MIDWIFERY SERVICES WORKFORCE PLANNING & DECISION MAKING

THE SHREWSBURY & TELFORD HOSPITAL NHS TRUST

FINAL REPORT – APRIL 2017

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.

The Royal College of Midwives [RCM] and Royal College of Obstetricians and Gynaecologists [RCOG] recommend the use of Birthrate Plus® which was endorsed by the RCM Council in 1999, and in the Audit Commission Report; First Class Delivery (1997). There is no other research-based methodology for workforce planning in maternity services and traditional methods are of little value in today's health service.

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, BR+ caters for the various models of providing care, such as traditional, community based teams and caseload working. It is sensitive 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. Any maternity unit and service must be able to assess its staffing needs using a tried and tested system of workforce planning. 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 which these deviate 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.

In addition BR+ determines the staffing required for antenatal inpatient and outpatient services, postnatal care of women and babies in hospital and community care of the local population birthing in either the main hospital or neighbouring ones.

The method works out the clinical establishment based on agreed standards of care and specialist needs and then includes the non-clinical midwifery roles to manage maternity services. Skill mix adjustment of the clinical staffing between midwives and competent & qualified support staff can be applied, if requested

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

The Governance agenda, which includes evidence based guidelines, on-going monitoring and 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.

Wards provide care to 'normal' uncomplicated postnatal women needing basic midwifery care, which is often over-shadowed by other women who are more complex cases. This results in insufficient time being spent with such women who may require considerable assistance with breast feeding and general care of their baby.

The encouragement of early transfer home does mean that the level of midwifery input during their hospital stay is considerable, in order to ensure that the mothers are prepared for coping at home. It is a known fact 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 GPs. Reduced antenatal admissions and shorter postnatal stays result in an increase in community care. Midwives are undertaking the newborn examination instead of paediatricians, either in hospital or at home.

Cross border activity can have significant impact on community resources in two ways. Some women receive ante and postnatal care from their "home" maternity service, but give birth in another. Because these count as extra to the workload related to that recorded in relation to the annual births of a unit they have been termed as "imported" cross border" cases. Some units provide intrapartum and some degree of immediate postnatal to women from another maternity service, but who "export" their community care. Adjustments to midwifery establishments have been made to accommodate the community flows.

With the publication of the latest NICE guideline on Antenatal Care that recommends that all women be 'booked' by 12 weeks' gestation, more women are meeting their midwife earlier than previously happened before 10 weeks. 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. In most maternity services approximately 10% of women are 'booked' and then have no further contact with the midwife.

SUMMARY: RESULTS/FINDINGS

PRINCESS ROYAL HOSPITAL TELFORD, MIDWIFE LED UNITS & SHROPSHIRE COMMUNITY

The recommendation is to provide total care to women and their babies throughout the 24 hours 7 days a week inclusive of 22% for annual, sick & study leave allowance, 15% for travel in community and 1% for the new model of midwifery supervision. *Detailed summaries are included on pages 7 & 8.*

The overall clinical establishment is summarised as follows:

[a]	PRH Telford	101.21wte (excludes midwife scanning)
[b]	MLUs and Community	93.99wte
[c]	**TOTAL CLINICAL WTE**	**195.20wte**
[d]	Non-clinical midwifery wte (8% of total clinical)	15.62wte
[e]	Midwife Scanning	11.26wte

Discussion of Findings – PRH Telford

1. The main factor in the results is the casemix based on 3 months' data from October to December 2016 collected by the locally appointed project midwives from the Maternity Information System and validated by the BR+ Team to ensure the data quality was 100%.

2. Within the methodology are national standards which include the minimum standard of 1 midwife to 1 woman for care in the labour, delivery and an additional % m/w increase is applied to Categories III (20%); IV (30% & V (40%). Community antenatal care is based on NICE guidance, as is postnatal care with allocation of average midwife hours for the women to cover their standards a/n & p/n assessments, Parentcraft, socio-economic issues and all clinical needs.

