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Evaluation of the implementation of the Better Births recommendations by the Birmingham and Solihull United Maternity and Neonatal Partnership Early Adopter site 2016-2018

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Introduction

In 2016 NHS England published its National Maternity Review, *Better Births*, and launched the Maternity Transformation Programme[1], to implement the Review's recommendations to improve maternity care. The programme was to be delivered between 2016 and 2020. *Better Births* recommended improvements in seven areas (see Box 1 for a summary), with the aim of providing personalised and safer care. Seven of the forty four Sustainability and Transformation Partnership (STP) areas in England were selected to be Early Adopter sites. Early Adopters committed to establish a 'Local Maternity System' (LMS), bringing together stakeholders to rapidly build and test new models of care, sharing the learning to support the national Transformation Programme. The Early Adopter programme was of 30 months' duration, and ended in March 2019.

Box 1: Better Births Maternity Review areas for action[1]

Personalised care centred on the woman her baby and her family where they have genuine choice

Continuity of carer, to ensure safe care based in line with the woman's decisions

Safer care, working across boundaries; leadership for safety culture; investigation, honesty, learning if things go wrong.

Better postnatal and perinatal mental health care, to address historic underfunding and provision

Multi-professional working, to deliver safe and personalised care

Working across boundaries to provide and commission services to support personalisation, safety and choice

A payment system that fairly and adequately compensates providers

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The Birmingham and Solihull STP area, through the Birmingham and Solihull United Maternity and Newborn Partnership (BUMP) applied to be an Early Adopter, was successful and awarded £2,376,678 to deliver transformation in five areas: personalised care planning, continuity of carer, improved postnatal and perinatal mental health care, electronic patient records, and novel payment methods. A Memorandum of Understanding set out the deliverables for BUMP (Box 2). The BUMP LMS covers a population of 1.3 million, with around 18.500 births each year. Organisations in BUMP include two maternity providers across four hospital sites (Birmingham Women's and Children's Hospital, University Hospitals Birmingham), two local authorities (Birmingham and Solihull), plus other stakeholders in the local health and social care economy.

Box 2: BUMP Early Adopter Memorandum of Understanding Deliverables

- Increase the proportion of women choosing midwifery led units (MLU) or home births.
- Develop a single point of access
- Develop and operate a multidisciplinary community maternity team with access to a full range of wraparound services
- Create a single maternity Electronic Patient Record (EPR)
- Increase provision of community antenatal care by midwives for women on a collaborative care pathway
- Improve support offered to women postnatally
- Commission and work with new care providers including intrapartum
- Improve outcomes: infant mortality, homebirth/MLU births, women's experience, STP capacity, care closer to home
- Choice of elements of care, place of birth, additional services e.g. breastfeeding
- Establish a revised contract arrangement, including personalised health budgets to facilitate choice
- Establish single maternity record with the ability to link into relevant health services.
- Ensure that women's views are a fundamental part of the evaluation.

The evaluation

BUMP embedded evaluation in its plans from the start, and commissioned the University of Birmingham to undertake this work. A team of three health service researchers worked with staff, women and other stakeholders to conduct the evaluation in three phases, over two years. This report presents the main findings from this work. The research team shared findings with BUMP leaders regularly throughout the evaluation, to provide real-time input to the programme during its implementation.

The evaluation explored the changes that were planned, whether they were put in place as intended, and how they aligned with the Better Births and Early Adopter objectives. It also explored the change process itself, using existing evidence regarding 'what works' in large system transformation as a basis for the evaluation.[2] The evaluation was also designed to focus on how the changes introduced affected the outcomes for women and babies. However because a number of the plans were not fully developed or implemented in the course of the evaluation it was not possible to conduct a meaningful outcome assessment. Data for the evaluation included 83 interviews with leaders and other key stakeholders, and 27 focus groups involving obstetricians, midwives, midwifery support workers (MSWs), students and women. There were 245 participants in total. Documents including reports, position papers and minutes of meetings were also analysed (total 175). Researchers also observed 40 meetings and events relating to the transformation programme. The data collection occurred over three phases between May 2017 and May 2019.

Findings

Box 3: Key Findings:

- BUMP made significant achievements in implementing an LMS, designing and testing new care models, and putting enabling functions in place. For example introduction of the electronic patient record was a particular success.
- Clinical guidelines and governance arrangements were harmonised in some areas providing a foundation for greater integrated working in the future.
- An agreed clinical dashboard was developed to monitor progress and performance.
- Early Adopter resource and support was transformative in enabling system change.
- The scope, scale and complexity of the transformation plans were ambitious, and required more time and resource than anticipated at the outset.
- There was freedom to develop key concepts, enabling 'tailoring' to focus on local need, however this increased the complexity involved in their development and testing.
- Important contextual issues limited the ability to transform as rapidly as expected, in particular organisational change, mid-term change in LMS leadership, NHS service pressures, and the lack of statutory authority/accountability for/of LMSs.
- There is evidence indicating 'what works' in large scale change, however adhering to these principles is challenging, particularly with regard to early, consistent engagement/involvement with/of women and staff throughout all areas of the programme.
- Testing of models continues, and stakeholders were concerned that some key actions may not be implementable and sustainable at scale, in particular continuity of care and personalised maternity care budgets.
- Some changes will require mitigation to avoid widening inequalities, e.g. the electronic patient record will be more challenging to access for women who do not speak English.
- BUMP is planning to develop and implement further changes in 2019/20, to deliver improvement in preventative and postnatal care.

Findings are presented below with respect to:
- Structure and delivery of the transformation programme
- Establishment of the LMS
- Specific innovations developed by BUMP.

The transformation programme

A **Programme Team** with dedicated, funded leaders, project managers and administrators was established to lead transformation across the LMS. Nine workstreams mirroring the national transformation programme structure were convened, with work and leaders distributed across partner organisations. The creation of a designated, separate, independent team to deliver the transformation programme was reported to increase capacity and focus on the work, though it also appeared to reduce ownership and engagement among the wider transformation team of staff in the main providers. A new, less complex programme/workstream structure, and a triumvirate leadership structure were introduced in 2018, following a change in leadership, and plans were in place to streamline the programme management structure further as the Early Adopter funding ended in March 2019. Structures and processes for monitoring and updating stakeholders about the transformation were in place from the outset, and developed and improved over the course of the programme.

Maternity transformation involves developing and implementing a) a new systems-based approach to working (the LMS), and b) new models of care (e.g. continuity models, maternity hubs). The **complexity and scale of the changes** required were significant. LMSs were afforded the freedom and flexibility to develop plans, to meet local need and context. However this flexibility was reported to make the process more complex. Many participants suggested that the programme was rightly ambitious, but it was not possible to complete it within the Early Adopter timescale. Some also reported that often knowledge and skills in system-leadership (rather than provider leadership), were still emerging in health and social care, contributing to the challenge. The complexity of system-level change was compounded by contextual issues including the involvement of multiple provider sites, concurrent major organisational change (e.g. merger of large provider organisations), limited capacity in the system to transform whilst continuing to deliver 'business as usual', discontinuity in leadership of the transformation, lack of availability and sharing of data to inform planning, local history (e.g. previous failed change), and workforce recruitment/retention concerns.

The national **Early Adopter support** (both financial and advisory), along with the support provided by the Choice and Personalisation Pioneer Programme, was seen as transformative. The funding for the programme was regarded as essential to what had been achieved, enabling a wide range of individuals and activities to be resourced. However, participants reported that the reporting and scrutiny requirements of different NHS bodies and teams did at times overlap, duplicating work and reducing capacity to focus on the transformation itself. The LMS had to ensure that structures and processes introduced when significant transformation funding was available, would be sustainable once funding ceased.

