NICE National Institute for Health and Care Excellence

NICE guideline

Safe midwifery staffing for maternity settings

NICE guideline

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Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Contents

This guideline is the basis of QS105.

Overview

This guideline covers safe midwifery staffing in all maternity settings, including at home, in the community, in day assessment units, in obstetric units, and in units led by midwives (both alongside hospitals and free-standing). It aims to improve maternity care by giving advice on monitoring staffing levels and actions to take if there are not enough midwives to meet the needs of women and babies in the service.

Who is it for?

- Midwives and other healthcare professionals
- Hospital managers and service managers
- Heads and directors of nursing and midwifery
- Commissioners, trust boards and policy decision-makers
- Women and babies who use maternity services

Other national documents

There are other national documents that are relevant to midwifery staffing for NHS services, including:

- Francis report on Mid Staffordshire (Francis 2013)
- Keogh review into the quality of care and treatment provided in 14 hospital trusts in England (Keogh 2013)
- Cavendish review, an independent enquiry into healthcare assistants and support workers in the NHS and social care setting (Cavendish 2013)
- Berwick review on improving the safety of patients in England (Berwick 2013)
- How to ensure the right people, with the right skills, are in the right place at the right

time. A guide to nursing midwifery and care staffing capacity and capability (National Quality Board 2013)

- Hard truths. The journey to putting patients first (Department of Health 2013)
- Compassion in Practice (Department of Health 2012)
- Safer Childbirth – Minimum standards for the organisation and delivery of care in Labour (RCOG 2007)
- Maternity Matters (Department of Health 2007)
- Standards for Maternity Care (RCOG 2008)
- Midwifery 2020 (Department of Health 2010)
- Saving Mothers' Lives: Maternity summary (Centre for Maternal and Child Enquiries 2011)
- Workforce risks and opportunities: midwives (Centre for Workforce Intelligence 2012)
- Staffing in Maternity Units: getting the right people in the right place at the right time (King's Fund 2011)

Introduction

The Department of Health and NHS England have asked NICE to develop evidence-based guidelines on safe staffing, with a particular focus on nursing and midwifery staff, for England. This request followed the publication of the Francis report (2013) and the Keogh review (2013).

Focus of the guideline

This guideline makes recommendations on safe midwifery staffing requirements for maternity settings, based on the best available evidence. The guideline focuses on the pre-conception, antenatal, intrapartum and postnatal care provided by midwives in all maternity settings, including: at home, in the community, in day assessment units, in obstetric units, and in midwifery-led units (both alongside hospitals and free-standing).

The guideline recommendations are split into different sections:

- Recommendations in section 1.1 are aimed at trust boards, senior management and commissioners, and identify organisational and managerial responsibilities to support safe midwifery staffing requirements.
- Recommendations in section 1.2 are aimed at senior registered midwives (or other authorised people) who are responsible for setting the midwifery staffing establishment. They focus on the process for setting the staffing establishment and the factors that should be taken into account.
- Recommendations in section 1.3 are aimed at senior registered midwives who are in charge of maternity services or shifts. They are about ensuring that the service or shift can respond to situations that may lead to an increased demand for midwives and to differences between the numbers of midwives needed and the numbers available.
- Recommendations in section 1.4 are aimed at senior management and registered midwifery managers and are about monitoring whether safe midwifery staffing requirements are being met. This includes recommendations to review midwifery staffing establishments and adjust them if necessary.

For further information, see the scope for the guideline.

This guideline is for organisations that provide or commission services for NHS service users. It is aimed at policy decision makers, commissioners, trust boards, hospital managers, service managers, heads and directors of nursing and midwifery, midwives, and other healthcare professionals. It will also be of interest to regulators and the public.

In this guideline, the terms midwife and midwifery refer to registered midwives only. Maternity support workers or other staff working alongside midwives are not included in this definition.

Those responsible and accountable for staffing maternity services should take this guideline fully into account. However, this guideline does not override the need for, and importance of, using professional judgement to make decisions appropriate to the circumstances.

This guideline does not cover national or regional level workforce planning or recruitment, although its content may inform these areas.

This guideline does not address staffing requirements in relation to other staff groups such as maternity support workers, medical consultants, theatre nurses or allied health professionals, although we acknowledge that a multidisciplinary approach and the availability of other staff and healthcare professionals are an important part of safe staffing for maternity services. The guideline takes into account the impact of the availability of other staff groups on midwifery staffing requirements.

Toolkits to support this guideline

The guideline will also be of interest to people involved in developing evidence-based toolkits for assessing and determining safe midwifery staffing requirements. See tools and resources for details of any toolkits that can help with implementing this guideline.

Staffing ratios

A minimum staffing ratio for women in established labour has been recommended in this guideline, based on the evidence available and the Safe Staffing Advisory Committee's knowledge and experience. The committee did not recommend staffing ratios for other

areas of midwifery care. This was because of the local variation in how maternity services are configured and therefore variation in midwifery staffing requirements, and because of the lack of evidence to support setting midwife staffing ratios for other areas of care. Professional guidance, toolkits and other resources about midwifery staffing levels or ratios are available. However, there was a lack of evidence regarding the effectiveness of existing toolkits and resources for calculating safe midwifery staffing.

The committee's discussions about staffing ratios and toolkits are contained in the evidence to recommendations tables that are published alongside the guideline (see appendix 1). See the sections on gaps in the evidence on staffing ratios and recommendations for research for further details.

Woman- and baby-centred care

Individually assessing the care needs of each woman and baby is paramount when making decisions about safe midwifery staffing requirements. The assessments should take into account individual preferences and the need for holistic care and contact time between the midwife and the woman and baby.

Women should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals. Healthcare professionals and others responsible for assessing safe midwifery staffing requirements for maternity settings should also refer to NICE's guideline on patient experience in adult NHS services.

Women and healthcare professionals have rights and responsibilities as set out in the NHS Constitution for England – all NICE guidance is written to reflect these.

Evidence to recommendations

When drafting these recommendations, the Safe Staffing Advisory Committee discussed evidence from the systematic reviews and an economic analysis report described in the section on the evidence. In some areas there was limited or no published evidence. In these cases, the committee considered whether it was possible to formulate a recommendation on the basis of their experience and expertise. The evidence to recommendations tables presented in appendix 1 detail the committee's considerations when drafting the recommendations.

The committee also identified a series of gaps in the evidence – please see the section on gaps in the evidence for further details.

When drafting the recommendations, the committee took into account:

- whether there is a legal duty to apply the recommendation (for example, to be in line with health and safety legislation)
- the strength and quality of the evidence base (for example, the risk of bias in the studies looked at, or the similarity of the populations covered)
- the relative benefits and harms of taking (or not taking) the action
- any equality considerations.

Strength of recommendations

Recommendations using directive language such as 'ensure', 'provide' and 'perform' are used to indicate the committee was confident that a course of action would lead to safe midwifery care.

If the quality of the evidence or the balance between benefits and harms means that more time should be taken to decide on the best course of action, the committee has used 'consider'.

Recommendations that an action 'must' or 'must not' be taken are usually included only if there is a legal duty (for example, to comply with health and safety regulations).

Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in NICE's information on making decisions about your care.

Making decisions using NICE guidelines explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

The recommendations in this guideline cover all aspects of care provided by a midwife employed to provide NHS-funded maternity care in:

- all maternity services (for example, clinics, home visits, maternity units)
- all settings where maternity care is provided (for example, home, community, free-standing and alongside midwifery-led units, hospitals including obstetric units, day assessment units, and fetal and maternal medicine services)
- the whole maternity pathway (pre-conception, antenatal, intrapartum and postnatal).

Recommendations in section 1.1 focus on the responsibilities that organisations have and the actions they should take to support safe midwifery staffing requirements in all maternity settings.