3. The annual births in PRH are 4194.

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).

	Cat I	**Cat II**	**Cat III**	**Cat IV**	**Cat V**
DELIVERY SUITE	2.2	15.2	28.0	26.8	27.8

5. The casemix will predominantly be those women in categories III to V thus impacting on the workload for this service, due to the MLUs caring for most women having a normal delivery so category I and II and any higher category activity is included as transfers and included in DS casemix.

6. The casemix data indicates that 17.4% of births are in the lower categories I & II with 82.6% in the moderate to high categories, of which 54.6% are in IV & V. This is similar to many other maternity units. However, the highest % is in category V and impacts on the appropriate establishment to ensure safe staffing.

7. Category V at 27.8% include emergency CS, and often women with obstetric/medical problems, such as increased diabetes, obesity related problems, mental health and high incidence of fetal medicine related conditions that require specialist care.

8. The number of women in Category IV is 26.8% are usually those having an elective CS or epidural for pain relief with a normal birth. Women with low birth weight/preterm babies; high-risk inductions of labour and PPH will fall into this group.

9. Category III women (28.0%) have moderate risk/need such as Induction of Labour with syntocinon, instrumental deliveries as well as normal births with continuous fetal monitoring will fall into this group. This is a greater % than usually found and is due to a high induction of labour rate.

10. The casemix is an indicator of the needs of women and their babies for the postnatal stay in hospital so used to calculate the staffing. It is often where the significant safeguarding/social issues have an impact on midwifery staffing to ensure systems are in place to deal with such matters. Also, many babies require additional observation and monitoring in postnatal wards. PN re-admissions create additional workload and this is factored into the staffing requirements.

11. 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. Category A2 women (n=190) are high risk-antenatal cases that would usually be 'admitted' to a ward for on-going care following a stay on delivery suite having one to one midwifery care.

12. All maternity units have significant antenatal activity that is both planned and unplanned cases and often the latter equate to the actual number of women delivering in the service. Individual maternity units deal with this activity in a variety of ways, such as via DAU, the antenatal ward or through a dedicated Triage/Assessment area. In PRH, this activity is seen in Triage and the Day Unit. Some additional non-birth activity is caring for women who have a fetal loss prior to 24 weeks' gestation.

13. There are 1512 Inpatient antenatal episodes. It is not feasible to produce comparative data for antenatal admissions in similar sized units as practices depend on bed capacity, geography, clinical decision-making, clinical risk factors and availability of outpatient services.

14. Inductions of labour are undertaken on the antenatal ward – an annual total of 2320, which will be fewer women as some may receive more than one dose of prostin/propess, but a relatively high number.

15. Due to limited capacity on the postnatal ward and through choice, 70% of women are transferred within 24 hours to the 5 MLUs for short stay postnatal care before going home and receiving community based care.

16. Outpatient Clinic services and Maternity Day Care Unit are based on session times and numbers of staff to cover these, rather than on a dependency classification and average hours. The staffing includes the clinics held in Shrewsbury Hospital and staffed by PRH midwives. The weekly Frenulotomy clinics are included although there is no dedicated budget for this activity. *Midwife scanning is excluded from the clinical total wte, although there are 3-4 shifts a week that are covered within the current clinical wte.*

Discussion of Findings – Midwife Led Units and Community

17. The community cases are based on those women birthing in PRH and having all ante & postnatal community care locally plus any women, who may birth in neighbouring units, but belong to the CCG area. The total number of community cases is 5523 including home births, with the majority birthing in RPH, but there are some cross border flows of women.

18. As with most maternity services, there are women who will see a midwife in early pregnancy as per NICE Antenatal Guidelines and the 'Early Contact' recommendation, but do not progress further with their pregnancy at 1382 p.a. 2 hours of midwifery time is allocated to these women as an average.

19. The assessment of midwives for the births in the MLUs and at home are based on a 'package of care' that includes antenatal care in the community setting, intra-partum care with 2 midwives at for the birth, postnatal care until transfer home, subsequent care in the community and examination of the new-born.

