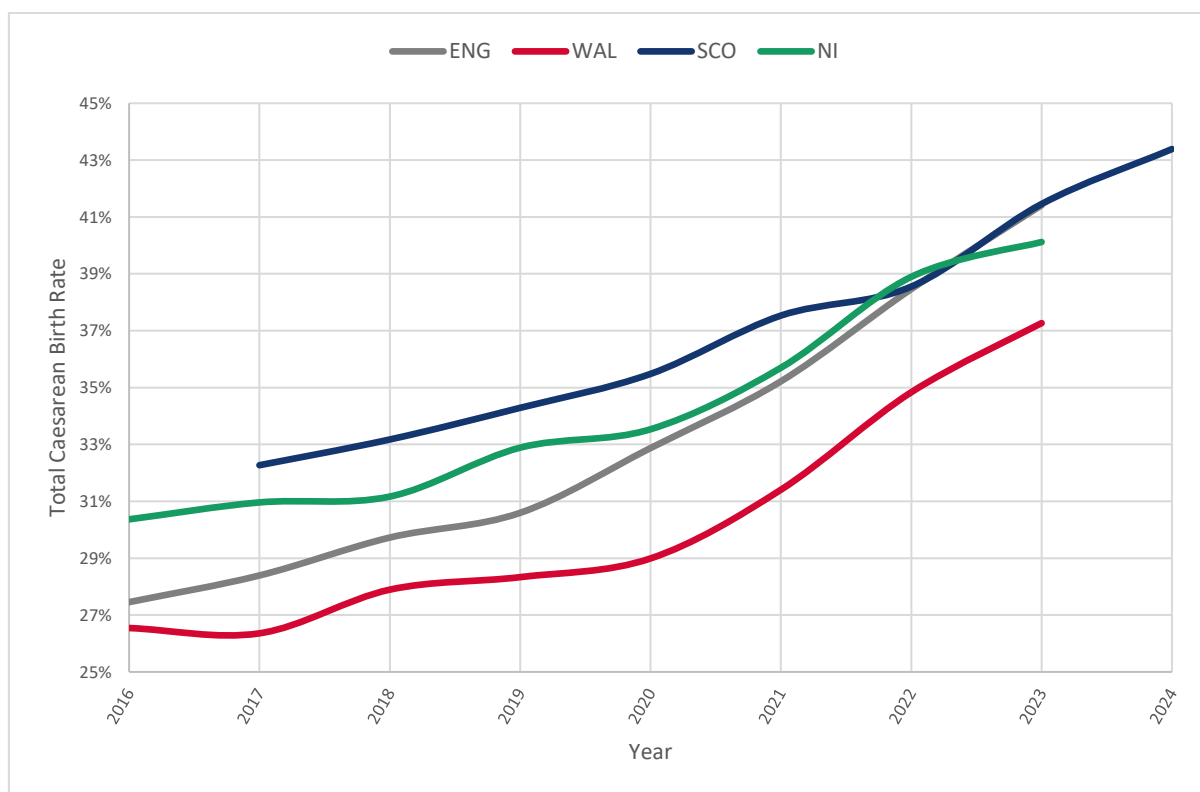
- a. Total number of caesarean births recorded by NHS Maternity Statistics for England [1] per financial year between 1989-90 and 2023-24, separated into Cat1–3 and Cat4 caesareans.



- b. Number of caesarean births recorded by NHS Maternity Statistics for England [1] per financial year between 1989/90 and 2023/24, shown in relation to the total number of births in England. Note rising caesarean birth numbers, despite falling total births over the last decade.



- c. Total caesarean rates for the devolved UK nations since 2016. The data for England (ENG) and Northern Ireland (NI) are for tax-year commencing in the stated year. The data for Wales (WAL) and Scotland (SCO) are for the stated calendar year [1-4].



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Appendix II:

Figure 1 (see section 10) shows the minimum number of half-day planned caesarean operating sessions required to adequately serve a given population with a total number of annual births and a known total caesarean rate as a percentage of total births.

The following assumptions were made to facilitate its production:

a. Half-day sessions

Different settings utilise different scheduling models for planned caesarean birth. Smaller services might choose to have multiple short operating sessions across the week, while others might require multiple whole days of operating to meet the needs of the local population. The half-day was chosen as the base unit to make this tool applicable across all such settings.

b. Half-day session lengths

Different settings utilise different theatre scheduling models for allocating operating time. A half-day session length of **4 hours** was chosen for the calculations in Figure 1.