Recommendations in section 1.2 describe the process and the factors to consider when setting midwifery staffing establishments. The process described in this section could also be used as the specification for a toolkit for setting the midwifery staffing establishment.

Recommendations in section 1.3 are about ensuring that maternity services can respond to increased demand for midwifery staff and to differences between the number of midwives needed and the numbers available.

Recommendations in section 1.4 are about monitoring whether safe midwifery staffing requirements are being met. This includes recommendations to review midwifery staffing

establishments and adjust them if necessary.

1.1 Organisational requirements

These recommendations are for commissioners, trust boards and senior management.

Focus on care for women and babies

1.1.1 Ensure women, babies and their families receive the midwifery care they need, including care from specialist and consultant midwives, in all:

- maternity services (for example, pre-conception, antenatal, intrapartum and postnatal services, clinics, home visits and maternity units)
- settings where maternity care is provided (for example, home, community, free-standing and alongside midwifery-led units, hospitals including obstetric units, day assessment units, and fetal and maternal medicine services).

1.1.2 This should be regardless of the time of the day or the day of the week.

Accountability for midwifery staffing establishments

1.1.3 Develop procedures to ensure that a systematic process is used to set the midwifery staffing establishment (see recommendation 1.2.2) to maintain continuity of maternity services and to provide safe care at all times to women and babies in all settings. The board should ensure that the budget for maternity services covers the required midwifery staffing establishment for all settings.

1.1.4 Ensure that maternity services have the capacity to do the following:

- Deliver all pre-conception, antenatal, intrapartum and postnatal care needed by women and babies.
- Provide midwifery staff to cover all the midwifery roles needed for each maternity service, including coordination and oversight of each service.
- Allow for locally agreed midwifery skill mixes (for example, specialist and

consultant midwives, practice development midwives).

- Provide a woman in established labour with supportive one-to-one care.
- Provide other locally agreed staffing ratios.
- Allow for:
  - uplift (which may include consideration of annual leave, maternity leave, paternity leave, study leave including mandatory training and continuing professional development, special leave, and sickness absence)
  - time for midwives to give and receive supervision in line with professional guidance
  - ability to deal with fluctuations in demand (such as planned and unplanned admissions and transfers, and daily variations in midwifery requirements for intrapartum care).

1.1.5 Ensure that maternity services use local records of predicted midwifery requirements and variations in demand for midwifery staff to help plan ahead and respond to anticipated changes (for example, local demographic changes and women's preferences for place of care).

1.1.6 Develop procedures to ensure that the midwifery staffing establishment is developed by midwives with training and experience in setting staffing establishments. Procedures should ensure that the midwifery staffing establishment is approved by the head of midwifery and the director of nursing and midwifery or chief nurse.

1.1.7 Ensure a senior midwife or another responsible person is accountable for the midwife rosters that are developed from the midwifery staffing establishment.

1.1.8 Ensure that there are enough midwives with the experience and training to assess the differences in the number and skill mix of midwives needed and number of midwives available for each shift (see section 1.3).

Organisational level actions to enable responsiveness to variation

in demand for maternity services

1.1.9 Develop escalation plans to address demand for maternity services and variation in the risks and needs of women and babies in the service.

1.1.10 Develop escalation plans in collaboration with midwives who are responsible for determining midwifery staffing requirements at unit or departmental level.

1.1.11 Ensure that escalation plans contain actions to address unexpected variation in demand for maternity services and midwifery needs. These plans could include:

- sourcing extra staff such as using:
  - on-call staff
  - temporary staff
- redistributing the midwifery workload to other suitably trained and competent staff
- redeploying midwives to and from other areas of care
- rescheduling non-urgent work.

  Action in relation to these plans must not cause midwifery red flag events (see box 3: midwifery red flag events) to occur in other areas. Only consider service cancellations or closures as a last resort.

1.1.12 Actions within the escalation plans related to midwifery staffing should be approved by the head of midwifery and director of nursing and midwifery or chief nurse.

Monitoring the adequacy of midwifery staffing establishment

1.1.13 Review the midwifery staffing establishment at board level at least every 6 months, ensuring the review includes analysis of:

- data on variations in maternity service demand

- midwifery red flag events (see box 3)
- safe midwifery indicators (see box 4 and the section on indicators for safe midwifery staffing).

1.1.14 Review the midwifery staffing establishment at board level more often than every 6 months if the head of midwifery or director of nursing and midwifery identifies that this is needed. For example if:

- the implementation of escalation plans is increasing
- local services are reconfigured
- midwifery staffing deficits occur frequently
- the quality of the service has deteriorated as indicated by complaints, midwifery red flag events or other quality measures
- staff absenteeism is increasing
- there is unexpected increase or decrease in demand for maternity services.

1.1.15 Change the midwifery staffing establishment if the review indicates this is needed and consider flexible approaches such as adapting shifts and amending assigned location.

Monitoring and responding to changes

1.1.16 Ensure that maternity services have procedures in place for monitoring and responding to unexpected changes in midwifery staffing requirements.

1.1.17 Ensure maternity services have procedures in place for:

- informing members of staff, women, family members and carers about what midwifery red flag events (see box 3) are and how to report them
- the registered midwife in charge of the shift or service to take appropriate action in relation to midwifery red flag events

- recording and monitoring midwifery red flag events as part of exception reporting.

1.1.18 Involve midwives in developing and maintaining midwifery staffing policies and governance, including escalation planning.

1.1.19 Ensure that actions in relation to midwifery red flag events or unexpected changes in midwifery staffing requirements:

- take account of women and babies who need extra support from a midwife
- do not cause midwifery red flag events to occur in other areas of the maternity service.

Promoting staff training, education and time for indirect care activities

1.1.20 Ensure that midwives have time for:

- participating in continuing professional development, statutory and mandatory training, and supervision
- receiving training, mentoring and preceptorship
- providing training and mentoring for student midwives or other maternity service staff
- supervising and assessing the competencies of other midwives and non-midwifery staff (including maternity support workers)
- taking part in indirect care activities such as clinical governance, safeguarding, administration and liaison with other professionals
- setting the midwifery staffing establishment
- assessing the midwifery requirements for each day or shift, including collecting and analysing data.

1.2 Setting the midwifery staffing establishment

These recommendations are for registered midwives (or other authorised people) who are responsible for determining the midwifery staffing establishment.

1.2.1 Determine the midwifery staffing establishment for each maternity service (for example, pre-conception, antenatal, intrapartum and postnatal services) at least every 6 months.

1.2.2 Undertake a systematic process to calculate the midwifery staffing establishment. The process (or parts of the process) could be supported by a NICE-endorsed toolkit (if available). The process should contain the following components:

- Use historical data about the number and care needs of women who have accessed maternity services over a sample period (for example, the past 12 months or longer).
- Estimate the total maternity care hours needed over the sample period based on a risk categorisation of women and babies in the service. This should consider the following:
  - risk factors, acuity and dependency (see box 1 [A] for examples)
  - the estimated time taken to perform all routine maternity care activities (see box 2 part A for examples)
  - the estimated time taken to perform additional activities (see box 2 part B for examples).
- Divide the total number of maternity care hours by the number of women in the time period to determine the historical average maternity care hours needed per woman.
- Use data on the number of women who are currently accessing the maternity service and the trend in new bookings to predict the number of women in the service in the next 6 months.
- Multiply the predicted number of women in the service over the next 6 months by the historical average maternity care hours needed per woman

to determine the predicted total maternity care hours needed over the next 6 months.