20. The annual numbers for the 5 MLUs and 2 Community Bases were provided from the Maternity Information System and verified by the Community Matron. The activity includes births, unplanned antenatal cases, PN transfers from PRH for a short stay, NIPE and escorted transfers to PRH usually in-utero, but also in the antenatal period *(see table on page 8).*

21. Average midwife hours have been allocated to the annual totals that include all clinical record keeping, plus time for day-to-day management, liaison, phone calls, travel, personal time and training of students.

Summary of Staffing

22. The total clinical establishment of **195.20 wte** does not include the following roles:
    - Head of Midwifery & Matrons with additional hours for team leaders to participate in strategic planning & wider Trust business
    - Increased midwife co-ordination on D/S as per Safer Childbirth recommendations
    - Practice Development role
    - Clinical Governance role
    - Time for Baby Friendly Initiative, which is not to assist women with breast feeding, but to produce & monitor guidelines & undertake audits
    - Additional hours for antenatal screening over & above the time provided in actual clinics
    - Coordination for such work as Safeguarding Children

23. The above additional roles can be included based on adding in % of the total clinical establishment, as suggested by Birthrate Plus® and cited in the RCM Staffing Guidance 2009. It is a local decision as to the % increase, for e.g. addition of 8% is 15.62wte. Applying an agreed % avoids duplication of roles irrespective of which midwives undertake the non-clinical duties. Some of the roles are shared across the whole service rather than be specific to one hospital, so may best be calculated as a % of the total clinical wte.

24. A skill mix adjustment can be applied to the clinical total wte of 101.21wte in PRH where an average of 25% of the total clinical wte can be competent and qualified support staff usually being Bands 3 & 4 [See Appendix 2]. This equates to 6.00wte support staff in postnatal care with the midwifery wte 95.21wte.

25. Adjustment for skill mix differs in the MLUs, as it is a local decision as to how much of the postnatal care can be provided by MSWs, although at least 20% could be given by suitably qualified staff. The community staffing is based on ante & postnatal care provided in the MLUs, at home and in community bases so it is feasible that some of the postnatal element can be provided by MSWs under the

supervision of the midwives. Generally, 25% of the postnatal element is allocated to support staff. Estimation of the community indicates that 7.00wte of the total community ante & postnatal staffing can be MSWs.

26. The skill mix % is not a recommendation of Birthrate Plus®, but a rationale for having a sensible skill mix that does not reduce the midwifery establishment to an unsafe level and prevents flexibility of deployment to areas of high risk and needs.

SUMMARY of DATA & REQUIRED WTE for **BIRTHRATE PLUS®**

THE SHREWSBURY & TELFORD HOSPITAL NHS TRUST

Final version 10.04.17

Data collected Oct to Dec 2016

Births in PRH Telford **4194**

CASEMIX	Cat I	Cat II	Cat III	Cat IV	Cat V
Casemix	**2.2**	**15.2**	**28.0**	**26.8**	**27.8**

			Required WTE	
Delivery Suite	**No.**			
Delivery Suite Births	4194		43.68	**43.68**
Other DS Activity	**No. Episodes of care**	**Hours**		
Category X		*via Triage*		**3.24**
Category A1		*via Triage*		
Category A2	190	*15.0*	2.05	
Category R	315	*5.0*	1.13	
Escorted Transfers OUT	12	*8.0*	0.06	
Triage			5.47	**5.47**
ANTENATAL	**No.**			
Antenatal admissions	1512		7.44	**12.51**
Antenatal ward attenders	160		0.11	
Inductions	2320		4.17	
Non-viables	71		0.79	
POSTNATAL	**No.**			
Postnatal women (full stay)	1240	*30%*	11.94	**25.53**
Postnatal women (transfer to MLUs)	2954	*70%*	8.90	
Postnatal Ward Attenders	92		0.03	
Postnatal Re-admissions	354		1.86	
Extra Care Babies	710		2.80	
OUTPATIENT SERVICES				
Antenatal Clinics				
GTT Clinics PRH & Shrewsbury			0.13	**7.72**
PRH Risk Assessment Team			1.23	
S'Bury Risk Assessment Team			1.27	
PRH Specialist Midwives Clinics			1.20	
S'bury Specialist Midwives Clinics			0.85	
PRH Consultant Clinics			1.79	
S'bury Consultant Clinics			0.92	
Frenulotomy Clinics (weekly)			0.33	
DAY UNIT			2.05	**2.05**
			100.21	
CLINICAL MIDWIFERY WTE REQUIRED with supervision				**101.21**
Scanning Sessions			11.26	**11.26**

