birthrateplus® | Safe Staffing for Maternity Services

SHREWBURY AND TELFORD HOSPITALS NHS TRUST

MIDWIFERY WORKFORCE REPORT

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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 - Shrewsbury and Telford Hospitals (SaTH)

1. The primary purpose of the detailed workforce assessment is to provide a baseline and not on the different models such as a free standing birth centre, fully functioning alongside midwife unit and continuity caseload teams. The birth centres have not been fully operational meaning more women are birthing on delivery suite.

2. Further in the report is a projection with 21% of births being in the 2 birth centres and 79% in the obstetric service. Whilst it is planned to have 25% of women birthing under midwifery led care, the casemix shows that 86.6% of women are in Categories III to V so needing intrapartum care in an obstetric delivery unit. This group of women can be given continuity by caseload teams so adding in the intrapartum care to the routine community based ante and postnatal care.

3. Allowances of 24% uplift for annual, sick and study leave, and 15% community travel are included in the staffing figures.

4. Annual Activity is based on the FY 2021/2022 and total births of 4439, allocated as below:
    - 4078 Delivery Suite births
    - 300 Wrekin Birth Centre
    - 61 births at Home/BBAs

5. The results are based on three months casemix data obtained for the months of April to June 2022.

6. 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.

7. 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.

8. Table 1 shows the delivery suite only and generic casemix which includes births in delivery suite and Wrekin. 62.5 to 64.5% of women in the 2 higher categories IV and V. This is

slightly higher than the average for England of 58% based on 55 maternity units from a wide range of size and location. However, the range is 52% to 70% for a generic casemix.

9. The delivery suite casemix excludes Wrekin births and is used to calculate the staffing for delivery suite and postnatal ward. The generic casemix applies to community services as all women who birth in hospital receive their postnatal care from community midwives.

10. 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.

11. The previous casemix was provided in late 2019 and showed that of the total births, 66% of women were in categories IV and V so slightly higher than in the 2022 casemix.

	% Cat I	**% Cat II**	**% Cat III**	**% Cat IV**	**% Cat V**
2022 DS % Casemix	1.9%	8.7%	24.9%	31.8%	32.7%
	35.5%			*64.5%*	
2022 Generic % Casemix	3.0%	10.4%	24.1%	30.8%	31.7%
(Includes births on Wrekin)	*37.5%*			*62.5%*	

SaTH NHST Casemix Table 1

12. 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.

13. Table 2 shows the additional intrapartum activity on the Delivery Suite.

	Annual Total
Antenatal cases	505
Escorted transfers out	12
Non-viable pregnancies	60

Additional I/P Activity Table 2

14. For this workforce assessment, 300 births were allocated to the Wrekin although the birth centre has not been operating as usual during the recent year, so unable to give a true representation of the activity and staffing.

15. Maternity Triage is staffed with 3 midwives during the day and 2 for the night shifts and 7 days a week and has 11,240 annual episodes.

16. Table 3 shows the annual activity on wards 21 and 22

	Annual Total
Antenatal admissions	1384
Induction of labour (actual insertions)	2315
Postnatal women	4078
P/N readmissions	184
P/N ward attenders	104
NIPEs by midwives	3513
Extra care babies	192

Antenatal/Postnatal Ward activity Table 3

17. 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 1384 admission episodes to the ward excluding inductions and elective sections.

18. Medical inductions of labour take place on ward 22 and staffing is based on 1 midwife throughout the 24 hours.

19. The 'extra care babies' of 192 are those that have a postnatal stay longer than 72hrs. The increase in babies that require frequent monitoring is also covered in the casemix as more hours are allocated to women in the higher categories IV and V. which is often the intrapartum category.

20. Staffing is included for 3513 babies to have their NIPE carried out by a midwife on the postnatal ward. NIPE for the Birth Centre and home births is routinely included.

21. Outpatient Clinic 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.

22. The Day Unit is staffed 7 days a week from 9am to 5pm with 1 midwife.

23. Table 4 provides a summary of the community population receiving maternity care from SaTH community midwives.

Community Imports	358
Home births	61
Community cases *(AN &/or PN care)*	4628
Attrition Cases *(pregnancy loss or move out of area)*	300

Community Activity Table 4

24. There are 358 women who birth neighbouring units but are booked and receive ante/postnatal care SaTH community midwives (community imports). The majority (300) have the full care with 28 having just antenatal and 30 postnatal care.

25. There are a small number of women (108 a year) who birth in PRH and as from 'out of area' receive their community care from their home Trust (community exports).

26. 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 300.

27. Additional hours were built into the community for 433 women with significant safeguarding needs.

28. 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.

29. 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 24% uplift

Clinical WTE required	
Delivery Suite	54.77wte RMs
Wrekin	11.11 wte RMs (based on 2 per shift)
Ward 22: AN cases Inductions Triage	 8.12wte RMs 5.56wte RMs 13.89wte RMS
Ward 21	43.31wte RMs and PN MSWs *as per skill mix*
Outpatients Services PRH and RSH Clinics Day Unit	 9.37wte RMs 1.49wte RMs *Midwifery Sonography is not included*
Community Services	52.19wte *(Includes MSWs -postnatal care)*
Total Clinical WTE	**199.80wte RMs & PN MSWs**

Birthrate Plus® Staffing Table 5

Comparison of Clinical Staffing

30. The current clinical midwifery establishment is 200.55wte and will include some of the specialist midwifery roles. Without a full breakdown of the current establishment, it is not feasible to do a detailed comparison to show if there is a variance.