- From the total predicted maternity care hours, identify the hours of midwife time and skill mix to deliver the maternity care activities that are required. Take account of:
  - environmental factors including local service configuration (see box 1 [B] for examples)
  - the range of staff available, such as maternity support workers, registered nurses or GPs, and the activities that can be safely delegated to or provided by them (see box 1 [C] for examples).
- Allow for the following:
  - one-to-one care during established labour (unless already accounted for in the historical data)
  - more than one-to-one care during established labour if circumstances require it (unless already accounted for in the historical data)
  - any staffing ratios for other stages of care that have been developed locally depending on the local service configuration and the needs of individual women and babies
  - the locally defined rate of uplift (for example, to allow for annual leave, maternity leave, paternity leave, study leave, special leave and sickness absence).
- Divide the total midwife hours by 26 to give the average number of midwife hours needed per week over the next 6 months.
- Divide the weekly average by the number of hours for a full time working week to determine the number of whole time equivalents needed for the midwife establishment over the next 6 months.
- Convert the number of whole time equivalents into the annual midwife establishment.

Figure 1: systematic process to calculate the midwifery staffing

establishment, summarises this process.

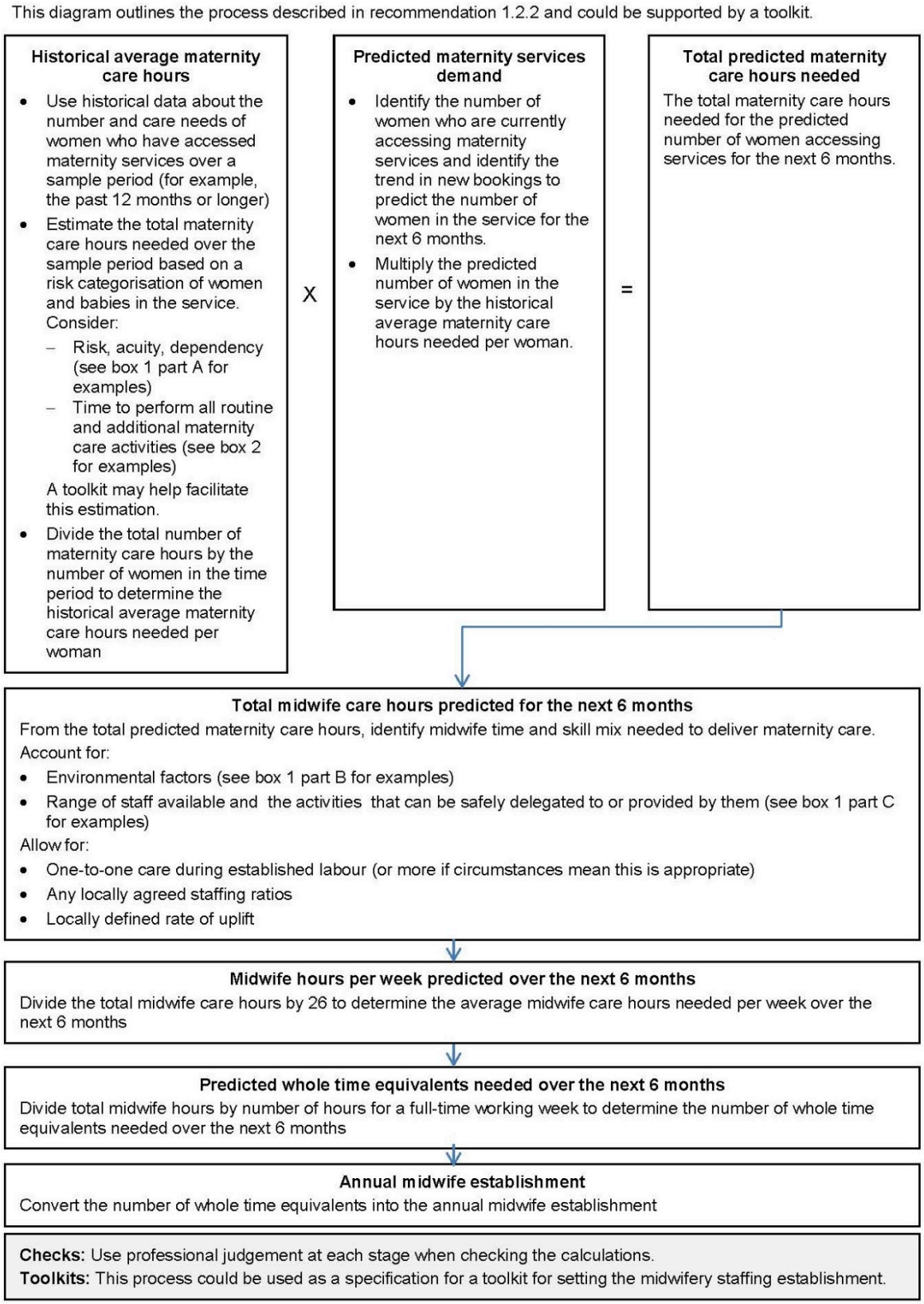
1.2.3 Base the number of whole-time equivalents on registered midwives, and do not include the following in the calculations:

- registered midwives undertaking a Local Supervising Authority Programme
- registered midwives with supernumerary status (this may include newly qualified midwives, or midwives returning to practice)
- student midwives
- the proportion of time specialist and consultant midwives who are part of the establishment spend delivering contracted specialist work (for example, specialist midwives in bereavement roles)
- the proportion of time midwives who are part of the establishment spend coordinating a service, for example the labour ward.

1.2.4 Use professional judgement at each stage of the calculation and when checking the calculations for the midwifery staffing establishment.

1.2.5 Base the midwife roster on the midwifery staffing establishment calculations, taking into account any predictable peaks in activity, and risk categorisation of women and babies (for example, during the day when midwife activities are likely to be planned, or for a service dealing with higher risk category women and babies).

Figure 1: systematic process to calculate the midwifery staffing establishment



Box 1 Examples of factors to consider when assessing maternity

care needs

A Risk, acuity and dependency of each woman and baby

Risk:

- Age
- Cardiovascular
- Complications (previous)
- Current pregnancy
- Disabilities
- Endocrinological
- Fetal
- Gastrointestinal
- Gynaecological
- Haematological
- Immunological
- Infective
- Learning difficulties
- Neurological
- Obesity
- Psychiatric
- Renal
- Respiratory
- Skeletal

- Substance use

Antenatal acuity/dependency

- No significant intervention required
- Induction of labour
- Requires specialised care
- Requires treatment

Intrapartum acuity/dependency

- Apgar score
- Birth trauma
- Birth weight
- Caesarean section
- Death
- Duration of labour
- Gestation
- Operative vaginal delivery
- Post-delivery emergency

Postnatal acuity/dependency

- Moderate dependency
- Readmission
- Straight forward
- Transfer out

B Environmental factors

Local service configuration or models of care, for example:

- Consultant-led care
- Midwife-led care
- Shared care

Unit/department layout, for example:

- Number of beds, units, bays (and distance between them)

Availability of and proximity to related services, for example:

- Breastfeeding clinics
- Fetal medicine department
- Maternal medicine department
- Other specialist centres

Local geography and availability of neighbouring maternity services, for example:

- Travel time between services

C Staffing factors

Availability of non-midwifery staff, for example:

- Allied health professionals (e.g. sonographers)
- Clerical staff and data inputters
- GPs
- Maternity support workers

- Medical consultants
- Nursery nurses
- Registered nurses
- Temporary staff

Box 2 Examples of maternity care activities that affect midwifery staffing

Part A: Examples of routine care activities

Antenatal

- Booking appointment
- Antenatal appointment (including assessment, education, lifestyle advice and fetal monitoring)
- Antenatal screening and tests (e.g. fetal heart auscultation/scan)

Intrapartum

- Routine intrapartum care (including assessment, support, monitoring, management)
- One-to-one care (during established labour)

Postnatal

- Routine postnatal care (including observations, hygiene, discharge planning)
- Newborn assessment/ examination/ screening/vaccination (e.g. heel prick, hearing, vitamin K administration)
- Postnatal appointment (including assessment, education, advice and infant monitoring)