06.04.17

MLUs & COMMUNITY SERVICES - SHROPSHIRE

22% uplift / 15% travel	WREKIN	SHREWSBURY	LUDLOW	OSWESTRY	BRIDGNORTH	WHITCHURCH	MARKET DRAYTON	TOTAL
MLU & Home Births - ALL CARE	396	224	56	85	85	2	9	**857**
MLU - Unplanned Activity	1290	670	335	374	430	290	320	**3709**
PN Transfers from PRH	1406	331	91	106	140	n/a	n/a	**2074**
MLU - NIPE (PRH births)	2135	504	100	111	66	12	26	**2954**
MLU - Escorted Transfers	247	162	26	31	35	n/a	n/a	**501**
Community - AN & PN (PRH births)	2059	1324	128	150	198	290	172	**4321**
Community - AN & PN (Imports)	70	17	24	171	11	35	17	**345**
Community - Early Contacts only	656	404	53	75	87	75	32	**1382**

MLUs & COMMUNITY SERVICES - SHROPSHIRE

06.04.17

22% uplift / 15% travel	BR+ WTE	CURRENT FUNDED WTE	VARIANCE
WREKIN	44.70	0.00	-44.70
SHREWSBURY	25.96	0.00	-25.96
LUDLOW	4.17	0.00	-4.17
OSWESTRY	6.93	0.00	-6.93
BRIDGNORTH	5.96	0.00	-5.96
WHITCHURCH	3.76	0.00	-3.76
MARKET DRAYTON	2.50	0.00	-2.50
TOTAL WTE	**93.99**		

Comparison of Birthrate Plus® wte with Current Funded Establishment based on above dataset

The method works out the clinical establishment based on agreed standards of care and specialist needs and then includes the non-clinical midwifery roles and skill mix adjustment of the clinical staffing between midwives and competent & qualified support staff can be applied.

The table below outlines the comparison of Birthrate Plus® results with current funded establishments based on above data and results;

Comparison of Maternity Staffing

PRH TELFORD	**WTE**	
A: BR+ Clinical wte	101.21	The total clinical wte for hospital & community calculated using Birthrate Plus methodology
B: Current funded clinical wte (bands 5 – 7)	85.65	The current funded midwifery wte includes Specialist MW clinical contribution
Variance between **A & B**	-15.56	Variance between BR+ total clinical wte to current funded wte RMs
C: BR+ Skill Mix Adjustment *(p/n care only)*	95.21	Midwives – bands 5 to 7
Variance between **B & C**	-9.56	Variance between BR+ adjusted clinical wte to current funded wte RMs
BR+ Skill Mix	6.00	25% of total as support staff who contribute to the clinical total in postnatal care and who can replace midwife hours
Current Funded Support roles (Band 3)	0.00	The Current funded support wte for the postnatal aspect of care
Difference between BR+ Support roles to include in comparative total	-6.00	Variance between BR+ Clinical wte & Current Funded wte based on support roles for the PN aspect of care

Note: the above comparison excludes scanning midwives of 11.44wte as current budget

06.04.17

MLUs & COMMUNITY SERVICES SHROPSHIRE

	BR+ WTE	CURRENT FUNDED WTE	VARIANCE
WREKIN	44.70	31.15	-13.55
SHREWSBURY	25.96	20.30	-5.66
LUDLOW	4.17	7.89	3.72
OSWESTRY	6.93	8.20	1.27
BRIDGNORTH	5.96	8.45	2.49
WHITCHURCH & MARKET DRAYTON	6.26	4.94	-1.32
TOTAL WTE	**93.99**	**80.93**	**-13.06**

The shortfall of 13.06wte are not just midwives and a significant number can be appropriately qualified maternity support workers assisting with postnatal care in the MLUs and community. An estimated 10.66wte could be MSWs across the total community, reducing the midwifery shortfall to 2.40wte.