31. Within the BIrthrate Plus® wte of 199.80, some of the postnatal staffing can be suitably qualified Band 3 MSWs, RNs and Nursery Nurses if employed in the service. Any adjustment of the clinical wte only applies to postnatal services, although some maternity services do employ RNs in Recovery/HDU areas instead of midwives. It is a local decision and not a recommendation of Birthrate Plus®.

Current funded wte clinical midwives	Birthrate Plus wte bands 3 – 7 *(Includes PN MSWs if a skill mix is applied)*	Variance Bands 3 – 7
200.55	199.80	To be confirmed

Comparison of Clinical Staffing Table 6

Clinical Specialist Midwives

32. The clinical specialist midwives have both a clinical and non-clinical role. It is the decision of senior midwifery management as to how much of the total wte contributes to the clinical staffing. The remaining wte is included in the non-clinical roles.

Non-Clinical Midwifery Roles

33. The total clinical establishment as produced from Birthrate Plus® of 199.80wte excludes the non-clinical midwifery roles needed to provide maternity services, as summarised below: -

- Director of Midwifery, Head of Midwifery, 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
- Antenatal / Newborn Screening
- Perinatal Mental Health
- Baby Friendly Lead
- Consultant Midwife
- Diabetes
- Safeguarding Lead
- Professional Midwifery Advocate
- Quality & Safety Lead

- Digital midwife
- Practice Facilitators
- Continuity of Care lead
- Fetal Wellbeing

Note: the above list is typical of most maternity services but titles vary so are not the exact roles for SaTH.

The above roles require 21.98wte 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.

Summary of Baseline Staffing

Current Funded Clinical, specialist and management roles	Birthrate Plus wte	Variance wte
To be confirmed	221.78	

Total Clinical, Specialist and Management wte Table 7

34. Based on 2021/22 activity, a 24% uplift and reflecting a 'traditional' model of care with the Birth Centres not fully operational, the clinical total recommended for SaTH Hospitals is 199.80wte. If a 90/10 skill mix was applied, 179.82wte could be Registered Midwives bands 5 -7 and 19.98wte MSWs providing postnatal care (on the ward/community). <u>The current clinical deficit is to be confirmed.</u>

35. In addition, based on 11%, 21.98wte is recommended for non-clinical time of specialist midwives and senior management roles.

Staffing Projection

36. The workforce establishment has been assessed with 21% of births taking place in Wrekin and Royal Shrewsbury birth centres and 79% on the delivery suite. Whilst it is planned to have 25% of women birthing under midwifery led care, the casemix shows that 86.6% of women are in Categories III to V so needing intrapartum care in an obstetric delivery unit. This group of women can be given continuity by caseload teams so adding in the intrapartum care to the routine community based ante and postnatal care.

37. The annual births of 4439 have been allocated as below:
    - 3500 Delivery Suite births
    - 678 Wrekin Birth Centre
    - 200 RSH
    - 61 births at Home/BBAs

38. Minimum staffing of 2 midwives throughout the 24 hours and 7 days a week is allocated to Wrekin and RSH birth centres to provide the intrapartum and immediate postnatal care with the community midwives giving the ante and ongoing postnatal care.

39. It is usual that some women will require transfer from a birth centre to the postnatal ward for ongoing monitoring of the mother and/or baby. An estimate of 21% of women (190) are included in ward 21 staffing.

40. Some of the delivery suite women will be intrapartum transfers from the birth centres so included in the estimated 3500 births, and any care given in the birth centres prior to transfer is covered in the core staffing.

41. There are no changes to the baseline staffing forward 22. triage, day unit and outpatients' clinics.

42. The staffing remains as in the baseline (Table 8) but is distributed differently.

43. Calculating the staffing with RSH being staffed with 1 midwife at all times and caseload midwives providing the ante, intra and postnatal care for 200 women is indicating the clinical establishment remains at 199.80wte.

44. Note: the above projection is based on 21% of women birthing in Wrekin and RSH and 79% in delivery suite, so any adjustment of the activity will change the distribution of staffing. Increasing the number of caseload teams may require additional staff in order to ensure the core services in hospital are adequately and appropriately staffed.

Birthrate Plus® Staffing: Projection

Clinical WTE required	
Delivery Suite	47.62wte RMs
Wrekin	11.11 wte RMs (based on 2 per shift)
RSH birth centre	11.11 wte RMs (based on 2 per shift)
Ward 22: AN cases Inductions Triage	 8.12wte RMs 5.56wte RMs 13.89wte RMS
Ward 21	39.50wte RMs and PN MSWs *as per skill mix*
Outpatients Services PRH and RSH Clinics Day Unit	 9.37wte RMs 1.49wte RMs *Midwifery Sonography is not included*
Community Services	52.09wte *(Includes MSWs -postnatal care)*
Total Clinical WTE	**199.85wte RMs & PN MSWs**
Additional Specialist and Management wte	21.98wte RMs

Birthrate Plus® Staffing Table 8

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. However, 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 95 cases to 1wte is the correct ratio to apply. To use the ratio of 22.2 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 29.9 births to 1wte should be applied, as this will account for an increase in activity in all hospital services. 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, total number of women having community care irrespective of place of birth and primarily the configuration of maternity services. Decisions on staffing numbers per shift rather than on the activity alone affect ratios, as with Wrekin.

Delivery Suite births, all hospital care	29.9 births to 1wte
All hospital births, all hospital care	29.4 births to 1wte
Home births	33.1 births to 1wte
Community AN & PN care (hospital births)	96.8 cases to 1wte
All community care including attrition and safeguarding	91.9 cases to 1 wte
Overall ratio for all births	**22.2 births to 1wte**

SaTH Ratios Table 9

Note: The overall ratio for SaTH of 22.2 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.