All stages of care

- Routine administration (including care planning, case notes, referrals)
- Checking/ordering/ chasing (e.g. preparing medication, checking specialist equipment, checking blood results)
- Transfers

Part B: Examples of activities that may need additional time

Antenatal

- Admission to labour ward or day unit
- Providing additional antenatal screening and tests (e.g. fetal anomaly)
- Providing antenatal vaccinations (e.g. flu)

Intrapartum

- Additional monitoring/interventions (e.g. cannula, epidural, fetal monitoring, induction of labour)
- Managing complications (e.g. managing fetal distress, complicated birth)
- Specialising/high dependency/intensive care

Postnatal

- Maternal or neonatal death (including arrangements after death and support for relatives and carers)
- Managing complications (e.g. postpartum haemorrhage, difficulty establishing infant feeding)

All stages of care

- Case conferences
- Additional time for the following:
  - Consideration of preferred place of birth (e.g. home birth)
  - Providing care for women needing specialist input (e.g. female genital mutilation)
  - Managing specific clinical conditions (e.g. diabetes)
- Managing specific social issues (e.g. child protection, safeguarding)
- Communicating with women and carers/family including those with sensory impairment or language difficulties

- Providing additional education, training and emotional support (e.g. new medication, equipment or diagnosis in baby/mother)
- Coordination of service, or liaison with multidisciplinary team or other services
- Escorts/transitional care

Note: these activities are only a guide and there may be other activities that could also be considered.

1.3 Assessing differences in the number and skill mix of midwives needed and the number of midwives available

These recommendations are for registered midwives in charge of assessing the number of midwives needed on a day-to-day basis.

1.3.1 As a minimum, assess the differences between the number of midwives needed and the number of midwives available for each maternity service in all settings:

- once before the start of the service (for example, in antenatal or postnatal clinics) or the start of the day (for example, for community visits), or
- once before the start of each shift (for example, in hospital wards).

This assessment could be facilitated by using a toolkit endorsed by NICE.

1.3.2 During the service period or shift reassess differences between the midwifery staff needed and the number available when:

- there is unexpected variation in demand for maternity services or midwifery care (for example, if there is an unexpected increase in the number of women in established labour)
- there is unplanned staff absence during the shift or service

- women and babies need extra support or specialist input
- a midwifery red flag event has occurred (see box 3).

1.3.3 Consider the following when undertaking the assessment:

- risk factors and risk categorisation, acuity and dependency of each woman and baby in the service (use box 1 [A] as a prompt)
- environmental factors (use box 1 [B] as a prompt)
- time taken to perform the necessary midwifery care activities (use box 2 parts A and B as a prompt).

1.3.4 Follow escalation plans if the number of midwives available is different from the number of midwives needed (see recommendation 1.1.10). Service cancellations or closures should be the last option. Take into account the potential of cancellations or closures to limit women's choice and to affect maternity service provision and the reputation of the organisation.

1.3.5 If a midwifery red flag event occurs (see box 3 for examples), the midwife in charge of the service or shift should be notified. The midwife in charge should determine whether midwifery staffing is the cause, and the action that is needed. Action may include allocating additional midwifery staff to the service.

Record midwifery red flag events (including any locally agreed midwifery red flag events) for reviewing, even if no action was taken.

Box 3 Midwifery red flag events

A midwifery red flag event is a warning sign that something may be wrong with midwifery staffing. If a midwifery red flag event occurs, the midwife in charge of the service should be notified. The midwife in charge should determine whether midwifery staffing is the cause, and the action that is needed.

- Delayed or cancelled time-critical activity.
- Missed or delayed care (for example, delay of 60 minutes or more in washing and suturing).
- Missed medication during an admission to hospital or midwifery-led unit (for example, diabetes medication).
- Delay of more than 30 minutes in providing pain relief.
- Delay of 30 minutes or more between presentation and triage.
- Full clinical examination not carried out when presenting in labour.
- Delay of 2 hours or more between admission for induction and beginning of process.
- Delayed recognition of and action on abnormal vital signs (for example, sepsis or urine output).
- Any occasion when 1 midwife is not able to provide continuous one-to-one care and support to a woman during established labour.
- Other midwifery red flags may be agreed locally.

1.4 Monitoring and evaluating midwifery staffing requirements

These recommendations are for senior midwives working in maternity services

1.4.1 Monitor whether the midwifery staffing establishment adequately meets the midwifery care needs of women and babies in the service using the safe midwifery staffing indicators in box 4. Consider continuous data collection of these safe midwifery staffing indicators (using data already routinely collected locally where available) and analyse the results. The section on indicators for safe midwifery staffing gives further guidance on these indicators.

1.4.2 Compare the results of the safe midwifery staffing indicators with previous results at least every 6 months.

1.4.3 Analyse reported midwifery red flag events detailed in box 3 and any additional locally agreed midwifery red flag events and the action taken in response.

1.4.4 Analyse records of differences between the number of midwives needed and those available for each shift to inform planning of future midwifery establishments.

1.4.5 Review the adequacy of the midwifery staffing establishment (see recommendations 1.1.12 and 1.1.13) if indicated by the analysis of midwifery red flag events, midwifery staffing indicators or differences between the number of midwives needed and those available.

Box 4 Safe midwifery staffing indicators

Indicators are positive and negative events that should be reviewed when reviewing the midwifery staffing establishment, and should be agreed locally.

Outcome measures reported by women in maternity services

Data for the following indicators can be collected using the Care Quality Commission's Maternity Services Survey:

- Adequacy of communication with the midwifery team.
- Adequacy of meeting the mother's needs during labour and birth.
- Adequacy of meeting the mother's needs for breastfeeding support.
- Adequacy of meeting the mother's postnatal needs (postnatal depression and post-traumatic stress disorder) and being seen during the postnatal period by the midwifery team.

Outcome measures

- Booking appointment within 13 weeks of pregnancy (or sooner): record whether booking appointments take place within 13 weeks of pregnancy (or sooner). If the appointment is after 13 weeks of pregnancy the reason should also be recorded, in accordance with NHS Digital's Maternity Services Data Set.
- Breastfeeding: local rates of breastfeeding initiation can be collected using NHS England's Maternity and Breastfeeding data return.
- Antenatal and postnatal admissions, and readmissions within 28 days: record antenatal and postnatal admission and readmission details including discharge date. Data can be collected from NHS Digital's Maternity Services Data Set.
- Incidence of genital tract trauma during the labour and delivery episode, including tears and episiotomy. Data can be collected from the NHS Digital's Maternity Services Data Set.
- Birth place of choice: record of birth setting on site code of intended place of delivery, planned versus actual. Data can be collected from the NHS Digital's Maternity Services Data Set.

Staff-reported measures

- Missed breaks: record the proportion of expected breaks that were unable to be taken by midwifery staff.
- Midwife overtime work: record the proportion of midwifery staff working extra hours (both paid and unpaid).
- Midwifery sickness: record the proportion of midwifery staff's unplanned absence.
- Staff morale: record the proportion of midwifery staff's job satisfaction. Data can be collected using the NHS staff survey.

Midwifery staff establishment measures

Data can be collected for some of the following indicators from the NHS England and Care Quality Commission joint guidance to NHS trusts on the delivery of the 'Hard Truths' commitments on publishing staffing data regarding nursing, midwifery and care staff levels and more detailed data collection advice since provided by NHS England.

- Planned, required and available midwifery staff for each shift: record the total midwife hours for each shift that were planned in advance, were deemed to be required on the day of the shift, and that were actually available.

Terms used in this guideline

Acuity

Refers to the seriousness of a woman or baby's condition, the risk of clinical deterioration and their specific care needs.

Antenatal

The period of time after conception and before birth.

Contact time

The balance between time spent providing direct care and indirect care such as attendance at multidisciplinary team meetings, ward rounds and discharge planning. See the NHS England website for further details.