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.

Category X women are those who are admitted to the delivery suite, but after assessment/monitoring are found not to be in labour or to need any intervention. These women are either sent home or transferred to the antenatal ward for observation.

Categories A1 & A2 women are those who require some intervention such as intravenous infusion and/or monitoring, e.g. antepartum haemorrhage, pre-eclampsia or premature labour. Such women often spend considerable time on delivery suite before being transferred to the antenatal ward or to another maternity unit with neonatal facilities. However, some women with moderate risk/needs will go home following assessment and treatment.

Category R women are re-admitted after delivery as postnatal cases, often requiring medical care.
Inductions of labour with prostins are recorded, as are escorted transfers to another maternity unit and the non-viable pregnancies.

MATERNITY SUPPORT WORKERS/CARE ASSISTANTS Appendix 2

Due to changes in skill mix with the increasing use of support staff with a formal qualification in maternity services, there is a need to distinguish between those that can replace midwife hours, and other staff that support the midwife in care of women and their babies. Maternity Support Workers (MSW) refers to those support workers with a formal qualification such as Level 3 NVQ or Nursery Nurse, and who can replace midwife hours. The Maternity Care Assistant (MCA) is used to denote the more basic grade of support worker who supports the midwife. In all clinical areas the use of Care Assistants greatly aids the provision of maternity care, by releasing midwifery staff to be client, rather than ward centred.

Skill Mix Rationale

It is important to distinguish between the situations where support staff assist the midwife and where he/she replaces the midwife.

Birthrate Plus® (1996) makes it clear the ward and clinic staffing levels for midwives are based upon the premise that they are supported by MCA and clerical staff and these staff needs are assessed on a shift by shift basis.

The decision about the percentage of midwife time, which might be replaced, by MSW time must that of the local service managers.

Antenatal care: As this calls for midwife skills so it is not recommended to replace the midwives with an MSW, but units should ensure that midwives are well supported by clerical and MCA staff.

Intrapartum care: Birthrate Plus® does not recommend any replacement of midwife time by MSW time. To do so would undermine the basic quality standard of one to one care throughout labour plus the increased % of midwife time required for high needs categories.

Postnatal care in Hospital: Many services now suggest 20 - 25% of midwife time can be replaced by MSW input. Once a local decision has been made, the calculations of wte staff for each ward can readily be adjusted.

Postnatal Care in Community: Many services now suggest that 25% of midwife time can be replaced by MSW time. This would allow for full assessment and planning of care by the midwife, with a minimum of three visits and additional visits being undertaken by the MSW working under the direction of the midwife in charge of each woman's care.

Based on adjustments made by other maternity units, an average of 10% of the clinical total wte can be competent and qualified support staff usually being Bands 3 & 4.

The skill mix % is not a recommendation of Birthrate Plus®, but a rationale for having a sensible skill mix that does not reduce the midwifery establishment to an unsafe level and prevents flexibility of deployment to areas of high risk and needs. Some services are moving towards an 85/15% split with more MSWs working in community and increasing support staff on the p/n ward to work with transitional care babies.

Note: In addition, there is a need for Maternity Care Assistants in the Delivery Suite, Outpatient Services and Wards to provide support to women and their babies, but are in addition to the calculated clinical establishments. To assess the requirement of Band 2 support staff is on the numbers per shift in the various areas based on professional judgment and management decision. For example, 2 per shift on D/S at all times inclusive of the leave allowance.