birthrateplus® | Safe Staffing for Maternity Services

UNIVERSITY HOSPITALS OF NORTH MIDLANDS NHS TRUST

MIDWIFERY WORKFORCE REPORT

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Contents

Birthrate Plus ®: THE SYSTEM

Birthrate Plus® (BR+) is a framework for workforce planning and strategic decision-making and has been in variable use in UK maternity units since 1988, with periodic revisions as national maternity policies and guidance are published.

It is based upon an understanding of the total midwifery time required to care for women and on a minimum standard of providing one-to-one midwifery care throughout established labour. The principles underpinning the BR+ methodology are consistent with the recommendations in the NICE safe staffing guideline for midwives in maternity settings and have been endorsed by the RCM and RCOG.

The RCM strongly recommends using Birthrate Plus® (BR+) to undertake a systematic assessment of workforce requirements, since BR+ is the only recognised national tool for calculating midwifery staffing levels. Whilst birth outcomes are not influenced by staff numbers alone, applying a recognised and well-used tool is crucial for determining the number of midwives and support staff required to ensure each woman receives one-to-one care in labour (as per recommendation 1.1.3).

Birthrate Plus® has been used in maternity units ranging from stand-alone community/midwife units through to regional referral centres, and from units that undertake 10 births p.a. through to those that have more than 8000 births. In addition, it caters for the various models of providing care, such as traditional, community-based teams and continuity caseload teams. It is responsive to local factors such as demographics of the population; socio-economic needs; rurality issues; complexity of associated neo-natal services, etc. The methodology remains responsive to changes in government policies on maternity services and clinical practices. Birthrate Plus® is the most widely used system for classifying women and babies according to their needs and using clinical outcome data to calculate the numbers of midwives required to provide intrapartum and postpartum care.

An individual service will produce a casemix based on clinical indicators of the wellbeing of the mother and infant throughout labour and delivery. Each of the indicators has a weighted score designed to reflect the different processes of labour and delivery and the degree to deviations from obstetric normality. Five different categories are created - the lower the score the more normal are the processes of labour and delivery.

Other categories classify women admitted to the delivery suite for other reasons than for labour and delivery.

Together with the casemix, the number of midwife hours per patient/client category based upon the well-established standard of one midwife to one woman throughout labour, plus extra midwife time needed for complicated Categories III, IV & V, calculates the clinical staffing for the annual number of women delivered.

Included in the workforce assessment is the staffing required for antenatal inpatient and outpatient services, ante and postnatal care of women and babies in community birthing in either the local hospital or neighbouring ones.

The method works out the clinical establishment based on agreed standards of care and specialist needs and then includes the midwifery management and specialist roles required to manage maternity services. Adjustment of clinical staffing between midwives and competent & qualified support staff is included.

The recommendation is to provide total care to women and their babies throughout the 24 hours 7 days a week inclusive of the local % for annual, sick & study leave allowance and for travel in community**.**

Factors affecting Maternity Services for inclusion within the Birthrate Plus® Study

The Governance agenda, which includes evidence-based guidelines, on-going monitoring, audit of clinical practices and clinical training programmes, will have an impact upon the required midwifery input; plus, other key health policies. Birthrate Plus® allows for inclusion of the requisite resources to undertake such activities.

Increasingly, with having alongside midwife units where women remain for a short postnatal stay before being transferred home, the maternity wards provide care to postnatal women and/or babies who are more complex cases. Transitional care is often given on the ward rather than in neonatal units, safeguarding needs require significant input which put higher demand on the workload.

Shorter postnatal stays before transfer home requires sufficient midwifery input in order to ensure that the mothers are prepared for coping at home. It is well known that if adequate skilled resources are provided during this postnatal period, then such problems as postnatal depression or inability to breast-feed can be reduced or avoided.

Community based care is expanding with the emphasis being placed on ‘normal/low risk/need care being provided in community by midwives and midwifery support roles. Women and babies are often being seen more in a clinic environment with less contacts at home. However, reduced antenatal admissions and shorter

postnatal stays result in an increase in community care. Midwives undertake the Newborn and Physical Examination (NIPE) instead of paediatricians, either in hospital or at home.