To convert the minimum number of half-day sessions into a context with different half-day operating lengths, the multiplier is $4/x$ where x is the local half-day operating length in hours.

c. Allocated time for caesarean birth

Consideration was given to the length of time a planned caesarean birth “should” take. The heterogeneity of the population presenting for this procedure, and the working practices of the individuals and teams providing it, presents significant challenges for producing such a figure.

An estimated total anaesthetic, surgical, and theatre turnaround time of **90 minutes** was chosen for each planned caesarean birth.

d. Allocated caesarean births per half-day operating session

The above assumptions resulted in an estimated allocation of **2.5 planned caesarean births** per half-day operating session. This number is clearly not applicable to real-world settings, as a service cannot deliver half a planned caesarean birth. However, this is dealt with in the subsequent calculation, using rounding.

To convert this to the number of planned caesarean births that should be allocated to half-day operating sessions of different lengths, the multiplier is $x/4$ where x is the local half-day operating length in hours.

e. Estimating the number of weekdays available for planned caesarean birth operating

Section 7 iv. d. states that ‘a planned caesarean birth service that meets local needs should expect to be delivered within predefined working hours’. In a calendar year, there are approximately 104 weekend days. Allowing for public holidays (which vary across the four UK nations) and non-operating sessions (such as governance or training activities), there remain approximately **250** available weekdays on which planned caesarean operating can take place.

f. Estimating the proportion of all caesarean births that are planned

Combining available full-year data for England, Wales, Scotland, and Northern Ireland [1-4], around 45% of all UK caesarean births are Cat4, with 55% being Cat1–3. As stated in section 1, there is incomplete

alignment of the clinical categorisation of caesarean births, as defined by NICE [5], and those which can be managed on planned caesarean birth pathways.

The NAP7 audit identified that for every four Cat4 caesarean births in the UK, there was one Cat3 [17]. Applying this statistic to UK caesarean data leads to an estimated 11% of all UK caesarean births being Cat3. While certainly not all Cat3 caesarean births can be managed on a planned pathway, a proportion could and should be deferred into the next or subsequent working week(s).

In the context of falling total birth numbers over the last decade, the data presented in Appendix I demonstrates a year-on-year increase in the total caesarean birth rates across the four UK nations. This increase has been approximately 2% per year for the last five years, split equally between Cat1–3 and Cat4 caesarean births.

Ongoing growth in the UK caesarean birth rate, or an increase in the total number of UK births, will result in significant increased demand for planned caesarean birth services over the next decade. Incorporating extra capacity at the service design stage is therefore desirable. Adding the estimated proportion of UK caesarean births that are Cat3 (11%) to those that are Cat4 (45%) provides an upper limit of **56%** for the estimated proportion of all UK caesarean births that could be managed within planned pathways.

Using the above assumptions, the following equation can be used to calculate the number of half-day planned caesarean birth operating sessions (S_P) required for a given week, where the total number of planned caesarean births for that week (N_P) is known:

$$S_P = \frac{N_P}{2.5} \times \frac{4}{x}$$

where x is the length of a half-day operating session in hours. The result should be rounded-up to make a complete number of planned caesarean operating sessions.

To populate Figure 1, the average number of planned caesarean births (N_P) per working week, for a unit with a known total number of annual births (B_T) and total caesarean rate (R_T) as a percentage, was estimated using the following equation:

$$N_P \approx \frac{5 \times R_T \times B_T \times C_P}{100 \times 250}$$

where C_P is the decimal proportion of all caesarean births that are planned (overestimated with an upper limit of 0.56 for the UK, based on the assumptions above).

This Good Practice Paper was produced on behalf of the Royal College of Obstetricians and Gynaecologists by:

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[to be completed post consultation]

The Patient Safety Committee lead reviewers were: Dr CJ Calderwood FRCOG, Clydebank; and S Ashton-May, Director, Midwifery Policy and Practice, Royal College of Midwives.

The Chair of the Patient Safety Committee was: Dr SL Cunningham MRCOG, Stoke-on-Trent¹; Dr CJ Calderwood FRCOG, Clydebank²; and the Vice Chair was: Dr J Elson FRCOG, Nottingham.

¹until May 2024; ²from June 2024

The final version is the responsibility of the Patient Safety Committee of the RCOG.

The review process will commence in XXXX, unless otherwise indicated.

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