Final Report of the HSE MIDWIFERY WORKFORCE PLANNING PROJECT

Date: April 13th 2016

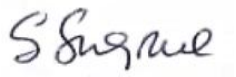
Foreword

This report was developed within the context of the current maternity services in Ireland. Therefore the report's recommendations for the midwifery workforce are based on the current, 'as is' model of maternity services. Maternity services in Ireland are currently predominantly hospital based, with over 99% of births occurring in a hospital. This is in contrast to the UK, for example, where the majority of antenatal care is undertaken in community settings by community midwives.

In January 2016, the first National Maternity Strategy was published. The Strategy outlines a new model of maternity care for Ireland that represents a fundamental overhaul of services. The Strategy recommends that maternity services should be woman-centred, and provide integrated team-based care, with women seeing the most appropriate professional, based on need and choice. The new strategy classifies pregnant women/babies into three risk groups; normal-risk, medium-risk (requiring a higher level of oversight), and high-risk (requiring a more intensive level of care, either throughout or at a particular stage of care). A choice of pathway of maternity care will be available based on this risk profile and will include Supported Care, Assisted Care and Specialised Care. To deliver this model of care, the strategy proposes a number of fundamental changes to how care will be delivered including for example, the development of a community midwifery service whereby hospital midwives, working as part of the multidisciplinary team, provide antenatal and postnatal care in the community; the provision of Alongside Birth Centres where women on the Supported Care pathway will give birth; women on that pathway may choose to have a homebirth.

The changes recommended in the Maternity Strategy will have a significant impact on the way midwifery services are delivered and will impact on workforce requirements. Therefore, it will be necessary for the National Women & Infants Health Programme to provide for the staffing requirement arising from the new model of care and prepare a workforce plan to incrementally build capacity in the midwifery workforce; the incremental midwifery staffing requirement will be determined using an evidence based methodology, for example the Birth Rate Plus. It is noted and accepted that this methodology, recommends a midwife to birth ratio (1:29.5) for a broadly similar model of maternity care in the UK.

This report, clearly establishes the baseline midwifery requirement for the current service model. While accepting that these requirements will change as the new model of care evolves, the recommendations of this report to provide for a midwife to birth ratio of 1:35 in medium and large maternity units, should be implemented as a first step on a journey to implementation of the Maternity Strategy and delivery of a midwifery workforce plan as a key component. It would be our expectation that this midwife to birth ratio will incrementally move towards the ratio, existing in the UK, as the Maternity Strategy is implemented.



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Report of the HSE - MIDWIFERY WORKFORCE PLANNING PROJECT

Background and context:

In Ireland maternity services are delivered by HSE and voluntary organisations in nineteen services nationally with the HSE having overall responsibility for their planning. 67,347 births were registered in 2014 and the vast majority were delivered in these services.

A number of factors resulted in the requirement to examine midwifery and support staffing in maternity units:

- An increase in the emphasis on patient safety and quality
- Clinical incidents occurred in some maternity units
- The impact of the financial reduction in health and the moratorium on recruitment of some grades including midwives was implemented in 2009 resulting in the restriction and reduction of replacement of posts; over-time and agency staff usage. These changes had resulted in a 13% reduction in WTE employed in midwifery & nursing across the country and a reduction of 7% in support staff since 2007 (HSE December 2013).
- A shift in the demography of the population.
- The reconfiguration of all Hospital services including maternity units and maternity hospitals into hospital groups as a transition to Hospital Groups / Trusts.
- An ongoing and critical discussion about maternity services in the media (Flory 2015).

Improvements:

Despite the contraction of personnel numbers and the financial allocation to the health service developments have been achieved in some services:

- The national Clinical Programmes (Obstetrics & Gynaecology and Neonatology) have also significantly enhanced standards and quality of care by developing and rolling out national clinical guidelines and implementing recommendations from national reports e.g. levels of resources, equipment and facilities in respect of early pregnancy assessment units, IMEWS.
- Reconfiguration of maternity services such as the introduction and development of midwifery led care to include Community midwifery, Early Transfer Home and DOMINO services.
- Quality assurance initiatives e.g. the development and implementation of Midwifery metrics.
- Examining current work practices and introducing streamlined ways of working based on LEAN methods of working (e.g. the Productive Ward™ Initiative) and 6 SIGMA techniques.
- Expansion of skills such as development of Clinical Midwife / Nurse Specialist posts, Advanced Midwife / Nurse Practitioner posts.
- Introduction of Registered Nurse Prescribers; to date 154 midwives have been funded to undertake the education programme and 108 midwives are registered prescribers.
- In July 2013, the Haddington Road Agreement has resulted in an extension of the working week from 37.5 to 39hrs for midwives and nurses.
- Developing skill mix (introduction and development of the healthcare assistant grade into maternity care).
- Improvements in IT systems, the rollout of the national Maternity and Neonatal Clinical Management System (MN-CMS) is awaited (pilot commenced).

Directors of Midwifery and Nursing have noted that the complexity of care in many services has increased.

Examples of changes to the care of women in pregnancy:

- Increasing levels of obesity, reduction in the threshold for treating diabetics as identified by the national clinical programme (Increased by 50% in last 2 years),
- Therapies such as magnesium sulphate for pre-eclampsia, earlier intervention with IV Antibiotic therapy for Spontaneous rupture of membranes (SROM) - from 24 to 18 hours post SROM,
- Additional surveillance of postnatal mums and babies on antibiotic therapy,
- Routine prophylaxis of Rhesus negative women with Anti D and Pertussis vaccination, all of which are recommended practices in last 12-18 months.

Midwifery Staffing

Appropriate staffing is essential to ensuring the delivery of safe maternity services and reducing error. Whilst acknowledging the developments noted above, managers and Directors of Midwifery and Nursing are required to ensure that patient safety and quality of care is assured whilst optimising the financial resources available. In this context, it was identified that a review of midwifery workforce requirements in relation to clinical activity was necessary in order to support services over the short term pending the publication of the maternity strategy by the Department of Health.

The requirement to review staffing was supported by the Health Information and Quality Authority, who in 2013 noted the absence of reviews undertaken to determine the multidisciplinary requirements in maternity services. They further noted that the *"HSE must review its workforce arrangements for maternity services nationally to ensure maternity teams are made up of sufficient numbers of staff with the right mix of skills and deployed effectively both during core and on-call hours"* (HIQA 2013 P19).

Midwifery Workforce Planning Project

The project was commissioned by the HSE Acute Division with the approval of Professor Michael Turner, Clinical lead for the HSE's National Clinical programme for Obstetrics and Gynaecology, Dr Aine Carroll, National Director Clinical Strategy and Programmes Division, Dr Philip Crowley, National Director Quality & Patient Safety Division and Dr Siobhan O'Halloran Chief Nursing Officer, Department of Health.

The midwifery workforce planning project commenced in April 2014 with the establishment of a Midwifery Workload and Workforce Planning Review Governance Group (MWWPRG) comprising all relevant stakeholders (Appendix 1). It was jointly chaired by Ms Sheila Sugrue, Lead Midwife in the HSE and Dr Michael Shannon[1], National Director of Nursing and Midwifery in the HSE.

Terms of Reference of Midwifery Workload and Workforce Planning Review Governance Group

1. To procure the relevant external expertise to enable delivery of the objectives of the project within an agreed timeframe of six months.
2. To provide oversight and governance of the project ensuring that the objectives, timeframe and costs are met as agreed.
3. The governance group will keep the commissioners of the project appraised of progress at agreed timeframes.

[1] Replaced by Liz Roche, September 2015.

4. The governance group will liaise and ensure support from senior hospital management including Finance and Human Resource Departments to enable and progress the work of the project at hospital level.
5. To consider opportunities for the sustainability of the use of this tool within an Irish context.
6. To devise and recommend implementation based on the findings.

(Circulated to group members in advance of meeting 14/5/2014)

The following sections will outline progress to date on each of the Terms of Reference.

1. To procure the relevant external expertise to enable delivery of the objectives of the project within an agreed timeframe of six months.

The Midwifery Workload and Workforce Planning Review Governance Group identified Birthrate Plus as the most appropriate methodology to determine midwifery staffing levels as it identifies midwifery requirements based on the needs of women and their babies who access the service. The use of this methodology was also approved by the Department of Health.

There is a significant evidence base for the use of Birthrate Plus – initially published in 1986 by Ms Marie Washbrook and Ms Jean Ball and it has continually been updated as women's needs have evolved, working patterns have changed and models of maternity care have developed. It is used in the majority of maternity services in NHS trusts and in New South Wales in Australia. It was recommended as the evidence based tool for use in maternity services by the Chief Nursing Officer and National Quality Board in England in November 2013.

Birthrate Plus® (Appendix 2, and 3) measures the clinical workload for midwives emanating from the needs of women commencing from the initial contact in pregnancy and continuing until final discharge from midwifery care in the puerperium. This includes all antenatal, intrapartum and postnatal care in all settings; outpatient clinics, day care and inpatient settings.
It can be used at a number of levels:

- At a national/regional level using agreed average ratios of births to midwife – this is to guide midwifery requirements in a geographical area
- At the level of individual maternity services to provide detailed calculations of requirements based on needs of women who access that service
- At a local level using aggregated data incorporated with local specifics e.g. variations in case mix, model(s) of care

Consequently, the Midwifery Workload and Workforce Planning Review Governance commissioned a company Birthrate Plus® Consultancy Ltd from the UK to undertake this work.

Ms Marie Washbrook and Ms Jean Ball who were the authors of the Birthrate plus® methodology form this company and Ms Washbrook was the lead consultant on the project.

2. To provide oversight and governance of the project ensuring that the objectives, timeframe and costs are met as agreed.

The Midwifery Workload and Workforce Planning Review Governance Group agreed the following objectives for the project:

2. 1. Identify the key changes in maternity services and their likely impact on the requirement for midwives and maternity care assistants, taking into account recent and upcoming developments as a result of service reconfiguration, government policy, industrial relations agreements, clinical research findings, Clinical Care Programme outputs, and changing demography.
2. 2. Establish baseline midwifery and maternity care assistant staffing in all maternity units by undertaking a benchmarking exercise to validate the staffing figures received by the HR information unit nationally.
2. 3. Examine the midwifery workforce planning needs in a defined number of maternity hospitals nationally using Birthrate Plus® (Ball and Washbrook) – 2 large sized units/hospitals, 2 medium sized maternity units and 2 smaller units (the latter was subsequently was increased to 3).
2. 4. Recommend appropriate midwifery staffing and skill mix levels and/or initiatives to meet emerging models of maternity care ensuring that standards of safety and quality care for women and their families are met.