Cross border activity can have an impact on community resources in two ways. Some women may receive antenatal and/or postnatal care from community staff in the local area but give birth in another Trust. This activity counts as extra to the workload as not in the birth numbers. They have been termed as "imported" cross border cases. Equally, there ae women who birth in a particular hospital but from out of area so are ‘exported’ to their local community service. Adjustments are made to midwifery establishments to accommodate the community flows. Should more local women choose to birth at the local hospital in the future adjustments will need to be made to workforce to provide the ante natal and intrapartum care.

The NICE guideline on Antenatal Care recommends that all women be ‘booked’ by 10 weeks’ gestation, consequently more women are meeting their midwife earlier than previously happened. This early visit requires midwifery assessment/advice, but the pregnancy may end as a fetal loss, so the total number of postnatal women is less than antenatal.

Discussion of Data

1. The results are based on three months casemix data obtained for the months of August - October 2021.

2. Allowances of 21.50% uplift for annual, sick and study leave, and 12.5% community travel are included in the staffing figures. The Director of Midwifery has also requested calculations based on 25.9% Uplift.

3. Annual Activity is based on the FY 2020/2021 and total births of 6429, allocated as below:
    - 5506 Delivery Suite births
    - 876 Midwifery Birth Centre births
    - 47 births at Home/BBAs

4. The Birthrate Plus® staffing is based on the activity and methodology rather than on where women may be seen &/or which midwives provide the care.

5. Time is included for Band 7 Coordinators, Ward and Department Managers and Team Leaders to cover the day-to-day management and coordination in all areas.

6. The casemix (Table 1) indicates that just over 60.2% of women are in the 2 higher categories IV and V which is higher than the average for England of 58% based on 55 maternity units from a wide range of size and location. The casemix is unique to each service as reflects the clinical and social needs of women, local demographics, clinical decision making and adherence to national guidelines. Appendix 1 provides a description of the 5 categories.

University Hospitals of North Midlands NHST	% Cat I	% Cat II	% Cat III	% Cat IV	% Cat V
2021 DS % Casemix	0.2%	3.3%	26.6%	30.4%	39.5%
	30.1%			*69.9%*	
2021 Generic % Casemix	5.1%	11.7%	23.0%	26.2%	34.0%
(Includes births on the Midwife Birth Centre)	*39.8%*			*60.2%*	

UHNM Casemix Table 1

University Hospitals of NM NHST	% Cat I	% Cat II	% Cat III	% Cat IV	% Cat V
2018 DS % Casemix	0.1%	4.0%	28.9%	32.3%	34.7%
	33%			*67%*	
2018 Generic % Casemix	7.9%	15.4%	23.2%	25.8%	27.7%
(Includes births on the Midwife Birth Centre)	*46.5%*			*53.5%*	

UHNM Casemix Table 2

7. There will be a correlation between the casemix, and maternity stats recorded on the dashboard especially in relation to Induction rates, delivery method, post-delivery problems, obstetric and medical conditions.

8. Table 3 shows the additional intrapartum activity on the Delivery Suite.

	Annual Total
Antenatal cases	784
P/N readmissions	165
Escorted transfers out	25
Non-viable pregnancies	68

Additional I/P Activity Table 3

9. The staffing for the Maternity Triage is staffed to the BSOTS model i.e., 2 RMs to provide a 24 hour service, 7 days a week, with an additional 8hrs per day to provide cover at peak times of activity. There are 10,070 episodes annually.

10. The Royal Stoke Day Assessment Unit is staffed 9hrs a day, 7 days a week with 1 RM. The Day Assessment Unit in Stafford is staffed 8hrs a day, 5 days a week with 1 RM. There are total of 4035 episodes annually.

11. Table 4 shows the annual activity on Antenatal Ward 305 & Postnatal Ward 306

	Annual Total
Antenatal admissions	1082
Induction of labour	2161 (+ 44 on D/S)
Postnatal women	5506
P/N readmissions	138
NIPE	4130
Extra care babies	1175

Antenatal/Postnatal Ward activity Table 4

12. Often the antenatal activity taking place in hospital is reflective of the higher % in Categories IV & V, as women with medical/obstetric problems, low birth weight &/or preterm infants require more frequent hospital based care. The annual activity indicates 1000 admission episodes to the ward excluding inductions and elective sections.