The BUMP programme team highlighted the importance of **involving staff, women and families**, and other stakeholders in the work. A major challenge prior to active staff involvement was communicating with *all* stakeholders to ensure that they were informed and up to date. Communication was undertaken throughout, although capacity to do this improved significantly in 2018 when a dedicated Communications and Engagement Lead was appointed. A strategy for ensuring the quality and

frequency of information fed back to staff and women, had been developed by the end of the evaluation period.

A Maternity Voices Partnership (MVP) was established to facilitate the involvement of women and families, using an innovative third sector provider to increase the diversity of those involved. Multiple engagement/involvement activities were undertaken with local women and families. However, the short timescale of the Early Adopter programme did not align with the MVP commissioning process. Consequently the MVP was launched in April 2018, half way through the two year programme, and it took time for the new model to be embedded in the transformation process. BUMP undertook engagement activities before the MVP launch to address this gap. However it was challenging to reach and involve busy women with young families in all aspects of such a complex and rapid programme of change, and a significant task for the MVP to facilitate women's involvement across all areas within their allocated resource.

The BUMP team conducted a range of dedicated and opportunistic engagement activities with staff, and the nature and scope of them developed over the course of the programme. Reaching and involving a busy workforce made up of a numerous professional and staff groups across multiple sites was challenging. For example staff found it difficult to get involved, and/or were resistant to proposed changes. This was complicated further by the complexity of plans, discontinuity in leadership, and the difficulty of engaging staff in 'emergent' system-change projects where the 'destination' was not known at the outset, and the direction of travel and vision changed. Achieving significant and tangible targets e.g. electronic patient record appeared to improve clinical buy-in to the project.

While much communication and involvement work had occurred, the staff and women we spoke to expressed a desire for more involvement, earlier in the process, using a wider variety of approaches, including feedback about how stakeholders' contributions had changed plans.

Establishment of the LMS

A Local Maternity System was established, with system transformation leadership provided by the Senior Responsible Officer, BUMP Programme Director, and Triumvirate of Directors of Midwifery, Obstetrics and Operations. As the LMS moves out of the Early Adopter phase, and from transformation to 'business as usual', the management structure has been streamlined to ensure sustainability. At the end of the evaluation, the long-term leadership and accountability structure for LMS leadership was still emerging, in parallel with wider system structures in English health and social care (STPs and Integrated Care Systems).

At the end of the evaluation a number of functions had been aligned across the system: an electronic patient record (EPR) had been implemented, a digital single point of access developed, a number of guidelines and pathways had been aligned, a common clinical dashboard had been agreed, job descriptions had been standardised, and plans to train staff across professional and organisational boundaries were being developed, with some LMS-wide training in place. A common Clinical Governance Framework and LMS-wide Perinatal Mortality Review process had been developed and the EPR in particular was seen as a key enabler of staff and organisations starting to think as a system, working across a system, and measuring and improving quality across the system.

The process of agreeing the specific structure of the LMS in the future, and how it would affect women, babies and staff, had not been completed when the evaluation ended. There were many guidelines yet to be aligned, and the implementation of guidelines and pathways that had been aligned had not been completed. A common dashboard had been developed, though it was not fully operational across the LMS, and leaders were continuing to work on resolving data access and quality issues. Variation between local authority priorities, budgets and services limited the potential to standardise services in some cases. Governance structures were emerging, however the fact that LMSs in England did not have any statutory powers meant that accountability for delivery of services and the LMS targets lay with individual sovereign providers. As the evaluation period drew to a close leaders were working across the LMS, and with partners elsewhere, to work through barriers to aligning and merging governance functions and capacity management. While the standardisation and integration across the LMS will address barriers to 'joined up' care for many women and babies, challenges will remain for women receiving elements of care in neighbouring LMSs.

Specific innovations developed by BUMP

In addition to implementing the LMS structure, BUMP worked to test and implement specific improvements in a range of areas. These are detailed below.

The single electronic patient record (EPR) was introduced in April 2019, enabling maternity staff across the LMS to share common clinical records. An electronic portal was developed to give women access to their records and information to support choice. Over 90% of women consented to access their notes, and between 57 and 77% of booked women were doing so each month (to March '19). A digital Single Point of Access had also been developed, and was being piloted in primary care sites to facilitate access and choice across the LMS. This was the culmination of a sustained programme of work by key members of the LMS leadership team and in particular, digital leads, working in collaboration with digital partners BadgerNet. Although there were some issues with connectivity and access in some geographical areas and locations covered by BUMP, and there was a need for continued work to link the record with other systems and services, there was widespread recognition that this was a significant achievement which had huge potential for the improvement of service delivery.

Choice and personalisation is one of the two core themes in Better Births (along with safety). The LMS offers a wide range of birth place choice, and this was increased during the programme. The dedicated home birth team was to be extended, though concerns were raised regarding the long term cost effectiveness of the model while home birth rates were low, and a tension between offering choice and managing capacity effectively across the system was an issue that was not fully resolved. A digital Single Point of Access was developed and piloted, with the aim of standardising information and access, and facilitating choice. The EPR enabled measurement of 'choice conversations' with all women in pregnancy. The majority of women were accessing the new e- portal, though the quality of choice conversations and detail regarding how the eportal was used to support Personalised Care Planning was not yet known. While Doula provision for vulnerable women and peer support for women with severe mental health needs had been expanded, additional services (e.g. breastfeeding) had not yet been expanded. There were no plans to offer alternative maternity care providers as demand was perceived to be low. A significant challenge for the LMS in the future is ensuring that all women are able to exercise choice, including those who do not speak English or find it hard to navigate the system and choices on offer.

The **Personalised Maternity Care Budgets** (PMCB) concept had been explored by the team by reviewing the evidence for personalised budgets in health, piloting conversations with women, and through discussions with other LMS leaders working on PMCB implementation. The pilot of 'personalised budget conversations' with women identified that midwives found discussions challenging, and women were uncertain of the purpose and value. At the end of the evaluation the LMS was providing all women with a written offer to discuss PMBCs if they wished, and implementation of PMCBs as set out in Better Births was deemed unlikely.

A target for Early Adopters was booking 20% of women in their care onto a **continuity based model of care** by March 2020. Change had been slow to start, but by the end of the evaluation activity was increasing, engagement with frontline staff was increasing, and the LMS had booked 19% of women onto a continuity model. A wide range of models was piloted: some had been continued or expanded (10 in total), while others were less successful (3) and some were still in development (7). Local evaluation of specific models tested was planned, but not complete at the end of the evaluation. Midwife receptivity to change, and affordability of models were reported to be major barriers to implementing continuity models at scale. The LMS was addressing barriers, and developing its approach by providing training, working with midwives who were keen to explore the potential of the models, introducing the models to students and Band 5 staff, recruiting dedicated midwives to facilitate implementation, and working with stakeholders around the country in national groups. Further challenges included: defining/measuring continuity (ensuring meaningful models and measures, not a 'tick box' approach were developed); providing continuity across the pathway, particularly intrapartum; safety/skills for midwives to work across settings; continuity across professions not just midwifery (e.g. obstetricians, MSWs); ensuring that models are targeted at women in greatest need; providing cross-LMS boundary continuity; some women and midwives prioritise ante-/postnatal continuity.

Community hubs are 'one stop shops' to support women to access a range of services in one venue. The nature of the intended hub model in the BUMP LMS varied over time. A phased introduction of hubs was underway at the end of the evaluation, with two in place (Solihull Hospital [a freestanding maternity unit] and Lordswood Health Centre [a GP practice]). Most areas did not yet have a designated hub. The impact of hubs had not been tested. In the course of the transformation process it was challenging to identify suitable hub models, venues and resources, while stakeholders were undergoing concurrent change, and finances were stretched. The creation of the Hubs involved 'rebadging' existing services, rather than developing innovative new models. The two hubs were not based in areas of greatest need. Prevention, wellbeing, and mental health provision was not expanded in hubs. Hubs were interdependent with other aspects of transformation, e.g. expansion of mental health or prevention services, and uncertainty was a barrier to planning elsewhere in the system. Staff reported being confused that hubs were part of national policy in one area, while similar provision, Children's Centres, were being closed. Obstetricians did not wish to deliver community hub clinics and perceived them to be inefficient.