(Minutes of meeting 11/3/2014)

The Midwifery Workload and Workforce Planning Review Governance Group met on 10 occasions. The co-chairs held face to face meetings with Ms Washbrook as well as a number of teleconferences throughout the process so that any concerns from either BR Plus® or the Midwifery Workload and Workforce Planning Review Governance Group could be addressed.

2.1 Identify the key changes in maternity services and their likely impact on the requirement for midwives and maternity care assistants, taking into account recent and upcoming developments as a result of service reconfiguration, government policy, industrial relations agreements, clinical research findings, Clinical Care Programme outputs, and changing demography.

Ms Marie Washbrook and her colleague Richard Griffin facilitated a workshop with the Midwifery Workload and Workforce Planning Review Governance Group to explain the detail of the Birthrate plus methodology, to scope the maternity services in Ireland to inform their application of the methodology in the Irish context, to commence the process of agreeing standards of care that impact the BR+ Methodology so that these could be quantified during the calculations and to ensure that the methodology was a 'good fit' with local demographics, clinical practices and national factors. Additional workshops were held with the project midwives and other senior midwives from the project sites to discuss and clarify contextual factors of these.

The Midwifery Workload and Workforce Planning Review Governance Group were updated at each meeting as to the status of the project and a number of standards were discussed, agreed and adopted at a number of the meetings, such as;

- 1:1 midwifery care in labour.
- An average time of 45 to 60 minutes has been included for the midwife to complete the full antenatal booking and history taking.
- 0.5 WTE representing the postgraduate student midwife and the 4th year intern undergraduate student midwife clinical contribution to be counted at the maternity hospital where the student was employed.
- 23% allowance to be included in the calculations for all leaves.
- 10% to 12% allowance for non clinical but required midwifery roles.

These are further detailed in Appendix 2.

2.2 Establish baseline midwifery and maternity care assistant staffing in all maternity units by undertaking a benchmarking exercise to validate the staffing figures received by the HR information unit nationally.

In parallel with the commencement of the Birthrate plus® study, a verification exercise of midwifery and associated support staffing within all Maternity services was commenced by staff from the Office of the Nursing and Midwifery Services Director.

Although additional grade codes were introduced in 2012, it was difficult to identify from the National Human Resources Information System, staff who specifically work in maternity services in many of the acute hospitals around the country as the reporting system is integrated. In addition, some maternity units have midwives working in other areas of service that were not included in the project e.g. neonatal care.

This analysis highlighted that even if all midwives were appropriately coded it would not be possible to differentiate between midwives working in direct clinical practice from those working in non clinical but required midwifery roles. Therefore, a separate exercise to verify all funded midwifery posts working in maternity services was undertaken. This is described in section 2.4.

2.3 Examine the midwifery workforce planning needs in a defined number of maternity hospitals nationally using Birthrate Plus® (Ball and Washbrook) – 2 large sized units/hospitals, 2 medium sized maternity units and 2 smaller units (this subsequently was increased to 3).

It was agreed that two hospitals be selected from each of the three sizes of maternity units nationally for sampling in more depth over the 4 month period. A third small unit was later added to the project sample. These hospitals were expected to reflect the demographics, activity and case mix in the 19 services.

Of the four (4) large hospitals with circa nine (9,000) births the Coombe Women and Infants University Hospital and Cork University Maternity Hospital, were selected.

Galway and Drogheda who record between 3,500 – 4,000 births per annum were considered Medium sized maternity units and were chosen.

Three (3) of the remaining maternity hospitals with a birth rate of between 2-3000 births and considered small hospitals, were included in the project: Wexford, Portlaoise and Letterkenny.

A project midwife was selected in each of the 7 sites and training provided to them on the data to be collected (what, where, when and how). Ms Washbrook regularly liaised with the project midwives and responded to any queries they had regarding this process. Data was collected from the seven sites over the agreed timeframe. A visit was undertaken by Ms Marie Washbrook and one of the governance group chairs (Ms Sheila Sugrue) to each of the 7 sites during the data collection phase to assess and validate the quality of the data being collected. Ms Washbrook commended the quality of the data collected on each of the sites.

Additional data was collected from all of the remaining maternity units.

An interim report was submitted to the Midwifery Workload and Workforce Planning Review Governance Group in May 2015 which outlined the Birthrate Plus methodology and some high level results.

Ms Marie Washbrook subsequently attended a meeting of the group on July 28th 2015 to explain again in detail the Birthrate plus methodology and discuss some draft findings.

2.4 Recommend appropriate midwifery staffing and skill mix levels and/or initiatives to meet emerging models of maternity care ensuring that standards of safety and quality care for women and their families are met.

A detailed overall report was compiled by Ms Marie Washbrook (Appendix 3) which outlines the required midwifery staffing levels following the application of Birthrate Plus in Ireland. Additional individual reports were developed for each maternity service and these were also collated by hospital group.

The concept of skill mix is a component of workforce planning. In this context it refers to the potential contribution of Maternity Care Assistants in maternity services. The chairperson of the HSE Implementation group: HIQA Portlaoise, asked Dr Michael Shannon to extend the work of the Midwifery Workload and Workforce Planning Review Governance Group to review this as phase 2 of the project.

The HSE Implementation group: HIQA Portlaoise identified the following actions:

- Formulate a group to scope out the potential role of maternity care assistants in Ireland
- Review the current status of maternity care assistant roles in Ireland
- Review international evidence
- Define the role and job description for Ireland
- Consult Key Stakeholders
- Consider training implications
- Agree role, job descriptions

These have been incorporated into draft terms of reference which are currently being critiqued and revised by the Midwifery Workload and Workforce Planning Review Governance Group.

3. The governance group will keep the commissioners of the project appraised of progress at agreed timeframes.

A number of meetings were held with Dr T O'Connell and Mr Liam Woods, National Directors of Acute Services and other key stakeholders.

4. The governance group will liaise and ensure support from senior hospital management including Finance and Human Resource Departments to enable and progress the work of the project at hospital level.

On receipt of clarity regarding the detail of the clinical data to be collected from the participating sites the governance group sought funding and approval to reassign a project midwife to collect, collate and quality assure the data from their own site. These midwives were sourced from within the 7 participating sites to ensure understanding of current models of maternity care practice.

The Directors of Midwifery in the two large sites where the detailed study was undertaken (CUMH and CWIUH) were also members of the Midwifery Workload and Workforce Review

Governance group and they provided additional support and explanation to their local clinical teams and the project midwife regarding the project and the data to be collected to inform this. They also kept their hospital management teams informed of the project progress.

Following analysis of initial data and development of draft findings for all maternity units nationally, the Midwifery Workload and Workforce Planning Review Governance group organised meetings between the project consultant, the chairs of the Midwifery Workload and Workforce Planning Review Governance Group and relevant personnel from each of the hospital groups. The following staff/stakeholders were invited to the meetings:

- Hospital Group Chief Executive officer
- Group Director of Nursing/Midwifery
- Director of Nursing/Midwifery of each hospital with a maternity unit/hospital within the group
- Project midwives (for 7 participating sites)
- Other representatives from each of the maternity units within the hospital group

A meeting was held with each of the 6 hospital groups and staff from the above list from all maternity units attended their respective meetings. These meetings discussed and explored the Birthrate Plus® methodology and its application in the Irish context, standards set that were accounted for in the calculations (outlined in section 2.1 above), initial findings and results.

Discussion and debate was had regarding the model of care provided in the different maternity units, the differences in these and the impact on the project, other local specific issues to be accounted for and what staff to include and exclude from the submitted current funded posts (WTE). It was agreed that final figures submitted needed to be approved and signed off by the Hospital Group Chief Director of Nursing and the Group Chief Executive Officer.

Individual reports have been prepared for each maternity unit and for each hospital group. These have not been shared with the Midwifery Workload and Workforce Planning Review governance group for confidentiality reasons.

In addition 2 meetings were held by the group chairpersons and Ms Marie Washbrook with representatives of the Irish Nurses and Midwives Organisation at their request to discuss and explain the detail of the Birthrate Plus® methodology and its application in the Irish context. A written detailed report was also provided to them.

5. To consider opportunities for the sustainability of the use of this tool within an Irish context.

The original project plan submitted by Ms Washbrook in March 2014 suggested that stage three of the project may focus on the arrangements to facilitate the ongoing use of Birthrate Plus® in Ireland and to establish a licensing agreement provided certain conditions are met and the methodology is agreed to be appropriate. This obligation is optional and requires a decision by the HSE on conclusion of Stages One and Two. Discussion and decision regarding this has yet to take place as stages one and two are ongoing.

6. To devise and recommend implementation based on the findings.

As was evident in this work thus far, maternity services and models of care vary throughout the country, resulting in variations in case mix, workload and staff deployment. The findings of the attached report *"Midwifery Services Workforce Planning & Decision Making"* (Appendix 3) relate to midwifery staffing requirements for maternity services. It identifies midwifery staffing

requirements based on a detailed analysis of the needs of women who access Irish maternity services. It does not establish the staffing requirements for other services such as neonatal, theatre or gynaecology even though all nineteen units provide aspects of these services.
The following recommendations for implementation are posited for consideration by the Acute hospitals division, Hospital groups and individual maternity units/hospitals.

1. Develop an implementation plan, taking into consideration factors such as prioritising units with the greatest need, consider where registered midwives will be sourced from, process of recruitment, issues of onboarding[2] within maternity units etc.

2. Develop a process to monitor and report the implementation of the report at local maternity unit, hospital group and Women & Infants programme office (Acute hospital division) level in the HSE.

3. The attached report outlines the overall clinical midwifery requirements for each maternity service. The Director of Midwifery in partnership with midwifery staff and other stakeholders have responsibility for midwifery staff deployment and rostering taking into account factors such as standards identified, known activity peaks, individual service configuration and other agreements.

4. Directors of Midwifery and Clinical Midwife Managers should develop plans to support variance in the roster or availability of midwifery staff due to planned situations e.g. the 16 week gap between the availability of internship students on clinical placement and unplanned circumstances e.g. fluctuations in staff availability due to sickness or other unplanned absences.