13. The 'extra care babies' of 1175 are those that have a postnatal stay longer than 72hrs. The increase in babies that require frequent monitoring is covered in the casemix as more hours are allocated to women in the higher categories IV and V. This higher than average number has been due to the temporary closure of the Transitional Care Unit.

14. Staffing is included for 4130 babies to have their NIPE carried out by a midwife on the postnatal ward. NIPE for home births is routinely included.

15. Outpatient Clinic services are based on services are based on session times and numbers of staff to cover these, rather than on a dependency classification and average hours. Professional judgement is used to assess the numbers of midwives and support staff required to 'staff' the clinics/sessions. The outpatients' profile is unique to each maternity service.

16. Table 5 provides a summary of the community population receiving maternity care from University Hospitals of North Midlands NHS Trust community midwives.

Community Imports Antenatal care only Postnatal care only	100 3 78
Home births	47
Community cases	6160
Attrition Cases (pregnancy loss or move out of area)	*930*

Community Activity Table 5

17. The community annual total includes 100 women who birth in neighbouring units, and who receive ante/postnatal care, 3 who receive antenatal care only, and 78 who receive postnatal care only from UHNM NHST community midwives (community imports).

18. There are 280 women who birth in Royal Stoke Hospital and as from 'out of area' receive their community care from their home Trust (community exports).

19. As with all services, there are women who may be booked or see a midwife in early pregnancy but will have a pregnancy loss or move out of area, namely, attrition cases of 930.

20. The total clinical establishment will contain the contribution from Band 3 MSWs in hospital and community postnatal services. Most maternity units work with a minimum of 90/10% skill mix split of the clinical total wte, although this is a local decision by the Senior Midwifery Team. The current skill mix is based on 90% of RMs, and 10% Band 3 Midwifery support workers on the Postnatal Ward/Community.

21. In addition, there is a need to have support staff usually at Band 2 working on delivery suite, maternity wards and in outpatient clinics. These roles are essential to the service but are not included in the midwifery ratio. To calculate the requirement for these support staff, professional judgement of the numbers per shift is used rather than a clinical dependency method.

Birthrate Plus® Staffing: inclusive of 21.50% uplift

Clinical WTE required	
Delivery Suite: • Births • A/N cases • Non-viable pregnancies • Escorted transfers out • Inductions of labour	80.60wte
Triage - BSOTS Model	12.70wte
Midwife Birth Centre • Births & postnatal care • Births only • Transfers to Delivery Suite • Triage cases	11.46wte
Antenatal Ward – 305 • A/N Admissions • Inductions of Labour Postnatal Ward – 306 • Postnatal Women • NIPE • Extra Care Babies • Postnatal readmissions • Postnatal Day Attenders	73.84wte *(may Include MSWs postnatal care)*
Outpatients Services • Midwives/Specialist clinics • Midwife scan review clinics • Obstetric/Specialist clinics • Fetal medicine • Day Assessment Unit	8.44wte MWs 3.34wte
Community Services: • Home births • Community AN & PN care • Attrition • Additional safeguarding FMBC – Stafford County • Obstetric clinics • Day Unit • Transfers out	65.41wte *(may Include MSWs -postnatal care* 3.06wte
Total Clinical WTE	**258.83wte RMs & PN MSWs**

Birthrate Plus® Staffing - Baseline staffing requirements based on 25.99% Uplift

Clinical WTE required	
Delivery Suite: • Births • A/N cases • Non-viable pregnancies • Escorted transfers out • Inductions of labour	83.57wte
Triage - BSOTS Model & additional hrs	13.17wte
Midwife Birth Centre • Births & postnatal care • Births only • Transfers to Delivery Suite • Triage cases	12.15wte
Antenatal Ward - 305 • A/N Admissions • Inductions of Labour Postnatal Ward - 306 • Postnatal women • NIPE • Extra Care Babies • Postnatal readmissions • Postnatal Day Attenders	78.23wte *(may Include MSWs postnatal care)*
Outpatients Services • Midwives/Specialist clinics • Midwife scan review clinics • Obstetric/Specialist clinics • Fetal medicine • Day Assessment Unit	8.75wte MWs 3.46wte
Community Services: • Home births • Community AN & PN care • Attrition • Additional safeguarding FMBC – Stafford County • Obstetric clinics • Day Unit • Transfers out	69.38wte *(may Include MSWs -postnatal care* 3.17wte
Total Clinical WTE	**271.88wte RMs & PN MSW**

Current Clinical Funded Bands 3 – 7

Comparisons are made with the current funded establishment as per table 7 below.