Safety improvements are at the heart of maternity service improvement, in Better Births and in concurrent programmes such as Saving Babies' Lives. The LMS has designated Board-level Safety Champions. While the LMS had not conducted any collaborative reviews across the system, a joint clinical governance approach and joint dashboard had been developed and plans to implement a joint review process were under discussion. Alignment of guidelines and pathways had been undertaken, though implementation was yet to be measured. Safety was reported to be a strong motivator of staff

engagement, along with national incentives/standards driving improvement. Concurrent safety initiatives, lack of capacity, and willingness of stakeholders to adapt to cross- provider working were reported to be important barriers to rapid change.

BUMP covers an area with high levels of deprivation and poor outcomes, making **prevention, early intervention, and approaches to address inequalities** extremely important, even though this was not a central focus of Better Births. Progress was made by the LMS, particularly with smoking cessation programme provision, and plans to improve clinical safety in the LMS. The smoking cessation work was facilitated by a combination of national drivers (Saving Babies' Lives), dedicated resource (a Specialty Registrar in Public Health) and a specific LMS working group. As the system transformation continues, there is scope to develop prevention provision further, and address inequalities in maternity care and outcomes using a population health approach. Some concerns were expressed regarding how maternity transformation could widen health inequalities, and whether the LMS could mitigate this. For example, the electronic patient record may be challenging to access for women with language/literacy difficulties and/or no access to the necessary technology. Link Workers were being put in place to support women with this, however although the precise pattern and scale of need is not clear, given the nature of the population it is unlikely that the workers will have capacity to meet the need. In addition, some participants feared that the new models of care for low risk women may increase service provision for women who require it the least. Local authority variation and capacity/resource limitations were reported to be barriers to widening access to/improving preventative services.

Perinatal mental health service improvements have been delivered, facilitated by the Perinatal Mental Health Community Services Development Fund. This has increased postnatal perinatal mental health support, including peer support, for women with severe mental health concerns. Further achievements include: digital resources for self-management being developed for inclusion in the digital maternity portal; clinical pathway including escalation pathway developed; Health Education England modules standardised as training for midwifery/MSW/MA staff; standardised information for pharmacists and GPs developed, mental health service staff able to view and enter information in BadgerNet maternity notes.

Neonatal service improvements were developed across the LMS, in particular a new pathway to facilitate in utero transfer for babies <27 weeks and reduce neonatal unit transfers was developed. Guidelines for the Neonatal Outreach Service were aligned across the LMS by the well-established Regional Neonatal Network. While the neonatal EPR did not link to the maternity EPR, there were plans to do this. Neonatal admissions and deaths were decreasing across the LMS. Challenges included limited service capacity and an overstretched workforce and the imminent neonatal tariff changes which may significantly reduce future income across the LMS.

Postnatal care was not the main focus of national or local transformation, and no significant changes to the postnatal pathway were made. Postnatal care was recognised as important by participants and its history of being nationally under-resourced acknowledged. In 2019 there was a renewed focus on this area from NHS England, and work is planned in the LMS in 2019/20.

Summary

BUMP embarked on an ambitious transformation programme to improve the safety and quality of care for the women and babies they serve. Significant achievements have been made, for example the collaborative development and implementation of a maternity EPR, which is now being adopted in other LMSs across the country, is changing the way information is shared between women and professionals across systems. Participants were clear that it would not have been possible to deliver these achievements without the support provided by the Early Adopter Programme, along with the enthusiasm and commitment of a huge number of stakeholders across the LMS.

While many innovations have been modelled and/or tested by BUMP and the other Early Adopters, many others are still in development, or in the early stages of implementation. It is crucial that ongoing learning is captured and shared across maternity services as the Transformation Programme continues. Some core concepts such as continuity-based models and community hubs are yet to be fully tested to ensure that they can be implemented at scale and achieve their aims. While there is a sense of urgency to deliver rapid, extensive change, timescales have been revised as the programme has progressed. BUMP has generated important learning regarding establishment of an LMS, barriers and facilitators to transformation, and what can realistically be delivered in short timeframes in large scale change projects, at a time when systems approaches are being implemented across health and social care.

Recommendations

Recommendations for BSol LMS (shared with the LMS in June 2019, action plan in place by the LMS)

1. **Consider combining the title of the Birmingham United Maternity and Newborn Partnership and the Local Maternity System as BUMP-LMS to clarify what BUMP/LMS is to all stakeholders.** Communicate the roles, structures and relationships with partners. Consider a facilitated workshop to take stock, identify future priorities, and agree plans. Develop a plan for embedding the key learning from BUMP into the LMS.

2. **Continue, and increase communication activity with the full range of stakeholders in BUMP-LMS.** Continue to produce the regular newsletter, and report progress, what has been done so far, how women and staff shaped the changes, and celebrate success. Produce and share a detailed schedule of goals for the next 2 years, including how women and staff will be involved. Write a communication strategy, tailored to specific groups e.g. explaining how changes will affect women, families, staff and others. Build on communications to-date and use a wide range of methods to communicate. Seek feedback regarding effectiveness/reach of messages and approaches.

3. **Engage/involve women and staff more in the design/implementation/evaluation of future changes needed to meet the key priorities.** Engage the full range of stakeholders where appropriate. Build on existing successful approaches, using methods which mitigate barriers to involvement. Reach out to women and staff in clinical areas. Consider asking staff to engage women during routine clinical situations. Make engagement/involvement (distinct from communication) a standing agenda item for LMS meetings, to review activity, impact, and identify where it can be enhanced.

4. **Put strategies in place to increase distributed leadership aligned to key priorities, to ensure sustainable change.** As the LMS develops, identify specific distributed leadership roles aligned with key priorities. Clarify roles and job descriptions/role specifications for distributed leaders in BUMP-LMS. Secure agreement with employing organisations of job plans/objectives for distributed leaders.

5. **Enhance knowledge, skills and use of methodologies to support transformation.** Develop a learning and development strategy focused on enabling key staff to acquire the skills necessary to support large scale change. Capitalise on existing resources/materials to support learning. Publicise these materials to designated leaders. Consider establishing Action Learning Sets for leaders.

6. **Monitor implementation, uptake and impact of changes, to ensure they are embedded and being used as planned.** Ensure the pilot projects are completed and that the findings and learning are reported and shared. Measure whether changes have been implemented in practice (e.g. new guidelines). Specific recommendations for the measurement of implementation to further test the concepts in the EPR, hubs and continuity models are in the main report.

7. **Ensure plans for the next stage of the BUMP-LMS address health inequalities and prevention.** Undertake equality impact assessments for key service innovations (e.g. EPR), and identify where there is a risk of widening inequalities, and how to mitigate this. Target innovations to reduce inequalities, e.g. siting hubs in areas of deprivation. Develop a strategy for the development of greater prevention provision, in addition to the smoking cessation activities. Ensure monitoring/ evaluation of changes considers inequalities. Identify how services can be 'joined up' to provide a population-level approach to identifying and supporting vulnerable women in the population served by the LMS. To build on success in smoking strategy the team can continue to draw on the expertise of public health consultants and trainees in the Local Authorities and at BWC.

Recommendations for the National Maternity Transformation Team

We have not directly evaluated the work of the NHS England Maternity Transformation Team. The following recommendations are based on the local BUMP evaluation findings.