5. Directors of Midwifery should assess midwifery quality indicators (structure, process and outcome indicators) against midwifery staffing levels and other variables and discuss with relevant stakeholders.

6. Directors of Midwifery should examine the potential for midwifery role expansion and the potential contribution of clinical midwife specialists and advanced midwife practitioners in response to the emerging needs of women and their families and the maternity strategy.

7. Directors of Midwifery should review midwifery staffing levels as appropriate, as new models of care are established, or as there are alterations in the type or volume of demand on the maternity services.

Conclusion

This workforce planning project provides data to support the determination of midwifery staffing, using evidence based methodology as applied to the current single model of maternity services in Ireland. There will be a need to review midwifery staffing requirements and deployment again when the proposed maternity strategy is published, (or when being implemented) which is expected to incorporate a variety of models of care to meet women's needs. The application/utilisation of Birthrate Plus® is essential to capturing and analysing the data which will further assist in the determination of staffing levels that take into account activity levels, case mix, demographics, clinical risk and skill mix in maternity services.

[2] Onboarding – the induction and assimilation of a new employee into a company or organisation

Midwifery Workload and Workforce Review Governance Group

Membership

- Dr Michael Shannon – National Nursing & Midwifery Services Director, HSE, (Joint Chairperson)
- Ms Sheila Sugrue, National Lead Midwife, HSE, (Joint Chairperson)
- Directors of Midwifery and Nursing, - Dublin Maternity Hospitals
    - Ms Patricia Hughes, CWIUH
    - Ms Mary Brosnan, NMH
    - Ms Margaret Philbin, Rotunda Hospital
- Ms Olive Long, Acting DoM/N, Cork University Maternity Hospital, HSE
- Ms Margaret Quigley, Directorate Midwife/Nurse Manager, UL Hospital's Group, Limerick (joined16/07/14)
- Dr Michael Robson, Clinical Care Programme and Consultant Obstetrician, NMH
- Ms Helen Byrne, Assistant National Director, Acute Services Division, HSE
- Mr Paddy Duggan, Workforce Planning, Analysis and Informatics, National HR Directorate, HSE
- Ms June Bolger, National Patient Advocacy Unit - HSE
- Professor Declan Devane, Head of School of Midwifery, NUI, Galway
- Ms Maureen Flynn, National Clinical Governance Lead, HSE
- Ms Elizabeth Adams, Director of Professional Development, INMO
- Ms Carmel Monaghan, SIPTU
- Ms. Liz Roche, Area Director NMPDU – DML, HSE (replaced Dr Shannon as joint chair from September 2015)
- Ms Bernie Connoly, Midwifery Education Officer, Nursing and Midwifery Board of Ireland

Birthrate Plus®: What is it and how was it applied in Ireland?

(Please see appendix 3 for additional information)

Introduction

Birthrate Plus 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.

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 in excess of 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.

The BR+ 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, (phase 2 of this project).

Summary of the System

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.

Staffing multipliers have been developed using longitudinal studies to identify the hours of care that a woman requires based on various levels of need throughout the pregnancy journey. This is the required midwifery hours of care per case mix/ dependency/acuity category. The hours of care include the direct and indirect care required by the woman (including paperwork, liaison etc). These multipliers have been converted to formulas that have been inputted onto a database that is owned and held by Jean Ball and Marie Washbrook – authors of Birthrate Plus.

Data pertaining to the case mix, the presentation of women to maternity services and the model/process of care within the individual service is inputted onto the database and it calculates the required midwifery WTE to provide care (direct clinical care).

Data pertaining to the % leave replacement (various leaves) is also inputted to the database and the total clinical WTE requirement is produced.

The database also has the facility to record current funded WTE posts and the WTE contribution of students to clinical care.

It subsequently subtracts the current funded total clinical staff from the required number and arrives at a deficit or a surplus (for direct clinical midwives). Vacant posts are deemed a local operational issue and are included in the funded posts above.

The Governance agenda, which includes the development of evidence based guidelines, on-going monitoring and audit of clinical practices, the provision of clinical training programmes, and the implementation other key health policies will have an impact upon the required midwifery input. Birthrate Plus recognises that such non clinical midwifery roles are required in all services and following an exercise to quantify and analyse this; the figure for Ireland has been calculated – this is calculated as a % of the clinical midwife requirements.

The same calculation is undertaken by the database to produce an overall midwifery deficit or surplus.

Birthrate Plus calculates the overall required staffing for a service. How staff are deployed is a matter for local professional judgment. It does not calculate the required staff for an individual roster on a ward/clinic or labour suite.

Antenatal care:
BR+ also determines the staffing required for antenatal inpatient services.

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 day units; to the antenatal ward or through a dedicated Triage/Assessment area. Some of this additional non-birth activity is caring for women who have a fetal loss prior to 24 weeks gestation.

Antenatal inpatient care of women is based on average midwife hours for the women usually transferred to the ward from the delivery suite, maternity assessment unit, clinics or home. A broad category of need is applied depending on the woman's reason for admission and where originally seen in the hospital. Length of stay is not an indicator of the workload as often an antenatal stay is short, possibly 24/48 hours before transfer to intrapartum care or discharge home. Availability of antenatal beds and clinical decision-making has impact on the annual activity and workload.

To enable calculation of staffing for antenatal 'inpatients', the annual number of admission episodes is provided by the individual hospitals, but exclude Inductions of Labour and Elective CS. This data is either available from current information sources or collected for a 3 to 4 months' period and aggregated to provide an annual number. This data is subdivided into those Category X/triage/low risk women transferred from I/P services or DAU; moderate risk women usually transferred from within the hospital following assessment and monitoring as require further inpatient care and the higher risk women who have often spent a period of time on delivery suite having one to one midwifery care. The majority of women requiring inpatient a/n care are transferred from within the hospital rather than be admitted from home.

Antenatal inpatient hours of care is quantified by identifying the level of risk that the woman presents with – low; moderate or high. Longitudinal studies have identified the hours of care that women need during the antenatal inpatient period depending on their level of risk.

In addition, data is gathered on ward attenders if this is activity seen on the antenatal ward and an average time allocated. There are various reasons why women may been seen as an 'outpatient' on the ward, but not all hospital have this activity.

Day care/Outpatient clinics

In Ireland women generally receive their antenatal care from hospital services with some 'shared care' with the GP. This differs to the UK model where community midwives are usually the 'lead clinician' providing the majority of antenatal care with some shared care with GPs, but working very closely with them. Some women only have a hospital clinic appointment for a scan and/or assessment but return to community care from the midwife and GP once all is well. Women with an obstetric/medical problem will be seen in consultant clinics, but still have their 'routine' antenatal assessments done by their community midwife. The full booking and history taking assessment once pregnancy is confirmed is done in the hospital in Ireland, which is seldom the same in the UK. So there are significant differences in the provision of antenatal services between Ireland and the UK.

Outpatient services (clinics, parent education and day unit) are based on session times and numbers of staff to cover these, rather than on a dependency classification and average hours. The decision on the numbers of midwives for these services is a local management and professional one, and includes the administration/preparation of clinics. The clinic profile is based on the type of services provided, for e.g. a referral hospital will have more complex women so cater for obstetric and medical needs of mothers and babies, whereas a rural hospital will not have the same complexity. Thus the outpatient services are locally determined.

Data is collected from each maternity unit on:

- The number of weekly/fortnightly/monthly held clinics,
- The lengths of the clinics based on the time of the first appointment to when the last women leaves on average – clinics often run over so this is accounted for when assessing weekly clinic hours required,
- The number of staff required per clinic session based on local judgment to ensure the clinics run efficiently,
- Time is built in to cover the preparation of clinics and follow up work.
- Parent education is covered in the same way
- Day services are assessed as above and will include Early Pregnancy Units. Fetal Assessment, Midwife led ultrasonography etc.
- The larger hospitals have various 'day units' and each of these is included in the workforce assessment.

Intrapartum 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.

In the Coombe Women and Infants University Hospital and in Cork University Maternity Hospital, data was collected on every mother who gave birth in the labour suite - every day and night for 4 months. This was collated by a project midwife who was released from her midwifery duties for this period. Maternity units were funded by the ONMSD via the NMPDU's to support this release. Data was collected on gestation/labour and any interventions; it was also collected on delivery, additional data on the infant(s), and other information on intensive care. Length of time in the labour suite is also collected. All of these factors contribute to an overall score, which when added identifies an associated case mix category.

Together with the case mix, 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.

The casemix is unique to each hospital and reflects the demographics of the local population, provision of obstetric/medical/neonatal services, clinical decision-making regarding for e.g. inductions, operative births, fetal monitoring in labour, incidence of post delivery problems, and women's choices. Thus it is imperative that a hospital produces its own casemix to ensure the staffing is appropriate to provide safe staffing and address the clinical/social risk of mothers and babies.

It is not feasible to show an average casemix for the reasons above, but below is an illustration from the larger referral hospitals.

3.6% Category I
8.8% Category II
12.6% Category III
47.6% Category IV
27.4% Category V

Generally a smaller rural hospital will have a higher % of women in Categories I & II so less in the higher categories. For example:

7.8% Category I
16.8% Category II
14.5% Category III
36.5% Category IV
24.5% Category V

Note: there are significant differences in the casemix in Ireland maternity services to those in the UK, which impact on the births to midwife ratios.

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.

The individual categories, once validated, are entered into an excel file to produce the casemix. This data is not patient based.

Other activity in the Labour Suite:
BR+ also acknowledges and takes into account additional activity that the midwife may be involved and other categories classify women admitted to the delivery suite for other reasons than for labour and delivery. (Appendices 1-3 of Appendix 3)

Postnatal care
The casemix is an indicator of the needs of women and their babies for the postnatal stay in hospital and community 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.

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 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.

In post natal areas the workload assessment is dependent on the case mix of women identified during the intrapartum period. Longitudinal studies have identified the number of care hours required for women in the post natal period for each case mix group and the database automatically calculates the core midwifery hours required.

During the study additional data was collected to provide an annual number on:

- Number of ward attendees (women &/or babies who return post discharge)
- Number of postnatal readmissions
- Number of babies who return for the newborn blood spot/PKU testing
- Number of women who avail of early transfer home

Average hours are allocated to the above groups.