Dependency

The level to which a woman or baby is dependent on direct care to support their physical and psychological needs and activities of daily living, such as eating and drinking, personal care and hygiene, and mobilisation.

Endogeneity

A statistical problem that can occur when analysing data. It occurs when an outcome is partly determined by an explanatory factor. For example, when adverse outcomes are expected to be more likely to happen in a particular area of care, more qualified staff might be allocated to that area of care. This means that the techniques used in research to analyse the data can over- or under-estimate the impact of a factor (such as staffing) on an outcome (such as adverse effects).

Established labour

Established labour is when there are regular and painful contractions, and there is progressive cervical dilatation from 4 cm.

Establishment

In the context of this guideline establishment refers to the number of registered midwives funded to work in an organisation providing maternity care. This includes all midwives in post, as well as unfilled vacancies or vacancies being covered by temporary staff. Midwife establishments are usually expressed in number of whole-time equivalents.

Indicator

Positive or negative signs that can be monitored and used to inform future midwifery staff requirements or prevent negative events related to midwifery staffing levels happening in

the future.

Intrapartum

The period of time from the start of labour to birth of the baby and delivery of the placenta and membranes.

Maternity care

Care and treatment provided in relation to pregnancy and delivery of a baby. It is influenced by the physical and psychosocial needs of the woman, the woman's entire family, and the baby. Maternity care is provided by a range of healthcare professionals.

Midwife/Midwifery

Qualified midwives who are registered with the Nursing and Midwifery Council.

Midwifery red flag events

Red flag events are negative events that are immediate signs that something is wrong and action is needed now to stop the situation getting worse. Action includes escalation to the senior midwife in charge of the service, and the response may include allocating additional staff to the ward or unit.

Midwifery staffing requirements

Used to describe the number of registered midwives that are needed for the establishment and on each day.

NICE endorsement programme

A new programme that formally endorses guidance support resources produced by external organisations. The programme will assess resources such as toolkits that aim to estimate nursing or midwifery staffing requirements. NICE awards an endorsement statement to toolkits that meet the endorsement criteria.

Non-registered nursing staff

Non-registered staff working in hospital or community settings under the guidance and supervision of a registered healthcare professional. Their titles may include healthcare assistant, healthcare support worker, maternity support worker, nursing auxiliary, nursing assistants and assistant practitioners. Their responsibilities vary, depending on the healthcare setting and their level of training and competence.

On-call staff

Staff who are available to work at short notice during the period of time that they are not rostered to work or off duty. The on-call arrangements should be locally agreed and should not deplete other areas of care.

One-to-one care

Care provided for the woman throughout labour exclusively by a midwife solely dedicated to her care (not necessarily the same midwife for the whole of labour).

Postnatal

The first 6 weeks after birth.

Pre-conception

In the context of this guideline, pre-conception refers to care provided by midwives to women before they are pregnant.

Preceptorship

A period of time when newly qualified midwives are supported by a clinical instructor or preceptor.

Roster

The daily staffing schedule for each maternity service.

Safe midwifery care

When reliable systems, processes and practices are in place to meet required care needs and protect people from missed care and avoidable harm.

Skill mix

The composition of the midwifery team in terms of qualification and experience.

Staffing requirement

The number and skill mix of staff needed in a service.

Supervision

Aims to safeguard and enhance the quality of care for childbearing women and their families. Its primary purpose is to protect women and babies by actively promoting safe standards through ensuring that midwives are fit to practice autonomously and by initiating action when a midwife's fitness to practice is impaired.

Temporary staff

Local bank or agency staff.

Toolkit

A practical resource to facilitate the process of calculating midwifery staffing requirements for maternity services. It may be electronic or paper-based.

Uplift

Uplift is likely to be set at an organisational level and takes account of annual leave, maternity leave, paternity leave, study leave (including time to give and receive supervision) and sickness absence.

Evidence

The committee considered the following reports which are available on the NICE website.

Evidence review 1: Warttig S, Little K (2014) Decision support approaches and toolkits for identifying midwife staffing requirements. NICE.

This report considered the following review questions:

- What approaches for identifying midwife staffing requirements and skill mix at a local level, including toolkits, are effective? How frequently should they be used?
- What evidence is available on the reliability or validity of any identified toolkits?

Evidence review 2: Bazian (2014) Safe midwife staffing for maternity settings: The relationship between midwife staffing at a local level and maternal and neonatal outcomes, and factors affecting these requirements. Bazian Ltd.

This report considered the following review questions:

- What maternal and neonatal activities and outcomes are associated with midwife staffing requirements at a local level?
  - Is there evidence that demonstrates a minimum staffing threshold of safe midwifery care at a local level?
- What maternal and neonatal factors affect midwife staffing requirements, at any point in time, at a local level?
  - Number of women pregnant or in labour.
  - Maternal risk factors including medical and social complexity and safeguarding.
  - Neonatal needs.
  - Stage of the maternity care pathway (for example, antenatal, intrapartum and postnatal).
- What environmental factors affect safe midwife staffing requirements?

  - Local geography and demography.
  - Birth settings and unit size and physical layout.
- What staffing factors affect safe midwife staffing requirements at a local level?
  - Midwifery skill mix.
  - Availability of and care provided by other healthcare staff (for example, maternity support workers, obstetricians, anaesthetists, paediatricians and specialist midwives).
  - Division of tasks between midwives and maternity support workers.
  - Requirements to provide additional services (for example, high dependency care, public health roles and vaccinations).
- What local-level management factors affect midwife staffing requirements?
  - Maternity team management and administration approaches (for example, shift patterns).
  - Models of midwifery care (for example, case loading, named midwife, social enterprises).
  - Staff and student supervision and the supernumerary arrangements.
- What organisational factors influence safe midwife staffing at a local level?
  - Management structures and approaches.
  - Organisational culture.
  - Organisational policies and procedures, including staff training.

Evidence review 3: Hayre J (2014) Safe midwife staffing for maternity settings: Economic evidence review. NICE.

This report systematically reviewed and assessed the economic evidence for all of the review questions covered in evidence reviews 1 and 2.

Economic modelling report: Cookson G, Jones S, van Vlymen J, Laliotis I (2014) The cost effectiveness of midwifery staffing and skill mix on maternity outcomes. The University of

Surrey.

This report includes a statistical analysis to determine if midwifery staffing is associated with outcomes using delivery records from Hospital Episode Statistics from 2003 to 2013 linked to staffing data from the Workforce Census. An economic analysis was also developed using the statistical analysis and workforce costs.

Report on field testing of the draft guideline: presented results of testing the use of the draft guideline with midwifery staff.

Gaps in the evidence

The Safe Staffing Advisory Committee identified a number of gaps in the available evidence and expert comment related to the topics being considered. These are summarised below.

- There is no evidence available that reports midwifery staffing and outcomes on an individual woman and baby level or shift level. Organisational level data is available, but this aggregate data does not allow exploration of different staffing ratios on outcomes.
- There is limited evidence directly identifying the relationship between midwifery staffing and maternal or neonatal outcomes. Where data is available, there is a lack of evidence establishing links between midwifery staffing levels and skill mix and outcomes.
- There is no evidence about organisational factors that might modify the relationship between midwifery staffing and outcomes.
- There is limited evidence about staffing, environmental and management factors that might modify the relationship between midwifery staffing requirements and outcomes.
- There is a lack of evidence focusing on outcomes related to midwifery staffing levels for preconception, antenatal or postnatal care.
- There is a lack of evidence on the use of decision support approaches, frameworks, methods or toolkits for identifying midwife staffing requirements and skill mix at a local level.
- There is very limited economic evidence about safe midwifery staffing in maternity settings.
- There is a lack of evidence about staffing ratios for midwives working in maternity settings.