1. When implementing transformation programmes, take into account the scale of change, and wider contextual considerations, to set **realistic scope, timescales and targets**.
2. **Continue to test and adapt concepts as evidence builds**. Identify examples where LMSs have managed to implement models at scale and demonstrated sustainability, clinical and cost-effectiveness. Where this is not possible, consider modifications. In particular, many stakeholders are still sceptical regarding the feasibility of scaling up continuity models involving intrapartum care, but strongly support increasing antenatal and postnatal continuity. Consider exploring and **modelling/testing concepts more extensively prior to launching policy.**
3. Work with LMSs to ensure that all new care models developed and piloted are recorded, and evaluated, to **capture the learning**, particularly where models have not worked as expected.
4. **Publicise learning rapidly**: the blank slate for service models drives innovation but can be overwhelming, creating huge uncertainty regarding the 'right' path to take, and may duplicate effort across the country.
5. **Consider the impact of policy on inequalities** and how to support LMSs to mitigate any negative effects. This includes women and babies in disadvantaged groups, and women who receive care across LMS boundaries.
6. **Coordinate reporting procedures** between national, regional and local bodies (e.g. Early Adopter, Pioneer, Regional NHS England, CCGs) to minimise duplication.
7. **Provide support for LMSs to organise transformation programmes and LMSs in the long-term**, to minimise complexity, maximise efficiency, and align with business as usual.
8. **Work to resolve national challenges**, such as uncertainty faced by LMSs due to a lack of statutory status, and financial threats posed by changes to tariff.
9. **Provide guidance and set expectations regarding meaningful involvement /engagement**, and at what stage it should occur (i.e. throughout). This should include the 'feedback loop' where women, families and staff are informed about the impact of involvement activities on plans. Formal reporting should be considered.
10. Provide support for leaders to **build knowledge and skills in evidence-based system transformation and leadership.**

Recommendations for others transforming maternity services

1. **Designate and resource a dedicated transformation team**, including clinical expertise, and balanced representation across main providers (or independent leadership from outside the LMS). Maximise leadership continuity. Work to align plans with stakeholders across the health and social care system as much as possible.
2. **Plan realistic transformation goals**, taking local contextual issues into account. Focus on **tangible change, 'quick wins' and system enablers** such as EPR and hubs first. Some aspects will require 'big bang' implementation (e.g. EPR), others phased implementation.
3. **Write and adequately resource a communications and engagement strategy**. Ensure a strong focus on involvement of stakeholders from the outset. Communication and involvement is likely to require more time and resource than expected. Use a range of approaches and where possible reach out to women, families and staff 'where they are' rather than in separate events in order to involve them. Stakeholders will want to be informed about how their involvement affected plans, and to hear about progress even where plans are not yet clear or have changed.
4. **Consider inequalities and prevention**: assess the potential impact of plans on inequalities, think 'beyond smoking' in prevention services, and involve public health expertise and wider stakeholders to maintain a population health focus.
5. **Upskill the workforce, including leaders** to address gaps in transformation/systems working knowledge and skills
6. **Explore opportunities to replicate/scale up approaches tested so far elsewhere**. In particular, the digital work to develop a maternity portal, EPR and SPA with Clevermed/BadgerNet has huge potential for implementation across LMSs around the country.
7. **Define and evaluate models/approaches put in place**, and share the learning widely, including what has not worked.

From the LMS leadership team: developments since the evaluation

The evaluation of the BUMP Early Adopter Programme focused on work undertaken between March 2017 and May 2019. Since May, the LMS has continued its maternity transformation programme, building on progress and addressing many points raised in the evaluation. The LMS leadership team has summarised the subsequent key developments up to and including December 2019 below, to provide further context for the evaluation report.

Since the end of the evaluation in May 2019 the LMS has:

- ***Developed a pathway for the management of women presenting in pre-term labour*** (*fewer than 27 weeks'* gestation), which was implemented in November 2019 in the LMS and Worcester, Hereford and Birmingham City Hospitals. This will improve outcomes by ensuring babies are delivered in an obstetric unit with an associated level three Neonatal Intensive Care Unit (NNICU).
- ***Successfully piloted a Single Point of Access*** which allows women to self-refer into services via an e-portal. It is in use at 16 GP Surgeries, and has processed more than 250 referrals. A process evaluation is underway to inform wider roll out.
- ***Secured the agreement of BWC and UHB to implement joint peer to peer perinatal mortality reviews*** commencing in early 2020. This will support quality assurance of local trust reviews and continued use of the perinatal mortality review tool (already embedded in practice at both trusts).
- ***Facilitated and funded the development and delivery of Perinatal Mental Health Awareness training*** for midwives, with plans to train 100 staff. 'Perinatal Health Champion' midwives will also be identified in community teams.
- ***Secured HEE funding to support implementation of Saving Babies' Lives***. Six multidisciplinary maternity professionals will receive training in order that they may advise, support and develop the wider teams. The LMS is also funding lead midwife roles focused on addressing fetal growth restriction, and the HEE bid will support their training.
- ***A regular Shared Learning Newsletter 'Safety focus' has been implemented across the LMS***, to keep midwives, obstetricians, MSWs, doctors in training and maternity service managers informed about progress against Saving Babies' Lives targets, share learning from incidents, and other relevant safety and clinical information.
- ***Secured agreement from BWC and UHB that all maternity sites across the LMS will become smoke free.*** BWC is implementing plans to go smoke free across the whole Trust (including BWH) by the end of February 2020. Plans for UHB maternity sites are in development.
- ***Hosted a Saving Babies Lives conference*** on 11 December with a range of speakers from the LMS talking about improving neonatal outcomes, reducing perinatal mortality and implementation of Saving Babies' Lives. Two hundred attendees booked from within and outside the LMS.
- ***Funded two new Continuity of Carer Midwife Leads***, who are providing dedicated support for the Heads of Midwifery at BWC and UHB in developing Continuity of Carer teams. The initial teams will be made up of midwives who have self-selected, with mixed risk team models with a high risk and Black and Minority Ethnic (BAME) women focus.

Introduction and Background

In 2016 the National Maternity Review, 'Better Births', was published.[1] This work, a 'five year forward view' for maternity care in England recommended significant changes to improve the quality and safety of maternity services. NHS organisations were tasked with implementing the Better Births recommendations by 2020 by means of developing new 'Local Maternity Systems' (LMSs).

Following a competitive bidding process, seven LMS sites were awarded 'Early Adopter' status[3] and expected to implement the changes by the end of 2018. The Birmingham and Solihull United Maternity and Neonatal Partnership (BUMP) was awarded Early Adopter status in November 2016. The two key providers of maternity services in BUMP were Birmingham Women's and Children's NHS Foundation Trust (BWCNFT) and University Hospitals Birmingham NHS Foundation Trust (UHBFT). As part of its Early Adopter plans to deliver a redesigned maternity pathway, BUMP commissioned an evaluation of the changes being introduced by a team from the Collaboration for Leadership in Applied Health Research and Care West Midlands (NIHR CLAHRC WM). This report presents the overall findings from the evaluation following completion of the final phase.

Better Births made a number of specific recommendations in seven key areas (see Box 1 below). Each recommendation also identified accountability arrangements, timescales, targets and data sources for performance management (not listed here). The purpose of the CLAHRC evaluation was twofold. First, to explore the changes made in and by BUMP in response to the recommendations, and progress towards the achievement of the stated targets. Second, to examine the implementation process, including the facilitators and barriers to service transformation, in order to capture learning from the process and inform further roll-out of the policy across England.