The hospital postnatal midwifery hours for women in Categories I and II have been increased to reflect the fact that women have a slightly longer length of stay when compared with units in the United Kingdom. The length of stay for the moderate/higher categories is similar to that in the UK. This amendment has been applied to other maternity services in Ireland in previous studies, and in discussion with managers and midwives.

Community Care (Antenatal)

As previously stated, the majority of antenatal care including the full history taking and booking is completed in the community setting in the UK by the community midwife who is usually the first point of contact with women and indeed, the NICE guideline says that all women should be booked by 10 weeks. The follow up antenatal care continues to be given by the community midwife shared with the GP and only do women attend hospital clinics for suspected or known risk factors, and for their dating and anomaly scans. Also, most maternity units have co-located midwife led units where women are under the care of the midwife as the lead clinician and thus do not attend hospital outpatients except for the scans and an assessment if the need arises.

The provision of routine antenatal care in Ireland is almost entirely through hospital clinics, apart from some of the larger hospitals that are offering low risk women some antenatal care in the home/community setting.

Thus in the majority of hospitals, it was not necessary to factor in staffing for community antenatal care. However, in those that do provide this, the UK hours based on the NICE Guidance was shared with mangers/senior midwives and adjusted to fit the average number of contacts plus travel time. The Expert Group approach was used and drew on data from previous detailed studies in the Dublin hospitals. The level of antenatal care is not generally as much as in the UK due to the absence of formal national guidance.

Note: should community antenatal care increase, an adjustment can be made to the average midwife hours using the Expert Group approach, but there will be a decrease in the attendances in hospital clinics.

Community Care (Postnatal)

Again there are significant differences to the community postnatal care services offered in Ireland to that in the UK. In the UK, women have always received postnatal care once home irrespective of the length of stay in hospital, type of delivery and parity. Indeed, most women will receive care for 10 days or even up to 28 days if required. The provision of this service is decided locally, but there are set visits by the midwife and additional ones by a competent & suitably qualifies maternity support worker, whose primary role is to offer support with infant feeding and care of the baby.

In Ireland, not all women are offered midwifery care once home and where it is available; there are sometimes restrictions on distance from hospital, number of visits and days after delivery it is provided. The smaller hospitals do not offer this service at all. The larger hospitals provide varying degrees of postnatal care to women once home, but the number of contacts and period it is available are less than in the UK. Thus as with the antenatal care hours, the UK average hours were discussed using an Expert Group approach and adjusted accordingly to meet the current standard of visits. 15% travel allowance is added to the direct midwife hours.

The individual hospitals provided the annual number of women who receive postnatal care to which the average hours was allocated. Included is time for management of caseload, personal time and associated work.

Amendments, Inclusions and Exclusions to the Birthrate Plus® Methodology for application into maternity hospitals in Ireland

In order to reflect maternal health policy, quality and risk standards of care, organisation and care of women, the following amendments have been made to the Birthrate Plus methodology. The MWRG provided Birthrate Plus® with: (1) details of relevant national policy, standards and targets such as breastfeeding, (2) annual births and (3) baseline staffing data.

The whole time equivalent weekly midwifery hours are based on 39 hours a week.

An allowance of 23.0% has been included to cover on-costs incurred from all leave e.g. annual, sick & study leave and maternity leave.

An average time of 45/60 minutes has been included for the midwife to complete the full antenatal booking and history taking mainly done in hospital clinics. Clinic hours have been adjusted to cater for the increase in time, although this is not current practice.

At present, women receive either their dating scan at 12 weeks or a 20-week anomaly scan, but rarely both. A new clinical guideline – 'Fetal Growth Restriction – Recognition, Diagnosis & Management' (HSE May 2014) states that every woman should undergo a comprehensive evaluation of the fetal anatomy between 20-22 weeks.

The allocation of 1 midwife to 1 woman in established labour and throughout her intrapartum episode is an unwritten standard in Ireland, but has always been accepted as a standard in practice and thus applied to calculate the midwifery workforce.

The hospital postnatal midwifery hours for women in Categories I and II have been increased to reflect the fact that midwives give more face to face care to women, while in hospital, compared with units in the United Kingdom as the length of stay is longer. This amendment has been applied to other maternity services in Ireland in previous studies.

Community midwifery service – there are various models of providing women with postnatal care at home and usually offered to women who are ready for discharge within 24/48 hours and live within a specified distance. The name of early transfer home has been used as a generic term. The models do include Domino Scheme where women will receive some antenatal care and possibly intrapartum care from a 'domino midwife'. Average hours were agreed with Jean Ball and the methodology with travel allowance built in of 15%. Member of the MWRG provided a list of definitions of the various community models.

The antenatal inpatient activity recorded does NOT include those women being admitted for induction of labour or elective caesarean section as the midwifery time required for this care is included in the mean hours for their prostin inductions or elective procedure For IOLs, the total annual number of 'doses' given is allocated average midwife hours based on professional judgment and included in the staffing for intrapartum services, irrespective of where the care is provided. For Elective CS, the time that women require on admission and prior to their operative delivery is included in their actual delivery episode as is their recovery. Again, the midwifery staffing is allocated to intrapartum services, but the actual deployment is a local decision.

Theatre workload is included in the midwife weighting for women undergoing an operative episode as the one to one standard or more is maintained throughout the woman's total intrapartum episode, but this does not cover routine theatre duties that may or may not be carried out by midwives, such as 'scrubbing' or assisting. If this is a practice in individual hospitals, then additional wte will be needed to undertake the purely theatre role. The required midwifery component is within the labour ward staffing.

All maternity hospitals in Ireland undertake significant Gynaecology activity within the maternity services from seeing women in very early pregnancy, at clinics and in theatre as well as some post operative care. Where obviously Gynaecology activity, this has been excluded from the BR+ dataset and staffing totals. It was not always possible to set clear parameters for what is in and out of the BR+ studies, due to the way in which care is provided and where, especially for the small hospitals. However, the inclusion of Gynaecology activity is minimal and been clarified locally and with the MWRG. This does not result in the result being a recommendation of BR+, but primarily to assist in comparison of the establishment with the current funded one.

The contribution from student midwives on the postgraduate and undergraduate programmes to the midwifery establishment is specific to Ireland. If there is an increase in undergraduate students in Ireland; it will impact the total establishment, as they will become increasingly supernumerary. A standard of one student equating to 0.5 of a wte midwife has been applied, so that their contribution to clinical care is included in the individual results.

Midwife Led models of care – there are 2 hospitals that have a co-located Midwife Led Unit (Our Lady of Lourdes Drogheda and Cavan), where low risk women receive some ante, all intra and hospital postnatal care from a team of midwives. To assess the appropriate staffing, a 'package of care/midwife hours' was set and applied to the annual total of women having birthed in the MLU. Drogheda is in the detailed study so provided a service on which to apply the model. However, this may not be reflective of Cavan's MLU model.

Appendix 3

BIRTHRATE PLUS®

MIDWIFERY SERVICES WORKFORCE PLANNING & DECISION MAKING

REPORT

NOVEMBER 2015

Contents

Introduction

Birthrate Plus® Consultancy was commissioned by the Health Service Executive (HSE) to examine the current levels of midwifery staffing, and healthcare assistants, in 7 hospitals and to recommend appropriate staffing levels and/or initiatives to improve skill mix. The staffing review addresses the requirements of HSE's February 2014 "Midwifery Workforce Planning Project "specification and the outcomes of the meeting held on 29 April 2014 with the Midwifery Workforce Planning Governance Group (MWPG). The MWPG agreed in principle to include an additional seventh site for data gathering (Objective 3) and also to organise a supported MWPG expert group to review midwifery service principles, structures and organisation (Objective 1).

Project Objectives

The "Midwifery Workforce Planning Project" (February 2014) proposal outlined four objectives:

Objective 1: Identify the key changes in maternity services and their likely impact on the requirement for midwives and maternity care assistants.

Objective 2: Establish baseline midwifery and maternity care assistant staffing in all maternity units by undertaking a benchmarking exercise to validate staffing figures received by the HR information unit.

Objective 3: Examine the midwifery workforce planning needs in a defined number of maternity hospitals using the Birthrate Plus methodology (BR+). Data will be gathered from two large hospitals, two medium sized hospitals and three smaller units.

Objective 4: Recommend appropriate midwifery staffing and skill mix levels and/or initiatives to meet emerging models of maternity care ensuring safety and quality of care for women and their families.

The results from the 7 maternity hospitals have provided a local and strategic workforce plan using a methodology that meets agreed clinical and quality standards, and takes into account local demographics. An outcome from the detailed studies was to provide benchmarking data for the HSE to validate and inform national staffing figures. This approach to strategic and local workforce planning has been feasible in the UK with the long-term use of BR+ in a wide range of maternity units and the subsequent significant volume of data for detailed analyses to produce births to midwife ratios. However, whether or not this would be feasible with the relatively small sample of data and variations in maternity hospitals in Ireland was raised at the April meeting of the MWPG and reiterated throughout the project.

The work of enabling implementation of BR+ within the maternity services of Ireland has been undertaken by Marie Washbrook together with locally appointed project midwives in the 7 participating units. Jean Ball as co-author of the BR+ methodology has acted a Research Advisor throughout the project.

Utilising the expertise of the BR+ authors ensures that the credibility of Birthrate Plus® as a methodology is not compromised and that decisions made about its future appropriateness for Ireland are based on sound judgment and evidence from the individual studies; as well as ensuring that any adjustments to the methodology meet with the approval of the authors and remains true to its principles.

The study commenced in April 2014 with a meeting of the MWPG to discuss the project objectives, timescales and quality standards. The MWPG has overseen the project and advised as necessary on specific issues relating to standards in maternity/midwifery care in Ireland. The timetable for completing the 7 detailed individual studies has been within an acceptable timeframe with data collection starting in June for 4 months, analyses ongoing with local validation in November and presentation of the draft results to the HSE in December.

This report provides a summary of the results of all 19 hospitals. Detailed individual reports have been completed for individual hospitals and the Hospital Groups.

Birthrate Plus ®: Summary of the System

Birthrate Plus 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 in excess of 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. (Appendices 1 & 2)

A brief explanation of the 5 categories that form the casemix is included as Appendix 3.