RMs Bands 5-7	Contribution from Specialist roles	B3 MSWs	Total Clinical wte
212.63	5.50	20.91	239.04

Current Funded Establishment Table 6

Comparison of Clinical Staffing

Current Funded Establishment bands 3 – 7	Birthrate Plus establishment bands 3 – 7	Variance Bands 3 – 7
239.04	258.83	-19.79

Comparison of Clinical Staffing Table 7

Clinical Specialist Midwives

22. The clinical specialist midwives have both a clinical and non-clinical role. The decision of senior midwifery management is that 33.5% (5.50wte) of the total wte contributes to the clinical staffing. The remaining 66.5% (15.90wte) is included in the non-clinical roles.

Non-Clinical Midwifery Roles

23. The total clinical establishment as produced from Birthrate Plus® of 258.83wte excludesthe non-clinical midwifery roles needed to provide maternity services, as summarised below:-

- Director of Midwifery, Deputy/Matrons/managers with additional hours for team leaders to participate in strategic planning & wider Trust business
- Additional time for specialist midwives to undertake audits, training of staff, etc.
- Bereavement
- Screening

- Saving Babies Lives Lead
- Digital midwife
- Lead midwife for education
- Clinical Educator
- Perinatal Mental Health
- Fetal Monitoring
- Substance Misuse
- PMA
- VBAC
- Recruitment & Retention
- Infant Feeding
- Consultant Midwife
- Safeguarding

The above roles require 28.47wte applying 11% based on the clinical total wte.

Note: To apply a % to the clinical total ensures there is no duplication of midwifery roles. The % can be set locally, although the RCM Staffing Guidance support 9-11% and Birthrate Plus is NICE endorsed hence being generally applied in maternity services.

Current Funded Additional wte	Birthrate Plus wte (10%)	Variance wte
15.90	28.47	-12.57

Comparison of additional specialist and management wte Table 8

Summary of Results

Current Funded Clinical, specialist and management roles	Birthrate Plus wte	Variance wte
254.94	287.30	-32.36

Total Clinical, Specialist and Management wte Table 9

24. Based on 2020/21 activity, a 21.50% uplift the clinical total recommended for University Hospitals of North Midlands NHS Trust is 258.83wte, of this based on a 90/10 skill mix 232.95wte could be Registered Midwives bands 5 -7 and 25.88wte MSWs providing postnatal care (on the ward/community). The current clinical variance is -14.82wte RMs and -4.97wte MSWs.

25. In addition, based on 11% 28.47wte is recommended for non-clinical roles, which compared to the current establishment of 15.90wte, means that there is a non-clinical variance of -12.57wte.
    Note: The recommended establishment is for the baseline based on acuity and activity and does not specifically reflect Continuity of Carer caseload teams.

26. The calculated total workforce requirement for University Hospitals of North Midlands NHS Trust is 287.30wte, which includes an additional 11% for non-clinical roles. The comparative current funded establishment is 254.94wte which means that there is a total deficit of -32.36wte.

27. Based on 25.99% Uplift the workforce requirements are as shown in the table 11 below, which equates to an additional 14.49wte.

Total Clinical WTE	271.88
Non Clinical	29.91
Clinical,Specialist,Management Total	301.79

Workforce Requirements based on 25.99% Uplift, Table 10

Using ratios of births/cases to midwife wte for projecting staffing establishments

To calculate for staffing based on increase in activity, it is advisable to apply ratios of births/cases to midwife wte, as this will consider an increase or decrease in all areas and not just the intrapartum care of women. There will be changes in community, hospital outpatient and inpatient services if the annual number of women giving birth alters.