Recommendations for research

1 Relationship between midwifery staffing and outcomes

What is the relationship between midwifery staffing and outcomes in maternity settings in England, and what factors act as modifiers or confounders of the relationship between midwifery staffing and outcomes?

Why this is important

This guideline found some evidence that there is a relationship between midwifery staffing and maternal or neonatal safety outcomes, but the evidence was weak, potentially subject to bias and unclear about the direction of the effect. In particular, it is unclear if any of the following factors modify or confound the relationship between midwifery staffing and maternal or neonatal safety outcomes:

- Maternal and neonatal factors (for example, women pregnant or in labour, maternal risk factors, neonatal needs, and stage of the maternity care pathway).
- Environmental factors (for example, local geography and demography, birth settings and unit size, and physical layout).
- Staffing factors (for example, midwifery skill mix, availability of and care provided by other staff, division of tasks between midwives and maternity support workers, and the need to provide additional services).
- Management factors (for example, maternity team management and administration approaches, models of midwifery care, staff and student supervision and supernumerary arrangements).
- Organisational factors (for example, management structures and approaches, organisational culture, organisational policies and procedures including training).
- Cost and resource use.

Further research is needed to explore the relationships between midwifery staffing and

outcomes. This research would help to establish whether staffing ratios can be identified and recommended. Current research is often limited by attempting to explain individual patient level outcomes as a function of aggregate or summary level measures of midwifery staffing resource. Such techniques may fail to adequately capture the resource input used in influencing patient-level outcomes and consequently lead to an overall biased estimate of the impact of midwifery resources on outcomes via measurement error. Future research (preferably either cluster randomised trials or prospective cohort studies) should attempt to obtain better measures of midwifery staff resource use attributable to an individual. This may also require some technique to allow for the competing demands for midwife resource on wards with several patients. In the event that observational data is used, researchers should ideally address any issues of potential endogeneity caused by non-random allocation of staff, in particular where greater numbers or higher graded midwives are allocated to address a more demanding patient case-mix.

2 Decision support methods

What is the effectiveness of Birthrate Plus compared with other decision support methods or professional judgement for identifying safe midwifery staffing requirements and midwifery skill mix for maternity services in England?

Why this is important

Birthrate Plus is widely used throughout maternity services in England, but there is a lack of evidence about what outcomes it influences. Therefore, the effectiveness and cost effectiveness of Birthrate Plus is unknown. It is also unknown whether other toolkits or methods for determining staffing requirements are better (or worse) than Birthrate Plus.

Cluster randomised controlled trials or prospective cohort studies should be designed to compare different defined approaches or decision support toolkits (including Birthrate Plus) with each other or professional judgement. These studies could be done in different maternity settings and should report outcomes relating to midwifery care, safety and satisfaction. Replicate studies should be carried out to provide evidence of reliability and validity.

These comparative studies should help to assess the value of using defined approaches and decision support aids, and to identify those that perform best.

Contributors and declarations of interest

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A NICE team was responsible for this guideline throughout its development. The team prepared information for the Safe Staffing Advisory Committee and drafted the guideline.

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Declarations of interests

Committee member	Interest declared	Type of interest	Decision taken
Georgina Dwight	Remuneration from consultancy undertaken in 2011 for Acertus Ltd – search and selection	Personal pecuniary interest	Declare and participate
Hugh McIntyre	Chair of Quality Standards Advisory Committee	Personal pecuniary interest	Declare and participate
Elaine Inglesby	Member of the Safe Staffing Alliance	Personal non-pecuniary interest	Declare and participate
Julia Scott	NICE social care fellow (until May 2014), honorary fellow of Brunel University	Non-personal pecuniary interest	Declare and participate
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Committee member	Interest declared	Type of interest	Decision taken
Becky Bolton	Editorial board member for Emma's Diary, in association with RCGP (resigned May 2014)	Personal non-pecuniary interest	Declare and participate
Julie Orford	Attended a maternity services user group forum meeting in May 2014 at Norwich UEA and received a small attendance fee of £21.42	Personal pecuniary interest	Declare and participate
Julie Orford	In last 12 months has worked with NICE as a lay topic specialist on the quality standard for miscarriage and ectopic pregnancy	Personal pecuniary interest	Declare and participate
Jane Herve	Trustee and chair of midwives@ethiopia, a small charity working with partners in Ethiopia for 2 years; resigned in March 2014. The aim of the charity was to teach midwives and health extension workers to improve outcomes for women and their babies. Payment was not received	Personal non-pecuniary interest	Declare and participate
Tracey Cooper	Lancashire Teaching Hospitals Trust – substantive post full time Care Quality Commission, NHS England – perform hospital inspections NICE, intrapartum guideline update group – travel expenses only	Personal pecuniary interest	Declare and participate
Tracey Cooper	Department of Health – won a bid for improving birth environments National Institute for Health Research – applied for research funding for midwifery research between LTHTR (Trust above) and UCLAN	Non-personal pecuniary interest	Declare and participate
Tracey Cooper	MIDIRS Advisory Group – travel expenses only Member of Royal College of Midwives Registered with the NMC	Personal non-pecuniary interest	Declare and participate

Committee member	Interest declared	Type of interest	Decision taken
Chris Bojke	Senior research fellow in the Health Policy team at the Centre for Health Economics, University of York Freelance economist work for Roboleo Ltd and Bresmed	Personal pecuniary interest	Declare and participate
Chris Bojke	Wife is a senior research fellow in the technology assessment team at the Centre for Health Economics, University of York	Personal family interest	Declare and participate

The above members of the Safe Staffing Advisory Committee made declarations of interest. All other members of the committee stated that they had no interests to declare.

Indicators for safe midwifery staffing

Safe midwifery staffing for maternity settings indicator: outcome measures reported by women in maternity services

Data collection

Local collection could use the following Maternity Services Survey questions developed by the Care Quality Commission which contains a number of questions where the mother's experience of care could be affected by the number of available midwifery staff.

Adequacy of communication with midwifery team

B12. During your pregnancy, did you have a telephone number for a midwife or midwifery team that you could contact?

B14. Thinking about your antenatal care, were you spoken to in a way you could understand?

B15. Thinking about your antenatal care, were you involved enough in decisions about your care?

C12. Did the staff treating and examining you introduce themselves?

C14. If you raised a concern during labour and birth, did you feel that it was taken seriously?

C16. Thinking about your care during labour and birth, were you spoken to in a way you could understand?

C17. Thinking about your care during labour and birth, were you involved enough in decisions about your care?

D3. Thinking about the care you received in hospital after the birth of your baby, were you given the information or explanations you needed?

F1. When you were at home after the birth of your baby, did you have a telephone number for a midwife or midwifery team that you could contact?

Adequacy of meeting mother's needs during labour and birth

C1. At the very start of your labour, did you feel that you were given appropriate advice and support when you contacted a midwife or the hospital?

C2. During your labour, were you able to move around and choose the position that made you most comfortable?

C10. Did you have skin to skin contact (baby naked, directly on your chest or tummy) with your baby shortly after the birth?

C11. If your partner or someone else close to you was involved in your care during labour and birth, were they able to be involved as much as they wanted?

C12. Did the staff treating and examining you introduce themselves?

C13. Were you (and/or your partner or a companion) left aloneby midwives or doctors at a time when it worried you?

C14. If you raised a concern during labour and birth, did you feel that it was taken seriously?

C15. If you used the call button how long did it usually take before you got the help you needed?

C16. Thinking about your care during labour and birth, were you spoken to in a way you could understand?

C17. Thinking about your care during labour and birth, were you involved enough in decisions about your care?

C18. Thinking about your care during labour and birth, were you treated with respect and

dignity?

C19. Did you have confidence and trust in the staff caring for you during your labour and birth?

Adequacy of meeting mother's breastfeeding support

E1. During your pregnancy did midwives provide relevant information about feeding your baby?