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. 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 DU; to the antenatal ward or through a dedicated Triage/Assessment area. Some of this additional non-birth activity is caring for women who have a fetal loss prior to 24 weeks gestation.

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. Outpatient services (clinics and day units) are based on session times and

numbers of staff to cover these, rather than on a dependency classification and average hours.

Antenatal inpatient care of women is based on average midwife hours for the women usually transferred to the ward from the delivery suite, maternity assessment unit, clinics or home. A broad category of need is applied depending on the woman's reason for admission and where originally seen in the hospital. Length of stay is not an indicator of the workload as often an antenatal stay is short, possibly 24/48 hours before transfer to intrapartum care of discharge home. Availability of antenatal beds and clinical decision-making has impact on the annual activity and workload.

The casemix is an indicator of the needs of women and their babies for the postnatal stay in hospital and community 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.

The BR+ 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.

The Birthrate Plus® Dataset

To conduct a complete study the following data are required:

- % Casemix
- Annual numbers in the other intrapartum categories
- Workload ratios per category from the average midwife hours
- Projected hospital (and domino/home births)
- Estimated numbers of antenatal in-patients
- Annual number of ante & postnatal ward attendees / day cases
- Availability of day services
- Antenatal clinic activity held in hospital
- Parent Education sessions
- Local factors that impact on provision of care
- Allowances for annual, study & sick leave and travel which are determined locally

In addition to the recommended midwifery workforce to provide clinical care, consideration must be given to the management and additional roles necessary within the maternity unit. How these roles are defined will vary between units and it is a local decision as to which roles are essential to provide optimum care and enable strategic management of the service. Together with this, thought should be given to the following specific roles: professional development; project support for such initiatives as clinical information systems, clinical governance; contribution from specialist midwives and consultant midwives.

Amendments, Inclusions and Exclusions to the Birthrate Plus® Methodology for application into maternity hospitals in Ireland

a. In order to reflect maternal health policy, quality and risk standards of care, organisation and care of women, the following amendments have been made to the Birthrate Plus methodology. The MPWG provided Birthrate Plus® with: (1) details of relevant national policy, standards and targets such as breastfeeding, (2) annual births and (3) baseline staffing data.

b. The whole time equivalent weekly midwifery hours are based on 39 hours a week.

c. An allowance of 23.0% has been included to cover on-costs incurred from annual, sick, maternity & study leave. At present there is no standard allowance applied in Ireland and the % is a local decision.

d. An average time of 45 minutes for the midwife to complete the full antenatal booking and history taking mainly done in hospital clinics. Clinic hours have been adjusted to cater for the increase in time, but not in current practice.

e. At present, women receive either their dating scan at 12 weeks or a 20-week anomaly scan, but rarely both. A new clinical guideline – 'Fetal Growth Restriction –

Recognition, Diagnosis & Management' (HSE May 2014) states that every woman should undergo a comprehensive evaluation of the fetal anatomy between 20-22 weeks.

f. The allocation of 1 midwife to 1 woman in established labour and throughout her intrapartum episode is an unwritten standard in Ireland, but has always been accepted as a standard in practice and thus applied to calculate the midwifery workforce.

g. The hospital postnatal midwifery hours for women in Categories I and II have been increased to reflect the fact that midwives give more face to face care to women, while in hospital, compared with units in the United Kingdom. This amendment has been applied to other maternity services in Ireland in previous studies.

h. Community midwifery service – there are various models of providing women with postnatal care at home and usually offered to women who are ready for discharge within 24/48 hours and live within a specified distance. The name of early transfer home has been used as a generic term. The models do include Domino Scheme where women will receive some antenatal care and possibly intrapartum care from a 'domino midwife'. Average hours were agreed with Jean Ball and the methodology with travel allowance built in of 15%. Member of the MWPG provided a list of definitions of the various community models. (Appendix 4)

i. The antenatal inpatient activity recorded does NOT include those women being admitted for induction of labour or elective caesarean section as the midwifery time required for this care is included in the mean hours for their prostin inductions or elective procedure.

j. Theatre workload is included in the midwife weighting for women undergoing an operative episode as the one to one standard or more is maintained throughout the woman's total intrapartum episode, but this does not cover routine theatre duties that may or may not be carried out by midwives, such as 'scrubbing' or assisting. If this is a practice in individual hospitals, then additional WTE will be needed to undertake the purely theatre role. The required midwifery component is within the labour ward staffing.

k. All maternity hospitals in Ireland undertake significant Gynaecology activity within the maternity services from seeing women in very early pregnancy, at clinics and in theatre as well as some post operative care. Where obviously Gynaecology activity, this has been excluded from the BR+ dataset and staffing totals. It was not always possible to set clear parameters for what is in and out of the BR+ studies, due to the way in which care is provided and where, especially for the small hospitals. However, the inclusion of Gynaecology activity is minimal and been clarified locally and with the MWPG. This does not result in the result being a recommendation of BR+, but primarily to assist in comparison of the establishment with the current funded one.

l. The contribution from student midwives on the postgraduate and undergraduate programmes to the midwifery establishment is specific to Ireland, as in the UK such students are supernumerary. The increase in undergraduate students in Ireland will impact on the total establishment, as they will become increasingly supernumerary. A standard of one student equating to 0.5 of a WTE midwife has been applied, so that their contribution to clinical care is included in the individual results.

m. In the small hospitals, the students are few in number and as based in the large and medium hospitals therefore are not counted in the staffing totals.

n. Midwife Led models of care – there are 2 hospitals that have a co-located Midwife Led Unit (Our Lady of Lourdes Drogheda and Cavan), where low risk women receive some ante, all intra and hospital postnatal care from a team of midwives. A definition of this model is available and included in Appendix 3. To assess the appropriate staffing, a 'package of care/midwife hours' was set and applied to the annual total of women having birthed in the MLU. Drogheda is in the detailed study so provided a service on which to apply the model. However, this may not be reflective of Cavan's MLU model.

With the Community Services and the MLU, there is scope for development of what are essentially, midwife led models. Should such services expand, this is likely to increase the average midwife hours, but reduce the hours for traditional services.

BR+ calculates the clinical establishment and is the figure to produce ratios/measures and also be adjusted for other clinical grades of staff, if required. It excludes non-clinical management and other midwifery roles, although this can be included if required. An explanation of how this is covered in the UK was given and the draft list of possible roles sent. (Appendix 5) To progress this, the MWPG identified these roles in the Irish context and submitted the information to the Birthrate Plus ®. From this percentages were calculated.

Overview of Methodology applied to all 19 hospitals

Two large and 2 medium hospitals were chosen to be in the detailed study, namely CUMH, CWIUH, OLOL Drogheda and Galway. Thus the results for these 4 hospitals are based on a very detailed assessment using the amended BR+ methodology and from their results it has been feasible to produce births to midwife ratios, which are applied to the remaining 3 hospitals, namely, the Rotunda, NMH and UHL.

The individual BR+ studies were well supported by managers and midwives and the local project midwives in gathering and quality assuring the casemix data with support from Marie Washbrook carried out excellent work. The relevant manager/senior midwife completed the ward, outpatients and community datasets. The annual births are based on 2014 or an average of 3 years from 2012 to 2014.

The results are based on valid and reliable data collected over a reasonable period of time, namely 4 months, which reflects the variability in daily and even hourly variability in acuity in the delivery suite. It accurately reflects the workload and clinical needs of women during their pregnancy, labour and postnatal period.

The results have been structured to reflect the current model of care and ways of working to enable matching of current establishment to that recommended from the Birthrate Plus study.

The casemix arising from data can be used to project likely staffing requirements based upon expected or planned changes in workload e.g. increase in births, development of services, etc.

For the 12 smaller hospitals, 3 undertook a detailed assessment as above with the intention to provide births to midwife ratio for application into the remaining 9 hospitals. The 3 hospitals were Letterkenny, Portlaoise and Wexford.

Birth to Midwife Ratios

Introduction

BR+ was designed to provide an individual maternity service with a detailed analysis of the demands upon it and the number of midwives needed to meet that demand. This may be described as the “bottom-up” approach to workforce planning.

However, there was an increasing demand for a more “off the peg” or “top down” approach based upon the considerable data arising from workforce planning studies throughout the NHS in England.

This was particularly useful for strategic planners dealing with the projection and planning of staffing needs based upon future changes in the birth rate, or when services are merged or closed with resulting impact on the remaining services.

Providing such a “top down” method also provides local services with a less time consuming method for assessing needs than undertaking a full BR+ workforce study.

This is particularly useful when there are projected changes in the number of births or cross border activity or the development of a new maternity unit.

Using ratios based on the Birthrate Plus® Database provides a midwifery establishment for hospital and community workload based on current casemix, total births and models of care. The review includes an assessment of skill mix in conjunction with management and professional recommendations. In discussion with the midwifery management team, midwifery hours for governance, general management, project posts and other non-clinical specialist work are calculated to result in a comprehensive staffing summary.

Whilst this method provides a total staffing for hospital and community services, it does not give a detailed breakdown for the individual areas, such as maternity ward, antenatal clinics or the delivery ward. To obtain such detail does necessitate the more traditional approach to workforce planning.

However, it does result in an objective and robust assessment of midwifery and other staffing establishments based on agreed standards of care and inclusive of local demographics.

Caution must be taken when applying these ratios to ensure that the maternity services are within the range as demonstrated in the ratios, and show no atypical patterns or practices. There are significant other factors that will impinge on the application of ratios in a local setting, for e.g. demographic composition, community models that differ to national clinical guidance, the clinical casemix and quality of care indicators.

Application of ratios in Maternity Hospitals in Ireland

In order to produce robust and valid data for workforce planning in the remaining 12 hospitals, the 7 individual data sets have been analysed to produce ‘norms’ and highlight differences that may mean ratios are not a robust measure to apply. The data has been analysed by size of hospital and collectively for the large and medium ones.
The conclusion is that the consistency of the data provides a valid basis for the calculation of staffing numbers based upon current numbers and patterns of care for the large and medium sized hospitals only.

A RATIO OF 35 BIRTHS TO 1 WTE HAS BEEN APPLIED TO THE LARGE AND MEDIUM MATERNITY UNITS NOT INVOLVED WITH THE DETAILED STUDY (ROTUNDA, NATIONAL MATERNITY AND LIMERICK).