1	**Personalised care** centred on the woman her baby and her family based around their needs and their decisions where they have genuine choice informed by unbiased information
2	**Continuity of carer**, to ensure safe care based on a relationship of mutual trust and respect in line with the woman's decisions
3	**Safer care**, with professionals working together across boundaries to ensure rapid referral, and access to the right care in the right place; leadership for a safety culture within and across organisations; and investigation, honesty and learning when things go wrong.
4	**Better postnatal and perinatal mental health care**, to address the historic underfunding and provision in these two vital areas, which can have a significant impact on the life chances and wellbeing of the woman, baby and family.
5	**Multi-professional working**, breaking down barriers between midwives, obstetricians and other professionals to deliver safe and personalised care for women and their babies
6	**Working across boundaries** to provide and commission maternity services to support personalisation, safety and choice, with access to specialist care whenever needed
7	**A payment system** that fairly and adequately compensates providers for delivering high quality care to all woman, whilst supporting commissioners to commission for personalisation, safety and choice

Box 4: Better Births Maternity Review areas for action[1]

When applying to become Early Adopters, LMSs committed to working across some or all of the following areas:
- Personalised care planning
- Continuity of carer
- Improved postnatal and perinatal mental healthcare
- Electronic patient records
- Novel payment methods

BUMP committed to focus on all five areas for action (3 of the 7 Early Adopters did so). A Memorandum of Understanding (MOU) was agreed between NHS England and BUMP which set out its commitments as an Early Adopter. It states: *"The early adopters will seek to transform maternity care to implement key elements of Better Births at scale and pace over the next two years. This includes forming their Local Maternity System, developing and implementing a delivery plan as set out in the Maternity 'ask' to the system."* Specific commitments in the BUMP MOU are summarised in Box 2 below.

Increase the proportion of women choosing to give birth in midwifery led units or have home births and supporting those women to make informed choices.
Develop a single point of access.
Developing and operating a multidisciplinary community maternity team with access to a full range of wrap around services, including prevention, mental health and well-being.
Creating a single maternity Electronic Patient Record (EPR) for all pregnant women across BSol.
Increased provision of community antenatal care by midwives for women on a collaborative care pathway (lead clinician to be a linked obstetrician).
Improving the support offered to women postnatally to ensure families feel better supported from the start of their parenting journey enabling them to make more informed choices for their family.
Commissioning and working with new care providers to enhance the portfolio of providers available to offer care to women throughout the pregnancy pathway including intrapartum.
Improving outcomes for women, their babies, their families and the wider population, measuring these against metrics which will include :   • A decrease in infant mortality   • An increase in homebirth and MLU births   • Improved experience for women as a result of reduced waiting times and better access to facilities   • Improved capacity across the STP   • Care closer to home
Choice of: elements of care, place of birth, and additional services based on individual wishes e.g. extensive breastfeeding support/DOULA services etc.
Establishing a revised contract arrangement, including an option for women to hold a personalised health budget to facilitate choice of provider(s) for antenatal, postnatal and birth care.
Having one maternity record that has the ability to links into relevant health services including neonatal and health visiting services. This record will be accessible by the woman and professionals engaged in the care of the pregnancy and the newborn and will be in use by 2018
Ensuring that women's views are a fundamental part of the evaluation that will start from April 2017 and finish at the end of 2018.

Box 5: Early Adopter MOU Deliverables

In what follows the methodology developed to undertake this complex evaluation is summarised. This is followed by a presentation of the findings, focusing on the learning at the end of the Early Adopter Programme. The key implications for the BUMP, the LMS and service transformation are drawn out and inform a set of recommendations.

Methods

2.1. Aims

- To evaluate the implementation of the Better Births policy recommendations by the BUMP Early Adopter programme.
- To generate findings to inform the implementation of Better Births recommendations across the BUMP footprint and beyond.

2.2. Research Questions

    I.   What is the system?
   II.   How is the change process working?
  III.   Is the system achieving the specified outcomes?

2.3. Methodology

The BUMP evaluation was a longitudinal evaluation which was conducted in three phases: Phase 1 was from January to December 2017; Phase 2 was from January to December 2018, and; Phase 3 was from January to July 2019. A mixed methods approach[4] was initially planned to gather predominantly qualitative data, with some quantitative data to assess the outcome/impact of changes implemented. However at the end of the evaluation period, changes were not yet at a stage where formal quantitative evaluation was feasible, as implementation was still in progress. Therefore, the evaluation is purely qualitative, involving the following data:

    I.   Qualitative interviews and focus groups with strategic and frontline staff (and women and families in phase 3 only).
    I.   Documentary analysis of plans, reports, meeting minutes, and other relevant papers.
   II.   Non-Participant observation of meetings and working groups.

The Evaluation Framework

The implementation of the Better Births Recommendations was an extremely complex process and the design of the evaluation needed to be comprehensive and flexible in order to capture and reflect this. The proposed changes to maternity care in England constitute 'large system transformation', involving multiple change processes, organisations, and stakeholders. Delivering and evaluating major system change is highly complex. In view of this the international evidence base regarding 'what works', synthesised by Best et al[2], to develop the five 'rules' for success in large system transformation, developed further by Turner et al.[5] have been used to underpin our evaluation of the BUMP programme, and reflect on what helps and hinders the process. The insights arising from this strand of analysis are integrated throughout the report. The rules are described in detail in Appendix 1, and they are:

    I.   Blend designated and distributed leadership
   II.   Establish feedback loops
  III.   Attend to (local) history
  IV.   Engage physicians
   V.   Involve patients and families

2.4. Sampling, recruitment and data collection

Interview sampling was purposive[6] in order to focus on the accounts and perspectives of individuals in key strategic roles. The potential participants were contacted directly by the research team. The majority of the participants were leaders or managers although some held both senior clinical and leadership roles. Clinicians were identified as those who worked in their area of clinical specialism on at least a weekly basis.

A convenience sample[6] of frontline staff to participate in a number of focus groups was identified by senior staff although subsequent participation depended on activity levels in the clinical areas which determined how many staff could be released to attend the focus groups. The opportunity to participate in the focus groups was offered to groups of clinical staff, generally on the same grade bands and working in similar settings, although the midwifery groups included grade 5-7 midwives, maternity support workers (MSWs)/maternity assistants, midwifery and MSW students and nursery nurses.

Interviews and focus groups lasted approximately one hour (with a range of 20 to 90 minutes depending on circumstances and workload). Interviews were mainly face to face but some were conducted by telephone. Data was digitally recorded and transcribed verbatim for analysis. Documents for analysis were identified by interview and focus group participants, by the BUMP project team and by searching relevant websites e.g. NHS England and the Department of Health. Non-participant observation (attendance without interaction) was undertaken for data gathering at meetings related to the Better Births implementation. Access to the meetings was negotiated and agreed with the BUMP Project team and verbal consent was obtained from all those attending the meetings. Contemporaneous field notes were taken during the meetings which were later transcribed and subject to analysis.

2.5. Analysis

The qualitative data were organised and managed using NVivo software and analysed thematically using the Framework Method[7]. Analysis was predominantly deductive, using an analytical framework based on the research questions, logic model components (inputs, outputs, outcomes and impact) and Best et al's[2] theory constructs.

2.6. Research Team and Feedback

Data collection, analysis and report writing was conducted by BT (all phases), AH (phases 2 and 3) and FCS (phases 2 and 3). The research team had regular meetings with the BUMP Project management team to communicate progress, discuss important changes (on both academic and service side), identify any support required by the research team to deliver the project, and to confirm the protocols for phases 2 and 3. Reports of the findings were also fed back to the BUMP team after each phase using Hamilton's Rapid Analysis approach[8] in order to provide timely information that was available to inform the BUMP project team during the implementation process. This final report was checked for accuracy by the BUMP team. The research team also worked with the Research Governance teams at Birmingham Women's and Children's Hospital NHS Foundation Trust and University Hospitals Birmingham NHS Foundation Trust to obtain the necessary approvals to conduct the work.

