birthrateplus® | Safe Staffing for Maternity Services

University Hospitals Dorset NHS Foundation Trust

St Mary's Maternity Unit

Poole Hospital

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 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 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. It was noted that there is dedicated support on the postnatal ward by infant feeding specialists offering a very valuable service to women and their babies.

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. This is the final summary report of St Mary's Maternity Unit, Poole Hospital, University Hospitals Dorset (UHD) results presented to the Director and Head of Midwifery on 30/4/2021, and subsequently confirmed on 24/06/2021.

2. UHD provide maternity services at St Mary's Maternity Unit, Royal Bournemouth Hospital, and local community services.

3. Table 1 shows the casemix for a 3 months' period from October to December 2020 and felt to be representative.

	% Cat I	% Cat II	% Cat III	% Cat IV	% Cat V
DS % casemix	3.2	13.7	26.0	24.5	32.6
	42.9%			57.1%	
Generic % Casemix (DS and Haven births)	9.9	21.7	21.4	20.2	26.8
	53.0%			47.0%	

Table 1 Casemix October – December 2020

4. The casemix is unique to each individual unit and reflects the health and social needs of the local population, as well as clinical practices and decision-making (*see appendix 1 for Birthrate scoresheet)*.

5. The casemix is analysed in 3 ways, namely, generic for all births taking place; those in the Delivery Suite and births in Haven. This is to provide a comparative casemix with

similar maternity services and to enable calculation of midwifery staffing based on the models of care for respective place of birth.

6. Annual Activity is based on the CY 2020 and total births of 4301**,** allocated as below:

DS Births	Haven Births	HOME/FMU Births
3362	773	166

Table 2 Annual Activity CY 2020

7. Table 3 provides a summary of the community population receiving maternity care.

Community Cases (AN & PN care – hospital birth)	4457
Home Births	166
Attrition Cases	475

Table 3 Summary of Community Population receiving maternity care

8. The community annual total includes women who birth in neighbouring units and receive postnatal care only from UHD midwives (394 community imports). The antenatal and birth episodes are provided by neighbouring units.

9. Exported cases are those women who birth in St Mary's, namely 'out of area' cases and receive their community care from their home Trust (72 community exports).

10. The total community population includes community births and attrition cases.

11. An allowance of 23% uplift have been calculated and 12.5% community travel are included in the draft staffing figures.

12. 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.

13. The total clinical wte will contain the contribution from Band 3 MSWs in hospital and community postnatal services.

14. 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.

Birthrate Plus® Staffing:

	Annual activity	Clinical WTE
Delivery Suite: • Births • A/N cases • Non-viable pregnancies • PN Readmissions • Escorted transfers out	 3362 350 33 120 12	42.82wte RMs
Triage	13853	11.02wte RMs
Haven • Births Only • Transfer to DS • PN Care of women • Triage Cases	 773 449 580 300	14.36wte RMs
Ante Natal Ward • A/N Admissions • IOLs • MAU	 1000 2100 6495	11.02te RMs
Postnatal Ward • Postnatal women • Readmissions • NIPE • Extra Care Babies	 3555 65 520	35.13wte *Includes Band 3 MSWs*
Outpatients Clinics Antenatal Day Unit Labour line		10.48wte RMs 2.53wte RMs 11.02wteRMs
Community Services • Births • Community cases (AN & PN) • Attrition cases • Additional Safeguarding • NIPEs for hospital births	 166 4457 475	55.63wte *Includes Band 3 MSWs*
Total Clinical WTE		**194.01wte**

Table 4 Birthrate Plus Staffing

15. Some of the clinical wte can be suitably qualified support staff working in postnatal services in hospital and community. Usually, a 90/10 adjustment is made to the total clinical wte. This would equate to 174.61wte as RMs and 19.40wte as PN MSWs/NNs.

16. The % of clinical time provided by specialist midwives included in the workforce calculations is a local decision although there is a commonly applied rationale within the methodology and generally accepted by Heads of Midwifery.

Non-Clinical Midwifery Roles

17. The total clinical establishment as produced from Birthrate Plus® is wte and this excludes the non-clinical midwifery roles needed to provide maternity services, as summarised below.

- Director of Midwifery, Heads of Midwifery, & Matrons/managers with additional hours for team leaders to participate in strategic planning & wider Trust business
- Consultant Midwives
- Additional time for specialist midwives to undertake audits, training of staff, etc.
- Safeguarding Coordinator
- Clinical Practice Facilitators
- Supervision –PMA role
- Risk and Governance
- Informatics

The above roles require 21.35wte 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.

18. In addition to the midwifery staffing, there is a need to have support staff usually at Bands 2 and 3 working on delivery suite, birth centre, 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.

	Bands 5 - 7 Clinical wte *This will include contribution from specialist midwives*	Band 3 providing P/N care wte 90/10	Additional Specialist & Management wte Bands 7 to 8	**TOTAL WTE** Includes all Clinical, Specialist & Management roles
Birthrate Plus recommended wte	174.61	19.40	21.34	**215.35**
Current Funded wte	169.25	19.40	25.41	**214.06**
Variance	-5.36	0.00	4.07	**-1.29**

Table 5 Comparison of Birthrate Plus wte with Current Clinical Funded Bands 3 – 8

Births to Midwife Ratios

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 93 cases to 1 wte is the correct ratio to apply. To use the 22.2 to 1 wte ratio will overestimate the staffing as this covers all ante, intra and postnatal care.

Example: A woman who births in hospital but is 'exported' to another community, then the ratio of 30 births to 1 wte 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.

With the implementation and roll out of 'continuity of care' models, it is important to address any workforce deficit to ensure successful implementation. This is particularly important for those teams providing care to high risk women and vulnerable groups, where the ratio of women to midwife needs to be lower.