To assist with the application of ratios, a profile was sent to all hospitals asking for the following information:

- Annual number of women delivered and actual births
- Annual statistics on delivery methods, epidural rates, complications, etc.
- Profile of outpatient services
- Community models of care, if applicable
- Current staffing establishments

It is important to state that the data for generating the ratios is not as extensive as that used in the UK, so caution must be taken when using this approach to workforce planning. Over time with repeated use of BR+ in its traditional way more data will be added to the current database to confirm the ratios produced from the 4 hospitals, and strengthen this approach as appropriate for strategic and local workforce planning purposes.

This high level concise approach is not recommended for the small hospitals, as it is not feasible to produce an overall births to midwife ratio from the 3 in the main study due to significant variability in their individual results. This was supported by the extensive variability in provision of outpatient services in the 9 hospitals and their statistics on intrapartum rates, such as normal delivery, caesarean sections, inductions, etc.

Application of ratios in Smaller Maternity Hospitals in Ireland

It was raised early in the project to the Midwifery Workforce Planning Group and subsequent progress reports that due to significant variability in their statistics and clinical practices, it is not feasible to produce an overall birth to midwife WTE ratio to calculate the midwifery staffing for the 12 small hospitals.

Detailed studies were undertaken in Wexford, Letterkenny and Portlaoise so their results are robust having been validated throughout the data collection period and the same standards applied as with the 2 large and 2 medium hospitals in the study. However, the overall births to midwife ratio ranged from 32 to 41, so therefore not feasible to apply this as a valid measure across all small units.

An alternative method asking the Midwifery Managers what midwife numbers per shift were needed in the labour ward and maternity ward was used to see if this gave a reasonable assessment of total clinical WTE, but from analyses of the data, it was not possible to draw robust conclusions. There are variations in shift patterns making it difficult to define numbers of staff on overlapping shifts. Some managers asked for higher numbers per shift compared with similar sized hospitals; comments on needing non-clinical midwifery roles were raised and some responses lacked a sound rationale for an increase in staffing.

The conclusion from the above exercise was that several methods are required to enable a reasonable calculation of the staffing in small hospitals.

The question of setting a minimum staffing standard for small hospitals arose and whilst it is something that could be useful, it will need further discussion by the Acute Division in the HSE during implementation.

Methodology

An outpatients clinic template was completed by the Midwifery Manager for the 9 hospitals as per usual method, which included gynaecological clinics, scanning, fetal medicine, day units if in place, midwife bookings, consultant clinics and parent education.

The outpatient profile differs in the 9 hospitals so using the traditional method for calculating staffing did reflect the individual services.

Based on the data from the 3 small hospitals in the detailed study, a ratio of 125 births per WTE for all I/P activity was applied (includes births and unplanned, moderate & high risk a/n cases needing one to one care, inductions of labour). For the inpatient ante & postnatal care of women, a ratio of 80 births per WTE was applied.

Using the 2 ratios seems reasonable in terms of what could be appropriate staffing, but due to the variability in management of workload, clinical practices and 'casemix', the ratios must be regarded as practical and not specific to each hospital.

Only 1 of the 12 small hospitals has any community-based service to include based on the specific model and annual numbers.

Small hospitals do not have students to include as contributing to clinical care and thus the total clinical establishment is all midwifery posts.

It is important to state that the data for generating the ratios is not as extensive as that used in the UK, so caution must be taken when using this approach to workforce planning. Over time with repeated use of Birthrate Plus® more data will be added to the current database to confirm ratios, and strengthen this approach as appropriate for strategic and local workforce planning purposes.

Below is an explanation of the methodology to set the context for using births to midwife ratios.

The staffing has not been calculated on the numbers per shift using professional judgment although this can be a method applied, but caution should be taken using this approach as the decision on numbers required can be subjective and thus less valid. If used to triangulate with the BR+ methodology, certain 'national' parameters would need to be set in order to provide consistent and objective numbers for all the 'smaller hospitals.

Intrapartum Services

Casemix Data (Appendices 1 & 3)

Whilst a casemix was only collected for the 7 hospitals, it is important to understand how a casemix will impact on the staffing requirements.

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%).

The casemix is representative of women's needs & expectations, clinical practices, decision making by obstetricians and midwives, known & suspected risk factors and socio-demographic factors. This results in a unique casemix for the 4 hospitals but there are similarities in the casemix to that of other maternity services in Ireland.

The casemix data from the 7 hospitals highlights that a small % of women are in Categories I and II, and are those admitted in established labour, at term, no known complications and proceed to a normal delivery with a healthy baby. Such women receive predominantly midwife led care and do not require intervention in labour.

The % in these 2 categories is significantly lower than that in UK maternity units being on average 12% for the 2 large hospitals to 24% in the 3 smaller hospitals; whereas UK ratios range from 25 to 35%, even in regional referral services. There are several factors that contribute to a higher normality rate in the UK, but the casemix does demonstrate practices, expectations and risk factors. The provision of 'midwife led care' is not as evident as in the UK, another factor that influences casemix and staffing figures.

Category III women are those requiring induction of labour, continuous fetal monitoring and/or instrumental delivery.

The highest percentage for all 7 hospitals falls into Category IV (average of the 7 is 42%) due to high incidence of epidural anaesthesia for pain relief in labour and increased fetal monitoring and inductions of labour. This has been the result in previous BR+ studies in Ireland. Categories IV & V comprise women undergoing elective or emergency caesarean section, and the annual rate for these methods of delivery are significantly high in Ireland.

Category V women are often those with an associated medical problem, unexpected emergency in labour, or major fetal problem. This percentage reflects the health and well being of the local population and provision of neonatal services.

Whilst the percentage in Category V is usually similar between the UK and Ireland, there are more differences in Categories I to IV, due to uptake of epidural; availability of midwife led care from confirmation of pregnancy in the UK; induction of labour practices; instrumental & operative delivery rates.

Non-birthing Activity
(Appendices 2 & 3)

The significant volume of unplanned activity is not unusual in most maternity units, both in Ireland and the UK, and repeated use of BR+ in UK maternity services indicates a growth in this activity. The problem lies with management of such workload to ensure an efficient, high quality service.

By non-birthing activity, this refers to women who require assessment by a midwife and/or obstetrician and are often 'labour queries', reduced fetal movements, and unexpected p.v. bleeding, abdominal pain and general anxiety. The reasons why women attend hospital for advice and assessment are many and varied, and maternity hospitals act as an emergency department. Many women self refer and make repeated visits before actually giving birth.

The services are usually 24 hours a day and 7 days a week with an agreed number of midwives per shift. Once assessed, women will either be discharged home, admitted to the antenatal ward for further assessment and observation, or transferred to delivery suite if delivery is imminent or there are high risk factors that require 1 to 1 midwifery care with obstetric intervention.

In addition to the antenatal cases above, there are inductions of labour, postnatal readmissions and non-viable/early pregnancy losses and a few escorted transfers to other hospitals. This is activity common to all maternity hospitals and is thus included in births to midwife ratios.

Antenatal Services

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. There is no average number of admissions for units of similar sizes, and indeed some smaller services can admit a greater number, often due to ample availability of beds, inappropriate management of low risk women and women's choice.

Postnatal Services

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.

Most hospitals see women in the ward who have been discharged, but require assessment either as a ward attender or readmission, with the larger/medium hospitals having babies requiring some degree of neonatal/special care, instead of these babies being in the SCBU/NNU.

Outpatient Services

Wide ranges of outpatient clinics are provided in hospitals covering booking clinics held by midwives follow up antenatal sessions, obstetric led antenatal and specialist clinics, and ultrasound scanning sessions, which are common to all hospitals. In some hospitals there is an overlap with early pregnancy/gynaecology workload so this has been included in workforce assessment where not possible to exclude.
Parent education is also included as are PKU clinics run by midwives to cover the workload at weekend and on public holidays.

Community Services

As previously explained, there are women who receive postnatal care in the community and this has been included in the workforce totals based on average midwife hours, where an established service. A range of community-based services provide some antenatal care and mainly postnatal care, with models of Early Transfer home, Community Midwifery services and some Domino women.

Co-located Midwife Led Unit/Birth Centre

Two hospitals, namely Our Lady of Lourdes Drogheda and Cavan have a co-located midwife led unit where the women receive some of their antenatal care, all of their intrapartum care and some hospital based postnatal care from the midwives, with minimal, if any, contact with an obstetrician. These are assessed as low risk women based on certain clinical criteria and thus under 'total care' of the midwives only being referred to obstetric/shared care if clinically necessary. Birthrate Plus® calculates for the staffing based on a 'package of care/midwife hours' agreed using an Expert Group approach, reflective of the current model, and applied to the annual total of women having birthed in the MLU.

Midwifery Staffing Results

Tables 3/4/5 shows the results with and without the contribution from student midwives as including the equivalent WTE makes a significant difference to the overall clinical totals.

For ease of reading, the results have been subdivided into the large, medium and small sized hospitals

An excel file is available which includes the individual hospital results by Group and as a total.