Findings

The findings are presented in four sections: participants and data; structure of, and influences on the transformation work; implementation of the LMS; and specific innovations, interventions and service changes. Extracts from interviews and focus groups are presented to illustrate the findings. We have anonymised the quotes to maintain confidentiality, however we have ensured that they constitute a representative sample from across participant and organisational groups, with data extracts from 29 different individuals presented. Quotes are from Phase 3 data unless otherwise stated.

3.1 Findings Part 1: participants and data

Data for the BUMP evaluation were collected between April 2017 and April 2019. A total of 325 different data items was collected for analysis, including 83 individual interview transcripts, 175 documents, and observation notes of 40 meetings. A total of 29 interviews were undertaken with senior clinicians (11 BWC, 18 UHB), and a further 54 interviews with other leaders and managers (some leaders were interviewed more than once). In Phase 2 individual interviews were undertaken with senior midwives and obstetricians, while in Phase 3 focus groups were held with these groups.

Data type	Phase 1	Phase 2	Phase 3	TOTAL
Interviews	18	45	20	**83**
Focus groups	2	9	16	**27**
Documents	47	80	48	**175**
Meeting observation	12	14	14	**40**
TOTAL	**79**	**148**	**98**	**325**

Table 1: Data collected

Participants	Phase 1	Phase 2	Phase 3	TOTAL
Midwives	0	8	7	**15**
Senior Midwives	2	0	3	5
Obstetricians	0	0	2	**2**
Women	0	1	4	5
TOTAL	**2**	**9**	**16**	**27**

Table 2: Focus groups

Twenty seven focus groups in total were undertaken, predominantly with frontline midwives (n=15). There were 162 staff focus group participants: 115 midwives, 22 MSWs/MAs, 14 student midwives, and 11 obstetricians. Appendix 2 provides a breakdown of participants' characteristics by phase. Fourteen women participated in five focus groups, with a mixture of women directly involved in the BUMP programme, and women recently or currently using services. One third were White British, and a third were of Asian ethnicity, and most had had a child before (n=11) and six were pregnant. Documents included service reports, papers from the Programme Board, Workstreams and subgroups (minutes of meetings, strategy documents, reports and so on), and external communication (e.g. newsletter). Meetings and events observed included those of the Board, Workstreams, Task and Finish groups, Maternity Voices Partnership, Stakeholder Council, and staff engagement events.

3.2 Findings part 2: Structure of, and influences on the transformation work

3.2.1 Structure of team and how it changed over time

BUMP was allocated £2.3 million to fund its transformation work. In its original configuration BUMP was led by a Senior Responsible Officer (SRO), and Programme Director, supported by a Clinical Lead Obstetrician, Programme Manager, and Commissioning Manager. The transformation work was coordinated by the central BUMP Project Management Office (PMO), which had a designated Programme Support Officer and Administrator. Originally BUMP had three clinical and five 'enabling' workstreams which were charged with developing and delivering the plans. Workstream chairs reported to a Workstream Interdependency Group in order to provide overall coordination of the work. A Clinical Reference Group and wider Stakeholder Council were convened to undertake a scrutiny and challenge function. Workstreams and the PMO were accountable to the BUMP Programme Board. The BUMP Programme Board in turn was accountable to the Sustainability and Transformation Partnership Programme Board. It also reported to provider trust boards, and the NHS England Pioneer and Early Adopter teams.

The BUMP Programme Director left post in August 2017, and changes to the leadership structure were put in place at this time. From 2018 a core leadership team had responsibility for the implementation of the *Better Births* recommendations across the LMS. The refreshed LMS Plan was submitted to NHSE in February 2018 and approved. Key milestones were monitored by each workstream and reviewed monthly at the LMS programme board chaired by the Senior Responsible Officer. The original nine workstreams (clinical standards; clinical pathways; perinatal mental health; early intervention and prevention; choice and personalisation; digital and data requirements; transforming the workforce; business modelling; communications and engagement) were replaced with two overarching workstreams: Clinical and Infrastructure. The elements of transformation undertaken by these workstreams can be found in appendix 3. In addition there were three sub- groups working on improving prevention and early intervention, and perinatal mental health, which fed into the Clinical Workstream, and workforce which fed into the Infrastructure Workstream. The Clinical and Infrastructure workstreams reported to the Programme Board. The core leadership team consisted of the BUMP SRO, and newly appointed BUMP Programme Director, and a triumvirate including a Director of Operations, Medical Director and Director of Midwifery for the LMS. A new BUMP Programme Manager was also appointed. The task and finish groups and sub-groups drew their membership from organisations across the LMS, and this was also reflected in the committees and Programme Board. At the end of the evaluation further changes in the approach to transformation were under consideration.

3.2.2 Scope, scale, and timescale

The scope and scale of the Early Adopter work, and the wider Maternity Transformation Programme, was vast. A key reflection from leaders, frontline staff and other stakeholders, and from the research team, is that the vision for the variety of changes to be delivered, and the scale and pace of change, was ultimately unrealistic. This is common in large scale transformation projects[9,10] when ambitious and innovative policy prescriptions collide with the realities of practice and pressures to deliver 'business as usual', and was observed across the Early Adopter programme in the national evaluation.[11] Progress of the BUMP programme against its initial objectives needs to be viewed in this context.

We're very mindful that we've been quite fortunate to have all of that money and I think it's needed to be able to do things at pace. I think you can do transformational change but it just takes so much longer when you're expecting everybody to do it on top of their day job. I think, particularly with clinicians, if you say, 'We're going to do this,' and then it takes forever, the most enthusiastic and engaged get fed up and their attention goes to something else. Why would you keep pushing, and pushing, and pushing at something that's not happening. I think being able to do it at a reasonable pace is really important and I think you need additional capacity to be able to do that.

BUMP leader

BUMP committed to delivering the full range of Early Adopter Programme innovations, requiring multiple, complex changes to be planned and delivered concurrently. These individual changes each required time, resources and expertise to lead, engage, plan and implement, and delivering so many concurrent projects in a short time frame was a significant challenge.

So there's something about actually, I think for the pilots, the remit was too big and they should've focused on something that we could've actually made a real change to. I know continuity of care is great and I think it's right and we should be doing that, but then I think maybe we should've been doing simple things like care of couples in delivery and postnatal care. You know, there's so much in maternity services.

Manager

Often concepts which were central to the change programme such as continuity of carer and 'hubs' were not defined in the policy and this resulted in a lack of clarity and uncertainty when the constituent organisations of BUMP endeavoured to put systems and process in place to deliver them. In addition there were particular challenges arising from the interdependent nature of the different concepts which characterise the Better Births recommendations. For example until a clear understanding of what personalised care and continuity of carer meant in the context concerned, it was not possible to develop a payment system. Difficulties making progress in these areas hampered innovation.

Local leaders were required to develop approaches to building the LMS and implementation of the Better Births recommendations that took account of, and were sensitive to local circumstances. Although intended to stimulate innovation and improve the 'fit' of solutions to the local context, the time and resources needed to put this in place were considerable. This meant that progress was not perhaps as rapid as anticipated. The changes needed to be implemented across a new Local Maternity System structure that was emerging, and continues to, which added another layer of challenge when compared with more familiar provider-level change programmes managed in a single NHS trust. This involved a new way of working and implementing change for most of the people responsible for the leading the transformation process. The desire to bring about rapid transformation was reflected in an initial 'big bang' vision for change, e.g. designing the future structure of hubs across the LMS from the start. This proved to be challenging and somewhat unrealistic, and subsequently a more phased, organic approach was taken and other elements of the envisioned transformation, e.g. maternity hubs, were tested at small scale.