E4. Were your decisions about how you wanted to feed your baby respected by midwives?

E5. Did you feel that midwives and other health professionals gave you consistent advice about feeding your baby?

E6. Did you feel that midwives and other health professionals gave you active support and encouragement about feeding your baby?

F14. In the 6 weeks after the birth of your baby did you receive help and advice from a midwife or health visitor about feeding your baby?

Adequacy of meeting mother's postnatal needs (postnatal depression and post-traumatic stress disorder) and being seen postnatally by the midwifery team

F6. Would you have liked to have seen a midwife:

- more often?
- less often?
- I saw a midwife as much as I wanted.

F9. Did the midwife or midwives that you saw take your personal circumstances into account when giving you advice?

F10. Did you have confidence and trust in the midwives you saw after going home?

F11. Did a midwife tell you that you would need to arrange a postnatal check-up of your

own health with your GP? (Around 4–8 weeks after the birth.)

F12. Did a midwife or health visitor ask you how you were feeling emotionally?

F13. Were you given enough information about your own recovery after the birth?

F16. Were you given enough information about any emotional changes you might experience after the birth?

Local collection of patient experience data could use these questions to provide a more frequent view of performance than possible through annual surveys alone, but please note NHS Surveys asks that local patient surveys avoid overlap with national patient surveys.

Outcome measures

Responsiveness to mother's personal needs.

Data analysis and interpretation

The annual national survey results for your hospital can be compared with previous results from the same trust and with data from other trusts (but be aware that comparison between trusts is subject to variation in expectations of care between different populations). Data from more frequent local data collection, where available, can be compared with previous results from the same service and with data from other parts of your trust.

Safe midwifery staffing for maternity settings indicator: booking appointment within 13 weeks of pregnancy (or sooner)

Definition

A booking appointment is when a woman sees a midwife or a maternity healthcare professional. NICE's guideline on antenatal care recommends that early in pregnancy all women should receive appropriate written information about the likely number; timing and content of antenatal appointments associated with different options of care and be given

an opportunity to discuss this schedule with their midwife or doctor. This booking appointment should be within 13 weeks of pregnancy or sooner (ideally by 10 weeks 0 days).

Data collection

Proportion of pregnant women who have seen a midwife or a maternity healthcare professional for health and social care assessments of needs, risk and choices by 13 weeks of pregnancy or sooner.

Numerator: the number in the denominator who have seen a midwife or a maternity healthcare professional for health and social care assessments of needs, risk and choices by13 weeks of pregnancy or sooner.

Denominator: the number of pregnant women.

Data source: Local data collection. This data are currently collated and presented at CCG level through the CCG Outcomes Indicator Set 2014/15 (C1.13). It is also collected through the Maternity Services Data Set.

Outcome measures

Pregnant women that have had a booking appointment by 13 weeks of pregnancy or sooner

Data analysis and interpretation

The number of pregnant women not receiving a booking appointment by 13 weeks of pregnancy or sooner may be sensitive to the number of available midwifery staff. Timely bookings require a multidisciplinary approach, and missed booking appointment rates may also be affected by:

- patient choice, availability and accessibility
- availability and accessibility of appropriate facilities
- availability of all healthcare professionals and support staff
- knowledge and skills of all healthcare professionals and support staff.

Safe midwifery staffing for maternity settings indicator: breastfeeding

Definition

Breastfeeding is defined as the proportion of mothers who have started or not started breastfeeding and the number and proportion of infants who have been fully, partially or not at all breastfed at 6–8 weeks.

Data collection

a) Proportion of mothers who have initiated breastfeeding.

Numerator: the number in the denominator who initiated breastfeeding.

Denominator: the number of mothers.

Data source: Local data collection. Data can also be collected using NHS England's Maternity and Breastfeeding data return.

b) Proportion of infants who have been fully or partially breastfed at 6–8 weeks.

Numerator: the number in the denominator who have been fully or partially breastfed.

Denominator: the number of infants at 6–8 weeks.

Data source: Local data collection. Data can also be collected using NHS England's Maternity and Breastfeeding data return.

Outcome measures

a) Reported number of mothers who initiate breastfeeding.

b) Reported number of infants who have been fully or partially breastfed at 6–8 weeks.

Data analysis and interpretation

Breastfeeding rates should be compared with previous results from the same maternity service with caution because frequency at maternity service level rates may be too small for significant increases or decreases in these to be apparent.

Although breastfeeding rates may be sensitive to the number of available midwifery staff and support they offer, breastfeeding support needs a multidisciplinary approach, and breastfeeding rates may also be affected by:

- patient choice
- availability of appropriate facilities
- availability of all healthcare professionals and support staff
- knowledge and skills of all healthcare professionals and support staff.

Safe midwifery staffing for maternity settings indicator: antenatal and postnatal admissions and readmissions within 28 days

Definition

An antenatal admission is defined as a mother who has been admitted to a hospital as an inpatient, before onset of labour, which includes admissions for non-obstetric conditions, planned caesareans, inductions and false labours.

A postnatal admission is any admission to a hospital as an inpatient after childbirth and to the point of the baby's discharge from maternity services.

The reason for admission and date of discharge should be recorded in accordance with the Maternity Services Data Set.

An antenatal or postnatal readmission is defined as taking place within 28 days of the initial antenatal or postnatal admission in accordance with expert consensus.

Data collection

a) Proportion of mothers admitted to a hospital as an inpatient in the antenatal period.

Numerator: the number in the denominator admitted in the antenatal period.

Denominator: the number of mothers admitted to hospital as an inpatient.

Data source: Local data collection. Data can also be collected using the Maternity Services Data Set.

b) Proportion of mothers admitted to a hospital as an inpatient in the postnatal period.

Numerator: the number in the denominator admitted in the postnatal period.

Denominator: the number of mothers admitted to a hospital as an inpatient.

Data source: Local data collection. Data can also be collected using the Maternity Services Data Set.

c) Proportion of mothers readmitted to hospital within 28 days as an inpatient in the antenatal period.

Numerator: the number in the denominator readmitted in the antenatal period

Denominator: thenumber of mothers readmitted to a hospital within 28 days.

Data source: Local data collection.

d) Proportion of mothers readmitted to hospital within 28 days as an inpatient in the postnatal period.

Numerator: the number in the denominator readmitted in the postnatal period

Denominator: thenumber of mothers readmitted to a hospital within 28 days.

Data source: Local data collection.

Outcome measures

a) Reported number of antenatal admissions.

b) Reported number of postnatal admissions.

c) Reported number of antenatal readmissions within 28 days.

d) Reported number of postnatal readmissions within 28 days.

Data analysis and interpretation

Rates of antenatal and postnatal admissions and readmissions within 28 days should be compared with previous results from the same maternity service with caution because frequency at maternity service level rates may be too small for significant increases or decreases in these to be apparent.

Although antenatal and postnatal admission and readmission rates may be sensitive to the number of available midwifery staff, rates of antenatal and postnatal admissions and readmissions need a multidisciplinary approach, and antenatal and postnatal admission and readmission rates may also be affected by:

- patient choice
- availability of appropriate facilities
- availability of all healthcare professionals and support staff
- knowledge and skills of all healthcare professionals and support staff.

Safe midwifery staffing for maternity settings indicator: incidence of genital tract trauma

Definition

Trauma of the genital tract is defined as when a mother suffers a tear during labour.

Any incidence of genital tract trauma should be recorded and can be further defined in

accordance with the Maternity Services Data Set to record the type of tear and indicate whether a mother underwent an episiotomy to extend the tear:

- none
- labial tear
- vaginal wall tear
- perineal tear –first degree (injury to perineal skin only)
- perineal tear – second degree (injury to perineum involving perineal muscles but not involving the anal sphincter)
- perineal tear – third degree (partial or complete disruption of the anal sphincter muscles, which may involve either or both the external [EAS] and internal anal sphincter [IAS] muscles)
- perineal tear – fourth degree (a disruption of the anal sphincter muscles with a breach of the rectal mucosa)
- episiotomy
- cervical tear
- urethral tear
- clitoral tear
- anterior incision.