Table 3: 4 Large Maternity Hospitals Clinical Midwife requirements

HOSPITAL	ANNUAL BIRTHS	CURRENT FUNDED CLINICAL MIDWIVES	BR+ CLINICAL WTE	VARIANCE +/-	STUDENT MIW WTE TO ADD	ACTUAL CLINICAL WTE	ACTUAL VARIANCE +/-
CUMH *	8062	188.97	228.11	-39.14	26.00	214.97	**-13.14**
CWIUH *	8829	189.68	246.77	-57.09	22.50	212.18	**-34.59**
NMH **	9106	212.49	260.17	-47.68	22.50	234.99	**-25.18**
ROTUNDA **	8761	185.49	250.31	-64.82	22.50	207.99	**-42.32**

* Individual detailed studies undertaken
** Ratio from detailed studies in hospitals applied

Table 4: 3 Medium sized Maternity Hospitals Clinical Midwife requirements

HOSPITAL	ANNUAL BIRTHS	CURRENT FUNDED CLINICAL MIDWIVES	BR+ CLINICAL WTE	VARIANCE +/-	STUDENT MIW WTE TO ADD	ACTUAL CLINICAL WTE	ACTUAL VARIANCE +/-
OLOL DROGHEDA *	3514	109.56	104.24	5.32	9.00	118.56	**14.32**
LIMERICK**	4600	112.73	131.43	-18.70	9.00	121.73	**-9.70**
GALWAY*	3092	91.41	87.10	4.31	11.00	102.41	**15.31**

* Individual detailed studies undertaken
** Ratio from detailed studies in hospitals applied

Table 5: 12 Small Maternity Hospitals Clinical Midwife requirements

HOSPITAL	ANNUAL BIRTHS	CURRENT FUNDED CLINICAL MIDWIVES	BR+ CLINICAL WTE	ACTUAL VARIANCE +/-
LETTERKENNY *♦	1750	51.50	51.27	**0.23**
MAYO ♦	1735	44.00	44.72	**-0.72**
SLIGO	1518	44.07	43.58	**0.49**
PORTIUNCULA ♦	2030	50.00	47.59	**2.41**
WEXFORD *	1982	42.50	48.01	**-5.51**
KILKENNY	1850	49.12	46.06	**3.06**
MULLINGAR	2415	45.50	56.93	**-11.43**
CAVAN ♦	1771	47.00	49.62	**-2.62**
PORTLAOISE *	1827	66.00	63.06	**2.94**
WATERFORD	2195	49.30	53.16	**-3.86**
CLONMEL	1100	28.77	27.84	**0.93**
KERRY	1540	44.57	39.08	**5.49**

* Individual detailed studies undertaken

There are no students included in the funded clinical WTE of any of the small maternity units. However those marked with a ♦ do have some student contribution.

Discussion of Results

Below is a summary of key findings based on the results only.

1. The current funded establishments were difficult to confirm and changed during the study period. Thus the CEO and the hospital group Chief Directors of Nursing and Midwifery for the Groups were asked to validate and 'sign off' the totals for their hospitals.

2. Thus the total clinical midwifery shortfall is 149.07 WTE

3. All 4 large hospitals have the highest shortfall – which totals 115.23 WTE.

4. In the medium group of 3 hospitals, there is only 1 hospital with a shortfall of 9.70WTE, namely Limerick.

5. Of the 12 smaller hospitals, 5 have a shortfall – totaling 24.14 WTE. These are Mullingar, Wexford, Waterford, Cavan and Mayo; with the former 2 having the greater deficit. *At the June 2015 meetings with the senior managers for the individual hospitals, a note was made that Mullingar had received funding for additional posts, but this increase in total funded WTE did not show in the figures 'signed off' by the Hospital Group CEO & Chief Director of Nursing and Midwifery.*

6. There are similarities in the datasets and results of the 4 large hospitals which mean a births to midwife ratio of 35 is appropriate to use for strategic planning of services should activity vary, provided there are no significant developments, such as increased community services, reconfiguration or changes in casemix.

7. Of the 3 medium hospitals, there are more differences in the provision of services; Drogheda has the co-located birth centre and Limerick as a stand alone Regional Hospital has more of a profile to compare with the 4 large hospitals. However, from the detailed data, it is appropriate to apply a ratio of 35 births to 1WTE midwife.

8. The 12 smaller hospitals are much less similar mainly due to provision of outpatients' services, which vary considerably and have no obvious relationship to annual births. This does make evaluation between hospitals with similar annual births to be inappropriate as it is not comparing 'like with like'. This also affects ratios, as the range from the 3 sites who undertook the detailed study varies from 29 births to 43 births to 1 WTE. Advice from Jean Ball as the Research Advisor for Birthrate Plus suggests using a ratio of 40 births to 1 WTE. However, caution must be taken if using this approach as the detailed studies were only undertaken in 3 of the 12 hospitals, so too small a sample to produce a robust ratio.

9. If in the future, detailed studies are undertaken in more of the smaller hospitals, this will add to confirming a more appropriate ratio for the small hospitals.

Non-Clinical Midwifery Roles[1]
(*Appendix 5)*

The term non-clinical has been used by Birthrate Plus® (BR+) to distinguish between midwifery staff needs arising directly from the numbers and case-mix of births in each service and other equally essential roles, which manage the service or which provide specialist care to women and support and development of skills for midwives.

The BR+ total WTE currently exclude the non-clinical roles so a recommendation is to agree a method for calculating these and adding in, thus providing a total midwifery WTE to compare to current funded WTE. *See below for list of roles.*

- Director of Midwifery
- Assistant Director of Midwifery/Nursing
- Clinical Midwife Manager 3
- Practice Development
- Governance/Risk Midwife
- IT Systems
- Lactation Consultant – BFI role only
- Resuscitation Trainer
- Clinical Midwife Specialists – a % of roles are non-clinical
- Clinical Placement Coordinator
- Allocation Liaison Coordinator – post grad
- Clinical Coordinator – post grad course
- Cover for General Hospital

The data gathered from the 2 large and 2 medium hospitals undertaking the detailed study provided information that appears to relate well to the UK percentages for large hospital (10%) and smaller units (8%), but it must be pointed out that the ratio of births per WTE midwife is lower in Eire, due to differences in population need and clinical patterns of care.

It was seen that there is quite a variation in the numbers of staff in the different services particularly in support roles, which may be due to local practices and preferences, availability of appropriate expertise and funding.

In view of these differences and to allow for further development of these roles it is advised that a percentage allowance of 12% be applied for large units[2] (over 7000 births) and 10% for those with 3000-6900 births. This would seem comparable to UK services given the differences in care and ratios of birth per WTE midwife.

For the smaller hospitals, the non-clinical roles are less defined and thus covered by clinical midwives rather than dedicated posts. No valid data was available to calculate a % to

1 Non clinical midwifery roles are Midwifery roles that are required to support the delivery of maternity services that do not provide direct care to women (page 2 of appendix 2 and above)
2 This % is also applied to Limerick as it is a stand alone hospital

apply, so in agreement with the MWFPG, the lower % of 10% has been applied to the 12 smaller hospitals.

Birthrate Plus® does not recommend that all hospitals require all the above roles as this is a local decision, but it is likely that the senior midwives carry out many of the responsibilities as part of their clinical management role.

Thus the additional roles can be included based on adding in % of the total clinical establishment. Applying an agreed % avoids duplication of roles irrespective of which midwives undertake the non-clinical duties.

This is not a recommendation of Birthrate Plus, but a rationale for including WTE responsible for delivering maternity services rather than midwifery care. The decision to include these percentages as part of this report was agreed by the MWFPG.

Tables 6/7/8 shows the overall clinical and non clinical midwifery staffing requirements and includes the contribution from student midwives where applicable (medium and large maternity units only). Including the 10% or 12% additional non clinical midwifery roles makes a significant difference to the overall totals.

For ease of reading, the results have been subdivided into the large, medium and small sized hospitals.

TOTAL CLINICAL & NON-CLINICAL MIDWIFERY ESTABLISHMENT

(Inclusive of student contribution where applicable)

Table 6: LARGE MATERNITY HOSPITALS TOTAL CLINICAL & NON-CLINICAL MIDWIFERY REQUIREMENTS

HOSPITAL	ANNUAL BIRTHS	BR+ TOTAL WTE	TOTAL CURRENT FUNDED WTE*	VARIANCE +/-
CUMH	8062	255.48	241.47	**-14.01**
CWIUH	8829	276.38	238.73	**-37.65**
NMH	9106	291.39	251.47	**-39.92**
ROTUNDA	8761	280.35	234.50	**-45.85**

*Includes student midwife contribution

Table 7: MEDIUM HOSPITALS TOTAL CLINICAL & NON-CLINICAL MIDWIFERY REQUIREMENTS

HOSPITAL	ANNUAL BIRTHS	BR+ TOTAL WTE	TOTAL CURRENT FUNDED WTE	VARIANCE +/-
OLOL DROGHEDA	3514	114.66	123.86	**5.85**
LIMERICK	4600	147.20	129.73	**-20.94**
GALWAY	3092	95.81	108.41	**12.60**

Table 8: 12 Small Hospitals TOTAL CLINICAL & NON-CLINICAL MIDWIFERY REQUIREMENTS

HOSPITAL	ANNUAL BIRTHS	BR+ TOTAL WTE	TOTAL CURRENT FUNDED WTE	VARIANCE +/-
LETTERKENNY	1750	56.40	53.30	**-3.10**
MAYO	1735	49.19	44.80	**- 4.39**
SLIGO	1518	47.94	46.57	**-1.37**
PORTIUNCULA	2030	52.35	51.80	**- 0.55**
WEXFORD	1982	52.81	43.50	**- 9.31**
KILKENNY	1850	50.67	50.57	**- 0.10**
MULLINGAR	2415	62.62	46.50	**-16.12**
CAVAN	1771	54.58	48.50	**-6.08**
PORTLAOISE	1827	69.37	70.00	**0.63**
WATERFORD	2195	58.48	51.80	**- 6.68**
CLONMEL	1100	30.62	30.77	**0.15**
KERRY	1540	42.99	44.87	**1.88**

Discussion of Results

1. The application of a % to cover the non-direct care requirements is a suitable approach and does clarify comparison of total funded establishments with the Birthrate Plus® determined direct care clinical midwifery staffing requirements.

2. The feedback with individual hospitals and groups regarding non-clinical midwifery roles was well accepted and understood, and invited useful contributions as to what are essential roles for all hospitals and which ones may be more pertinent to the larger hospitals.

3. Further development of non clinical midwifery roles in maternity services will be a matter for maternity clinical networks to progress as part of the hospital group development.

Conclusion

The Birthrate Plus® methodology developed and used extensively in the UK and internationally has been modified to enable its appropriate application into the midwifery services in Ireland, whilst retaining the fundamental principles and methods. Prior use in Ireland since 2002 provided a thorough basis on which to review the standards implicit in Birthrate Plus, incorporate factors unique to Ireland and agree changes to the methodology that are acceptable and maintain its integrity.

The excellent work of the locally appointed project midwives in the 7 hospitals with gives credibility to the datasets and results. Discussions with members of the Steering Group, senior colleagues in the Hospital Groups, Directors of Midwifery &/or Nursing and senior midwives in the 19 hospitals provided invaluable insight into midwifery services and the needs of mothers and babies. Where appropriate, these elements have been incorporated into the methodology without compromising its reliability and validity.

From the detailed Birthrate Plus® studies it has been feasible to produce overall births to midwife ratios to apply to the larger and medium sized hospitals not undertaking a detailed study. This was not possible for the smaller hospitals due to a wide variance in provision of outpatients' services and clinical practices, so a combination of ratios with components of the methodology were used.