The knowledge and evidence base for systems leadership and transformation is emerging in the NHS. While a minority of participants mentioned specific tools, models or evidence which informed the approach to change/transformation, there appeared to be a greater focus on the value and importance of experiential knowledge and skills on the part of the leaders of the transformation.

Significant achievements have been made, but in some areas work is still in progress, and participants felt that, even without some of the unanticipated barriers to change, it was not possible to deliver all the identified outcomes by the original two year programme deadline. BUMP has built learning regarding what is possible in projects such as this, and the ordering of system-level change. Planning and implementing multiple changes concurrently spread capacity/resource thinly: ordering plans and focusing on key enabling changes in the early stages, may improve efficiency and success. For example, the LMS-wide electronic patient record now in place is tangible and engaged staff, has obvious benefits, and provides a platform to embed the 'system' concept, thus supporting the modelling and implementation of further change.

3.2.3 External support and scrutiny

The Early Adopter Programme required LMSs to deliver change rapidly, and test new concepts. To support this, it provided expertise, national coordination, and financial support, along with scrutiny and challenge.

How external support facilitated the transformation:

- The Early Adopter funding was reported to be essential to deliver at the pace and scale required, providing dedicated staff and resources for the programme. BUMP received £2,376,678.
- Relationships with, and support from NHS England were reported to be good, and helped facilitate the work.
- The opportunity to meet and share learning with Early Adopter LMSs around the country was welcomed, and participants cited examples of models and experiences from elsewhere, e.g. visiting a 'pop up' hub in Cheshire and Merseyside.
- The National Team was reported to be responsive to local needs and context, e.g. in working with the LMS to revise timelines for implementing new payment systems following a merger of the two major provider organisations in BUMP.

Challenges and barriers to benefiting from external support:

- Maternity transformation as conceived in this form of implementation involved multiple concurrent projects (e.g. PMCB Pioneer, Early Adopter, Saving Babies' Lives). This was at a time when major programmes of change at a national level (e.g. STP/ICS implementation, Perinatal Mental Health Community Services Development) were underway. The volume and complexity of the work is significant for systems to undertake and coordinate alongside the day-to-day pressures of NHS service delivery and workforce challenges.
- Systems approaches to improving healthcare are emerging across the country. There is no single 'right' way that NHS England can recommend for LMSs to implement change, for example the national workstream structure was initially adopted by BUMP but this proved to be too complex and unwieldy.
- The involvement of NHS England-at a National and Regional level, and the CCG in supporting and scrutinising the transformation work was reported to overlap and misalign. Participants identified duplicate reporting in response to requests from these bodies as onerous, with the time devoted to preparing the reports, reducing capacity for the transformation work itself. Also, variation in approach to scrutiny, and expectations from regional and national NHS England teams added another level of complexity to the process.

- Policy was refined/developed during the course of the programme, in particular the confirmation of the 20% continuity target in March 2018. The frequent shift in expectations was reported to create additional pressure on the LMS.
- Some concepts in the original policy required significant work to clarify and develop them before implementation could be planned and carried out. These included at-scale continuity, hubs, and PMCBs. The concepts were still being refined in the final stages of the evaluation and proved challenging in practice. The role of the Early Adopters was to undertake the development and testing of new models. However, more centrally-led concept/model development and modelling prior to the launch of the Early Adopter programmes may have assisted LMSs develop and implement sustainable, affordable change sooner.
- National maternity dashboard requirements were not set at the start of the transformation programme, which would have provided a template the LMS could build on.
- Many staff across the system regarded aspects of the policy to be extremely challenging to deliver, particularly continuity models and Personalised Maternity Care Budgets.

There's lots good about being an early adopter because we had the funding to be able to try things out and if they didn't work we could try something else. We were able to…things like the BadgerNet system we were able to fund a midwife to be involved in it and I think that's why it was really smooth when it was implemented. There were hiccups with it but because we were able to fund that post and somebody was doing that as their day job was really, really helpful. I think having the access to the National Team was really helpful because we could be honest about the things that were going well and the things that weren't going so well and we could say to them you're over monitoring this, you're not…you're under monitoring this, we're performing and you could challenge the National Team as well which was really good. **BUMP leader**

So we spend a lot of our time re-jiggling the same information into a format for somebody else, whereas if somebody had just said 'This is the template for information around maternity services' it would've made all this so much easier. **Manager**

Without a significant amount of money it's really hard to make any of those changes real isn't it? So what we've had of the advantage of being an early adopter and a pioneer is having enough money to be able to say to people 'There's some money here, let's do this'. We wouldn't have a system across both trusts if there hadn't been some money to do it, so we wouldn't be talking about single point of access, we wouldn't have scanning out in the community in the way we've got it. So, but money is a lever isn't it? **Manager**

3.2.4 Communication and feedback within the transformation team

Monitoring and measuring the change in real-time and communicating this within the programme team is crucial in large scale transformation.[2] The leaders of BUMP recognised this need and put structures in place to meet it.

Structures facilitating feedback included:

- Workstreams, the Programme Board, meetings between senior leaders, PMO measured and scrutinised the programme. The structure was revised following phase 1 of the evaluation to reduce complexity in managing information flows between different parts of the programme chiefly by combining key areas of activity into two main workstreams.

- Communication of progress between workstreams and with the Board through verbal and written minutes, reports, monitoring against milestones, RAG rating.
- Digital platform to share documents
- Team working to develop a common dashboard to facilitate measurement of the change
- The electronic patient record significantly improved the LMS's ability to establish baseline activity, model change, and measure progress.

Barriers/challenges in measurement of progress and feedback within the programme included:

- Complexity and scale: a huge project, with other recent/current changes in the LMS, therefore sharing information across the different workstreams and between leaders of the programme was challenging, including identifying interdependencies between different areas. This is likely to increase following the end of the Early Adopter period due to a streamlined transformation team.
  I think we've spread ourselves very thinly, I think we've got too many projects that maybe could have been consolidated and I think they've realised that now, going forward there's not going to be as much…how the reporting mechanism will be structured I think needs to be discussed and agreed, it needs to be more sensible in a sense of manageable because we are not going to have the staff going forward. **Manager**
- Change: changes in leadership, structure and plans increased complexity in measurement/feedback.
- Data availability: data sharing issues were significant, and it was not always possible to provide the data required, for example some data was only paper-based, other data was not consistently supplied by third parties (e.g. Baby Box company, neighbouring LMSs), therefore baseline measurement and modelling was challenging.
- Data completeness/accuracy in reports was sometimes inconsistent.
  I think we're at that stage with the dashboard where people don't believe it yet because they're not sure about the data … the data's not correct because they've not submitted the data. **Manager**
- Digital Project Management platform had mixed success, due to gaps in the information on the platform, time and skill required to use it, and the change of platform used mid-way through the programme.
- Plans for monitoring/evaluation of pilots not always set, some learning opportunities missed.
- Feedback loop sometimes not closed, e.g. explicitly sharing how learning from staff engagement events shaped the programme.
- Risk: there may be reluctance to report where changes have not 'worked' due to fear of failure, or to set targets which may not be met.