Data collection

Proportion of mothers who experience genital tract trauma during labour.

Numerator: the number in the denominator who have experienced genital tract trauma.

Denominator: the number of mothers who have been in labour.

Data source: Local data collection. Data can also be collected using the Maternity Services Data Set.

Outcome measures

Reported number of genital tract traumas.

Data analysis and interpretation

Rates of genital tract trauma should be compared with previous results from the same maternity service with caution because frequency at maternity service level rates may be too small for significant increases or decreases in these to be apparent. Incident reporting systems may be affected by under-reporting. Periodic local collection of data on whether genital tract traumas are going unreported will identify if changes in reported genital tract trauma rates are true changes in actual genital tract trauma rates or are affected by changes in completeness of reporting.

Although genital tract trauma rates may be sensitive to the number of available midwifery staff, rates of genital tract traumas need a multidisciplinary approach, and genital tract trauma rates may also be affected by:

- availability of appropriate facilities
- availability of all healthcare professionals and support staff
- knowledge and skills of all healthcare professionals and support staff.

Safe midwifery staffing for maternity settings indicator: birth place of choice

Definition

Birth place of choice is defined as the intended place of delivery (type and geographical). The type could be an NHS hospital or a domestic address, and the geographical would be the NHS Trust site code. The intended place of delivery and actual place of delivery should be recorded as well as the reason for the change of place (if applicable) whether that be type or geographical.

Data collection

a) Proportion of births where the intended type of birthplace did not change.

Numerator: the number in the denominator where the intended type of birthplace did not change.

Denominator: the number of births.

Data source: Local data collection. Data can also be collected using the Maternity Services Data Set.

b)Proportion of births where the intended geographical birth place did not change.

Numerator: the number in the denominator where the intended geographical birth place did not change.

Denominator: the number of births.

Data source: Local data collection. Data can also be collected using the Maternity Services Data Set.

Outcome measures

Rates of change in intended place of births.

Data analysis and interpretation

Rates of change in intended place of birth should be compared with previous results from the same maternity service with caution because frequency at maternity service level rates may be too small for significant increases or decreases in these to be apparent.

Although rates of change in intended place of birth may be sensitive to the number of available midwifery staff, rates of change in intended place of birth need a multidisciplinary approach, and genital tract trauma rates may also be affected by:

- clinical need

- patient choice
- availability of appropriate facilities
- availability of all healthcare professionals and support staff
- knowledge and skills of all healthcare professionals and support staff.

Safe midwifery staffing for maternity settings indicator: staff-reported measures

Missed breaks

Definition

A missed break occurs when a midwife is unable to take any scheduled break because of lack of time.

Data collection

Proportion of expected breaks for midwives working in maternity that were unable to be taken.

Numerator: the number in the denominator that were unable to be taken.

Denominator: the number of expected breaks for midwives in maternity services.

Data source: Local data collection.

Outcome measures

Proportion of midwives breaks missed because of lack of time.

Midwife overtime

Definition

Midwife overtime includes any extra hours (both paid and unpaid) that a midwife is required to work beyond their contracted hours at either end of their shift.

Data collection

a) Proportion of midwives in maternity services working overtime.

Numerator: the number in the denominator working overtime.

Denominator: the number of midwives in maternity services.

Data source: Local data collection. Data are also collected nationally on the number of staff working extra hours (paid and unpaid) in the NHS National Staff Survey by the Picker Institute.

b) Proportion of midwife hours worked in maternity services that are overtime.

Numerator: the number in the denominator that are overtime.

Denominator: the number of midwife hours worked in maternity services.

Data source: Local data collection. Data are also collected nationally on the number of staff working extra hours (paid and unpaid) in the NHS National Staff Survey by the Picker Institute.

Outcome measures

Staff experience.

Midwife sickness

Definition

Midwife sickness includes any unplanned absence taken by a midwife for their planned shift.

Data collection

a) Proportion of midwives in maternity services who have unplanned absence.

Numerator: the number in the denominator with unplanned absence.

Denominator: the number of midwives in maternity services.

Data source: Local data collection.

b) Proportion of midwife hours that were recorded as midwife sickness.

Numerator: the number in the denominator that are recorded as sickness.

Denominator: the number of midwife hours worked in maternity services.

Data source: Local data collection.

Outcome measures

Staff experience.

Staff morale

Definition

Midwife staff morale includes the proportion of midwives who claim to have job satisfaction.

Data collection

Proportion of midwives in maternity services who report job satisfaction.

Numerator: the number in the denominator who report job satisfaction.

Denominator: the number of midwives in maternity services.

Data source: Local data collection. Data are also collected nationally on the number of staff working extra hours (paid and unpaid) in the NHS National Staff Survey by the Picker Institute.

Outcome measures

a) Midwife job satisfaction.

b) Rates of midwifery staff turnover.

c) Rates of sickness.

Safe midwifery staffing for maternity settings indicator: midwifery establishment measures

Planned, required and available midwifery staff for each shift

Definition

The number of midwife hours which were planned in advance, deemed to be required during that shift and that were actually available.

Data collection

Proportion of total midwife hours for each shift that were planned in advance and that were actually available.

Numerator: the number in the denominator that were actually available.

Denominator: the number of midwife hours for each shift that were planned in advance.

Data source: Local data collection, which could include data collected for the NHS England and the Care Quality Commission joint guidance to trusts on the delivery of the 'Hard Truths' commitments on publishing staffing data regarding nursing, midwifery and care staff levels and more detailed data collection advice since provided by NHS England.

Outcome measures

Deviation between planned and available midwifery staff.

Safe midwifery staffing for maternity settings indicator: the number of women in established labour and the number of midwifery staff available over a specified period, for example 24 hours

Safe midwifery staffing for maternity settings can be indicated by the number of women in established labour and the number of midwifery staff available over a specified time period. This time period can be defined locally, but as an example, a hospital trust may wish to collect this data over 24 hours.

*Safe midwifery staffing for maternity settings indicator: high levels and/or ongoing reliance on temporary midwifery staff

Definition

Registered midwives who are working in maternity services who are not contracted with the maternity service.

Data collection

a) Proportion of registered midwives who are working in maternity services who are not contracted with the maternity service.

Numerator: the number in the denominator who are employed on bank contracts.

Denominator: the number of registered midwife shifts per calendar month to work in maternity services.

Data source: Local data collection.

b) Proportion of midwives who are working in maternity services who are on agency contracts.

Numerator: the number in the denominator who are employed on agency contracts.

Denominator: the number of registered midwife shifts per calendar month to work in maternity services.

Data source: Local data collection.

Outcome measures

Expenditure (£) on bank and agency staff per ward.

Safe midwifery staffing for maternity settings indicator: compliance with any mandatory training

Definition

Midwives who are working in maternity services who are compliant with the mandatory training that has been agreed in line with local policy.

Data collection

Proportion of registered midwives working in maternity services who are compliant with all mandatory training.

Numerator: the number in the denominator who are compliant with all mandatory training.

Denominator: the number of registered midwives in maternity service establishment.

Data source: Local data collection.

Outcome measures

% compliance with all mandatory training.

Finding more information

To find NICE guidance on related topics, including guidance in development, see the NICE topic page on intrapartum care.

For full details of the evidence and the guideline committee's discussions, see the evidence reviews. You can also find information about how the guideline was developed.

NICE has produced tools and resources to help you put this guideline into practice. For general help and advice on putting our guidelines into practice, see resources to help you put NICE guidance into practice.

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