Further use of Birthrate Plus® in individual hospitals will provide more data to test out the ratios and provide a consistent measure for strategic planning of maternity services and midwifery staffing in the future.

Overall there is a deficit of 149.07 WTE clinical midwives primarily in the 4 large hospitals, with just one of the medium hospitals having a shortfall. Of the 12 smaller hospitals, 4 have a deficit greater than 2.00WTE.

The above figures exclude the non-clinical component. If included, this would increase the overall shortfall to 206.07WTE.

Appendix 1 - Score Sheet 1

BIRTHRATE PLUS® **SCORE SHEET 1**

This form for all women who have given birth ... for all other categories use score sheet 2

Mother's details	Date In	Date out	
	Time In	Time out	TOTAL TIME

SECTION A	**GESTATION / LABOUR / INTERVENTIONS**		
Gestation	More than 37 weeks	1	
	More than 34 weeks, less than 37	2	
	Less than 34 weeks	3	
Length of labour	8 hours or less	1	
	More than 8 hours	2	
As required	I.V. infusion [not blood transfusion]	2	
	Epidural in situ	3	
	Elective anaesthetic	3	
	Continuous fetal monitoring	3	
*[see note on multiple birth scores]	Twins *	2	
	Triplets, quadruplets, etc *	5	
	Medical problems needing consultant oversight e.g. diabetes; cardiac; epilepsy; acute mental health; acute drug/alcohol; sickle cell,etc	5	
	Subtotal SECTION A		
SECTION B	**DELIVERY**		
	Normal delivery	1	
	Forceps / breech, etc	2	
	Elective caesarean section	3	
	Emergency caesarean section	5	
** MUST be scored for caesarean section	** Perineum intact	1	
	Vaginal / perineal tear / episiotomy	2	
	Extended episiotomy / 3rd degree tear	3	
	Subtotal SECTION B		
SECTION C	**INFANT[S]**		
Apgar assessed at 5 mins.	Apgar score 8+	1	
	Apgar score between 5 and 7	2	
	Apgar score less than 5	3	
Multiple births : score each baby	Birth weight 2.5 kg or more	1	
	Birth weight 1.5kg - 2.49 kg	2	
	Birth weight less than 1.5 kg	3	
As required	Congenital abnormality	3	
	Infant is stillborn / dies immediately after birth	5	
	Subtotal SECTION C		
SECTION D	**OTHER INTENSIVE CARE**		
	IV Infusion started or maintained post-delivery	2	
	Blood transfusion at any stage of labour	5	
	Emergency general/spinal anaesthetic	5	
	Intensive care not accounted for by any other factor	5	
	Subtotal SECTION D		
	ENTER TOTAL SCORE IN THE BOX		

IDENTIFY & RECORD THE CATEGORY FROM THE SCORES BELOW

Score 6	=	Category I	Score 14 - 18	=	Category IV
Score 7 - 9	=	Category II	Score 19+	=	Category V
Score 10 - 13	=	Category III			

No. of Prostins/Propess — please record 0 if none given

 DON'T FORGET TO RECORD DATE & TIME LEFT LABOUR WARD

version May 2009

Appendix 2 - Score Sheet 2

BIRTHRATE PLUS®

SCORE SHEET 2

OTHER CATEGORIES

Please use this form for all other cases as defined below

Mothers details	Date In	Date out	
	Time in	Time out	TOTAL TIME

For all the cases below, please tick relevant category

CATEGORY X

A woman who is seen on labour ward, often self-referral, needs assessment and reassurance, may need monitoring for short time but is not in labour, and is sent home or to the antenatal ward

please tick ☐

ANTENATAL CASES

CATEGORY A1

A woman who needs some form of treatment e.g. IVI, ECV, etc, who may go home or be admitted

please tick ☐

CATEGORY A2

A woman who is poorly, needs intervention e.g. severe APH, premature labour etc, & who will be admitted for continuing care. Usually stays in delivery suite for MORE THAN 6 HOURS

please tick ☐

CATEGORY R

POSTNATAL READMISSIONS

A woman who has previously given birth, but returns to delivery suite for assessment / procedure / visit to theatre

please tick ☐

Please tick outcome

ADMIT	HOME

DON'T FORGET TO RECORD DATE & TIME LEFT LABOUR WARD

Appendix 3 - Classification of Birthrate Plus® Categories

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 are 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.

Appendix 4 - Agreed definitions

Background:

The following 4 definitions (DOMINO; EARLY TRANSFER HOME; FETAL ASSESSMENT UNIT; BOOKING VISIT) have been proposed and ratified by the National Midwifery Workforce Planning Governance Group in order to reach national consensus of what is meant by these titles around the country and to assist the work being undertaken by M. Washbrook/ HSE in establishing numbers of staff required to provide maternity services in Ireland. Consultation on the proposed definitions took place with Directors /Heads of Midwifery Services in all 19 hospitals during August 2014 and were subsequently discussed at a meeting of the governance group thereafter.

DOMINO care consists of the following elements of a care package:
A model of care whereby low risk women are booked under the care of a midwife or a team of midwives i.e. the midwife is the Lead Maternity

OR

Under the care of a consultant / consultant team

AND

In either of the above cases, antenatal care is provided predominantly by the DOMINO midwife/ midwives and may include GP care,

AND

Where the midwife or team of midwives carries out care during labour and birth in the hospital or home

AND

The woman receives postnatal care in her home/ community by her midwife or team of midwives.

EARLY TRANSFER HOME
This is a model of care offered to women who
Meet clinical criteria whereby the woman may avail of early discharge home
AND
Receive postnatal care in her home/ community from a midwife from the hospital where she gave birth.
Early transfer home implies transfer home earlier than the norm and so for low risk women post vaginal births, this includes discharge home from hospital anytime from 6 -48 hours after the birth or for women who have had a LSCS, from 72-96 hours. It may involve

selective visiting and may include telephone /social media advice/ support. In summary, to date, it is geographically based.

FETAL ASSESSMENT UNIT (FAU)

What is it; where is it; who is it for; when is it used; why is it used; how is it used?
This title refers to a facility used to provide a service provided within a hospital for women booked at that hospital who may be referred there or in some cases may self refer. An FAU is generally run on a Monday- Friday basis (office hours) but may run 24/7/365 and is staffed by one or more midwives. A variety of FAU models exist in Ireland in terms of location and hours of opening however it is generally used for women who have reached 24 weeks gestation who are referred to the FAU either from the OPD/other for increased monitoring, surveillance during pregnancy or on discharge from hospital antenatally and prior to the next OPD visit for additional surveillance and where the emphasis is on early decision making. Women may be reviewed by obstetric personnel as planned or at the request of the Midwife. Tests may include some or all of the following; physical examination including vital signs monitoring; abdominal examination =/- Vaginal examination; fetal assessment; CTG Monitoring; Dopplers; Ultrasound; BP/Urine checks; Glucose Tolerance Testing; ECV etc. It may also be used for a health promotion intervention.

THE BOOKING VISIT

The Booking Visit refers to the consultation between the woman and the midwife whereby the MW takes and records (on paper or electronically) a detailed booking history of medical, surgical, obstetric and relevant social history. She will also measure and record baseline observations on weight, height, BP, urine and FH (where possible). Booking bloods may be taken. Choices of models and schedule of care are explained and an arrangement for referral +/- follow up is put in place. Dating and anomaly scans are explained and arranged. There is an emphasis on health promotion at this visit to include smoking cessation, breastfeeding, dietary advice/ weight management and antenatal classes. The booking visit may include a review by a member of the obstetric team on the same day or at a later time when all results are available. It is recommended practice that the booking visit be held before or as close to the 12 week gestation mark as possible in order to ensure accurate dating of the woman's pregnancy using ultrasound. The booking visit affords an opportunity for advice on keeping healthy during pregnancy and /or to ensure early and appropriate referrals to other services as required. The booking visit may take place in the hospital or in a community/ primary care antenatal clinic (or less often in the woman’s home).

DEFINITION OF MIDWIFERY-LED CARE Definition of midwifery-led unit (MLU)

The midwifery-led unit1 (MLU) offers midwifery-led care for healthy women throughout the antenatal, intranatal and postnatal periods. The MLU is a facility coordinated by a midwife manager, with a discrete identity where services are planned, managed, coordinated and delivered by midwives. Guidelines and protocols are evidence based, developed in multi-disciplinary partnership and endorsed by midwives who are responsible for appropriate liaison with, and referral to, medical and other professionals (Royal College of Midwives, 2000). As the lead professional, the midwife is responsible and accountable for ensuring women receive care that is agreed in partnership, which in turn facilitates midwives in practicing autonomously in accordance with the definition (International Confederation of Midwives, 1992) and activities of a midwife (Council of European Communities, 1980).

Appendix 5 - Non-Clinical Midwifery Roles

(For discussion in maternity clinical networks)

Director of Midwifery
Not in all small units as will be under management of Director of Nursing

Assistant Director of Midwifery/Nursing
Yes in all units and will have 1 in the small hospitals, but 2 or 3 in the medium/large hospitals

Clinical Midwife Manager 3
Not in all units

Practice Development
Not a defined role in most hospitals – likely in the large ones

Governance/Risk Midwife
Not a defined role in most hospitals – likely in the large/medium ones

IT Systems
Not a defined role in most hospitals – likely in the medium & large ones

Lactation Consultant – BFI role only
In all hospitals & as part of Feeding Advisor

Resuscitation Trainer
Not a defined role in most hospitals – likely in the large ones

Clinical Midwife Specialists – consider if % of roles are non-clinical
Tend to have such roles in medium & large hospitals & to a lesser degree in the small hospitals. Included in total clinical WTE but may need to exclude a % of their role in the comparative total WTE. Needs agreement on this and a point to debate with feedback. Possibly 80% clinical & 20% non-clinical for training & research

Clinical Placement Coordinator
Not a defined role in most hospitals – likely in the medium & large hospitals,
Responsible for student midwives, so non-clinical. National ratio of 1:15

Allocation Liaison Coordinator – post grad
Educational post – non-clinical

Clinical Coordinator – post grad course
Educational post – non-clinical

Cover for General Hospital
In all hospitals & varies as to level of cover provided. More so in the small hospitals