Midwife Ratios based on above data and results

The ratios below are based on the Birthrate Plus® dataset, national standards with the BR+ 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.

Ratios:

- Home births — 34 births to 1 wte
- Delivery Suite births (all hospital care) — 30 births to 1 wte
- Birth Centre Births — 54 births to 1 wte
- Ante & Postnatal Community care only — 93 cases to 1 wte
- Overall ratio for **all** births — 23.5 births to 1 wte

  Note: this is less the staffing for Labour Line

Note: The overall ratio for UHD of 23.5 births to 1wte equates to the often-cited ratio of 28 to 1 wte, but they are not directly comparable for the above local factors. The latter ratios are 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. An average ratio based on data from 55 maternity units in England is 24 births to 1 wte.

Summary of staffing required for Core Services and Continuity of Care (CoC)

19. The baseline staffing as presented above has been reassessed to provide staffing for caseload/continuity teams and core services.

20. The women allocated to a caseload team includes women who will birth in hospital or at home.

21. The number of women eligible for allocating to a continuity pathway is adjusted, based on annual exports and imports as shown in Table 6.

Annual Births	4301
Community Exports	72
Total number of women eligible for CoC	**4229**
Community Imports	394

Table 6 Number of women eligible for CoC

22. There are women who give birth and are transferred to neighbouring units for their community care so cannot be included in the total for calculating the CoC pathway (community exports).

23. For the workforce baseline, there are women who birth in neighbouring units but receive their community postnatal care from UHD midwives, so at present are excluded from working out the % receiving CoC (community imports).

24. It is likely that some women will require additional input from D/S core staff and likely have a postnatal ward stay which are factored into the core staffing for both units. For the draft figures and simplicity, it has been estimated that of the 20% of women may require I/P care from core staff, although this may primarily be from the higher risk caseloads and 90% to the ward although these are an approximation.

25. Table 7 shows the annual total of women 'booked' to birth as core or caseload teams although an adjustment has been made to the staffing for 20% of caseload women to be supported by core staff during their intrapartum episode.

	Baseline	**20% CoC**	**35% CoC**	**51% CoC**
Core Births (DS/Haven/Home)	4301	3455	2821	2144
Births - Caseload Teams (DS/Haven/Home)	0	846	1480	2157

Table 7 Incremental Increase of Caseload Births 20% -51%

26. Core staffing for hospital is calculated to ensure adequate staffing on D/S including non-birthing activity for women not in a CoC model and the likelihood that some of the CoC women will transfer to the obstetric model; antenatal including IOLs, and postnatal ward care is provided by 'core staff' and allowing for transfer of women from the CoC Teams, and Triage, Outpatients Clinics and Day Unit remaining as in the baseline workforce. That some of the CoC women may see their CoC midwife in hospital clinics is included in the ratio for the specific team, and not deducted from core staffing.

27. Table 6 show the clinical staffing of midwives and postnatal MSWs for core services in hospital and community and caseload teams from 20% through to 51%.

28. Some of the total wte will be MSWs in postnatal services and consideration must be given to how the baseline 10% allocation to the maternity ward and community is deployed with the core staffing reducing. MSWs attached to the caseload teams will be in addition to the midwives. If 10% is still applied, then some of this total will be for the Teams and the remainder split between the maternity ward and core community. Care must be taken not to apply 10%

to only Core staffing as this may reduce the midwifery total to an inappropriate level. Professional and management judgement will assist with a suitable allocation.

29. 11% is added to the clinical total wte for the specialist and management roles as explained in point 15.

30. Table 8 shows the Clinical staffing for the baseline as current services and with increments from 20% to 51% continuity/caseload teams

	Baseline	**20% CoC**	**35% CoC**	**51% CoC**
Core Hospital				
Delivery Suite	42.83	38.10	33.36	28.57
Haven	14.36	12.00	9.80	7.45
Maternity Wards	46.14	45.12	44.78	44.4
Outpatients/DAU/Triage	24.03	24.03	24.03	24.03
Core Community inc. Labour Line	61.85	54.42	47.58	40.19
Caseload Teams	00.00	23.49	41.12	59.91
Total Clinical wte PN Band 3s to MW Band 7s	**194.01**	**197.17**	**200.67**	**204.31**
Clinical Variance from baseline	00.00	3.16	6.66	10.30
Incremental Variance		3.16	3.50	3.64

Table 8 Staffing required for incremental increase 20% -51%

31. 11% for the additional specialist and management roles are added to the above clinical figures.

32. The projections are to show the possible increase required, but there will be changes to services such as reduction or increase in births and/or community cases, setting up of new clinics, etc., that will also influence the workforce.

33. The actual deployment of staff and the allocation into the caseload teams is a local decision using national guidance.

34. The report clarifies the workforce for core services as appropriate staffing will help to deal with the fluctuations in hospital workload and enable the caseload teams to work efficiently.

35. Table 9 sets out the total staff required to reach 51% CoC and additional staff required inclusive of Postnatal MSWs, Clinical, Specialist and Management Midwives. This also maintains Labour Line with 2 midwives throughout the 24 hrs and 7 days a week.

	BIRTHRATE PLUS WTE Bands 3 to 8	**CURRENT FUNDED WTE Bands 3 to 8**	**VARIANCE**
Current Staffing	215.35	214.06	**-1.29**
Core Services and with Continuity Teams at 20%	218.86	214.06	**-4.80**
Core Services and with Continuity Teams at 35%	222.74	214.06	**-8.68**
Core Services and with Continuity Teams at 51%	226.79	214.06	**-12.73**

Table 9 Additional WTE required to meet 51% CoC

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.