Once the clinical 'midwifery' establishment has been calculated using the ratios, a skill mix % can be applied to the total clinical wte to work out what of the total clinical 'midwifery' wte can be suitably qualified support staff, namely MSWs Band 3. Nursery Nurses and RGNs working in postnatal services only.

In addition, a % is added (11%) to include the non-clinical roles as these are outside of the skill mix adjustment as above. However, the addition of other support staff (usually Band 2s MCAs) that do not contribute to the clinical establishment will be necessary.

Calculating staffing changes using a ratio to meet increase in births assumes that there will be an increase in activity across ALL models of care and areas including homebirths.

If there is an increase or decrease in activity, then the appropriate ratio can be applied depending on the level of care provided to the women. For example, if the women just have community care as birth in a neighbouring unit, it is only necessary to estimate the increase in community staffing so the ratio of 96.1 cases to 1wte is the correct ratio to apply. To use the 1:24.8 ratio will overestimate the staffing as this covers all ante, intra and postnatal care.

Example: A woman who births in the Delivery Suite but is 'exported' to another community, then the ratio of 30.3 births to 1wte should be applied. The main factor in using ratios is to know if having total care for the 'Trust' midwives or only hospital or community.

Midwife Ratios based on above data and results

The ratios below are based on the Birthrate Plus® dataset, national standards with the methodology and local factors, such as % uplift for annual, sick & study leave, case mix of women birthing in hospital, provision of outpatient/day unit services and total number of women having community care irrespective of place of birth.

Hospital births, all hospital care	30.3 births to 1 wte
Home births	35.6 births to 1 wte
Community care (hospital births)	96.1 cases to 1 wte
Overall ratio for all births	**24.8 births to 1 wte**

University Hospitals of North Midlands NHST Ratios, Table 11

Note: The overall ratio for University Hospitals of North Midlands NHS Trust of 24.8 births to 1wte equates to the often-cited ratio of 28 or 29.5 births to 1 wte, but they are not directly comparable for the above local factors. The latter ratios were based on extensive data from Birthrate Plus studies and whilst published so seen as 'up to date', more recent studies in the past 3 years are indicating that these ratios may not be appropriate to use for comparison, mainly due to increase in acuity of mothers and babies and subsequent care required. These factors have changed the overall and, indeed, individual ratios. Therefore, it is advisable to use own ratios calculated from a detailed assessment for workforce planning purposes.

Appendix 1

Method for Classifying Birthrate Plus® Categories by Scoring Clinical Factors in the Process and Outcome of Labour and Delivery

There are five [5] categories for mothers who have given birth during their time in the delivery suite [Categories I – V)

CATEGORY I **Score = 6**

This is the most normal and healthy outcome possible. A woman is defined as Category I [*lowest level of dependency*] if:
The woman's pregnancy is of 37 weeks' gestation or more, she is in labour for 8 hours or less; she achieves a normal delivery with an intact perineum; her baby has an Apgar score of 8+; and weighs more than 2.5kg; and she does not require or receive any further treatment and/or monitoring

CATEGORY II **Score = 7 – 9**

This is also a normal outcome, very similar to Category I, but usually with the perineal tear [score 2], or a length of labour of more than 8 hours [score 2]. IV Infusion [score 2] may also fall into this category if no other intervention. However, if more than one of these events happens, then the mother and baby outcome would be in Category III.

CATEGORY III **Score = 10 – 13**

Moderate risk/need such as Induction of Labour with syntocinon, instrumental deliveries will fall into this category, as may continuous fetal monitoring. Women having an instrumental delivery with an epidural, and/or syntocinon may become a Category IV.

CATEGORY IV **Score = 14 –18**

More complicated cases affecting mother and/or baby will be in this category, such as elective caesarean section; pre-term births; low Apgar and birth weight. Women having epidural for pain relief and a normal delivery will also be Category IV, as will those having a straightforward instrumental delivery.

CATEGORY V **Score = 19 *or more***

This score is reached when the mother and/or baby require a very high degree of support or intervention, such as, emergency section, associated medical problem such as diabetes, stillbirth or multiple pregnancy, as well as unexpected intensive care needs post-delivery. Some women who require emergency anaesthetic for retained placenta or suture of third degree tear may be in this category.