3.2.5 Contextual influences on the project

A range of contextual issues cut across much of the programme, some were specific to BUMP, whilst others affected the wider health system. These are summarised in the table overleaf. The quote below illustrates one of the primary contextual challenges, which was raised throughout the evaluation: significant recent/concurrent organisational change.
All of the organisations we are working with are going through such massive changes. So, you know, [Trust 1] has just been taken over, [Trust 2] was taken over. It feels to me that if we package this right, we can see this as a positive change because I think there has been a lot of negative change around the patch at the moment, I think change is a daily event isn't it and I think if you can make that change

positive and engage people in the fact that it's for the good of the women, we might improve things.
Manager (Phase 2 of evaluation, 2018)

Contextual factors	Impact on transformation programme
Organisational	
Organisational change, mergers	Recent/concurrent merger/acquisition of/in both major NHS providers; new/emerging structures/leadership/relationships workforce resulting in change fatigue.
Provider-led structure	Unique in being a Provider-led LMS (compared with CCG) facilitated engagement among leaders. However Provider-led LMS may have reduced the focus on wider population needs, and roles/potential contribution of alternative providers.
Local Authority variation	Local Authorities have different political leadership, financial positions, priorities and providers. This was a barrier to standardising models/services such as smoking cessation across the LMS.
Previous 'failed' change	Increased staff resistance to current changes, e.g. Changing Childbirth and continuity of carer policy.
Scope of hospital trust	Maternity-focused trust: facilitated prioritisation/engagement at senior level. However large multispecialty trust: maternity competes with wider range of urgent priorities/pressures, e.g. acute medicine-directed focus away from priorities of BUMP.
Other concurrent change projects	Timelines and plans for change elsewhere not aligned, challenging to embed maternity transformation in wider system, e.g. STP/ICS, Local Authority recommissioning/restructuring.
Provider politics/power	History/narrative of provider power/role in the local health economy affected perceptions of who was in control, and shaped engagement of staff in the programme.
Austerity/funding/ resource	Workforce and financial pressures experienced by all providers reduced capacity to transform and to put new/improved services in place, e.g. Local Authority austerity reduced capacity to develop preventative services.
Workforce	
Business as usual	Pressure on current services and lack of capacity among leaders reduced ability to distribute leadership across LMS, even when funds available to release staff.
Changing workforce expectations	Changing workforce needs/expectations affected engagement with new models, and the retention/recruitment of staff, e.g. younger midwives had different expectations regarding their work life balance and this was identified as a risk in terms of delivering continuity of carer models.
Continuity of leadership	Leaders moved on/left BUMP, interrupting the work, delaying progress, and reducing momentum/engagement among staff. However, in some instances this served to refresh the vision and reinvigorated the process. Continuity of leadership is difficult to maintain.
Population/environment	
Population demographics	Change needs to be tailored to local need, may require more, e.g. BUMP was at a significant disadvantage in part because the diverse nature of the population, e.g. many women needed support to access their electronic records due to language/technology needs.
Population demand/behaviour	Some women's expectations/needs did not align with assumptions, e.g. uptake for home birth was, and remains, is low. Some women suggested intrapartum continuity was not a priority for them.
Geography/ boundaries	Stakeholders dispersed across a wide geographical area made collaboration more challenging: e.g. time taken for leaders to travel to and park for BUMP meetings. Breaking down barriers within LMS did not address cross-LMS boundary variation for women receiving care from more than one LMS.
Policy	
Early Adopter Status	EA status provided resource, and support from other Early Adopters and the national team to deliver change more rapidly. Pressure to deliver may reduce 'permission to fail' openness, and learning.
Emerging policy	Expectations were clarified during the course of the programme, e.g. continuity targets, however this made it difficult to communicate a consistent message about the vision/nature of the transformation.
Misalignment with perceived need	National policy/funding changes were inconsistent with maternity policy, e.g. Children's Centre provision reduced/lost nationally while maternity hubs were being implemented. Changes recommended by policy perceived as not addressing priorities for local population.
Sovereignty and accountability in LMS structure	LMSs have no statutory power, therefore accountability was to sovereign organisations rather than the system. This constituted, a barrier to working across providers and sharing risk/budgets, e.g. one trust 'capped' its maternity bookings to manage capacity/demand, while the other did not.

Table 3: Contextual influences on the transformation work

3.3 Findings Part 3: Implementing the Local Maternity System

This section explores the implementation of the Local Maternity System, a new way of working for the NHS, which aligns with national work to bring statutory organisations together to work in defined geographical areas as Sustainability and Transformation Partnerships, and more recently Integrated Care Systems.[12] The original Better Births and Implementing Better Births policy documents set out the key features of an LMS, and this section is structured using key recommendations from the policy (see Box 6 overleaf) to organise the findings concerning LMS implementation.

Goal	BUMP progress at end of May 2019
Better Births recommendations:	
6.1 Providers and commissioners should come together in local maternity systems covering populations of 500,000 to 1.5 million, with shared standards and protocols agreed by all.	BUMP has established its LMS, and is working towards implementing shared standards and protocols, with a number standardised across the system (9 guidelines aligned, 9 collaborative care pathways aligned). Full alignment across the system is a significant undertaking, therefore many aspects not yet fully aligned.
MOU Deliverables:	
Develop single point of access supported by guided choice and access to full range of wraparound services, including prevention, mental health and wellbeing for all women	Single point of access developed in collaboration with women and staff SPA being piloted in primary care. This SPA not yet linked to a wide range of wraparound services, but there are plans to do so. Plans for digital maternity triage are also being developed.
Creating a single maternity Electronic Patient Record (EPR) for all pregnant women across BSol	Single maternity record introduced 1st April 2019 (more detail below). Wider impact-The Black Country LMS exploring the possibility of developing a single record. Worcester Acute Hospitals NHS Trust-introducing BadgerNet and so may be able to develop single patient record.
Having one maternity record that has the ability to link into relevant health services including neonatal and health visiting services. This record will be accessible by the woman and professionals engaged in the care of the pregnancy and the newborn and will be in use by 2018	Maternity notes portal (BWH) launched with >90% women consenting to access, and between 57 and 77% of booked women accessing the portal each month (to March '19). The potential for better and quicker decision making based on the availability of clinical information was recognised and welcomed.

Box 6: NHS national policy for Local Maternity Systems (LMSs):

As part of the national Maternity Transformation Programme, organisations providing and commissioning maternity care are required to establish Local Maternity Systems to promote access, choice and care closer to home. Organisations across England were required to plan to work in this way during 2016/17, implement the plans in 2017/18, with full roll out by end 2020. Key elements of LMSs identified in the policy documents include:

a) **Location and size-**LMSs should be Coterminous with Sustainability and Transformation Partnership areas, usually covering populations of around 500,000.

b) **Status-**LMSs are not statutory bodies – legal accountability for services lies with CCG, LA and NHSE. These organisations will take increasing responsibility for decisions regarding management of resources and joint commissioning.

c) **LMS Leadership** overseen by Partnership Board. Led by senior leader connected into governance of STP.

d) **Vision** Expected to develop a local vision for improving services and outcomes, developing the maternity aspects of the STP plans

e) **Involvement of stakeholders** LMS expected to involve providers responsible for maternity/neonatal care, engage clinicians and managers, and co-design provision with service users and communities

f) **Enabling integration** LMSs expected to put infrastructure and protocols in place to integrate organisations and services. This was to involve the development of:
   i. Interoperable electronic patient records
   ii. Shared standards, protocols, operational and clinical governance processes/procedures (see below)
   iii. Community hubs
   iv. Professional training and working (including coordination of workforce) across professional and organisational boundaries

g) **Local Maternity Offer**, a 'living document', to be coproduced and accessible to the population served, setting out: services, support, routes to access, information sources, MVP and how to get involved, complaints procedure.

h) **Clinical and operational governance structures:** LMSs were expected to have aligned structures, processes and cultures by April 2018 to provide seamless care and break down boundaries. NHSE planned to provide an exemplar clinical governance model by summer 2017. Policy was flexible in what governance scope should be, but it was suggested it may include:
   i. Clinical pathways (including neonatal, perinatal mental health, hubs and support services), standards, guidelines, and transfer/referral protocols
   ii. Interfaces between different services (e.g. access to diagnostic equipment)
   iii. Shared learning, development and training, and shared staffing
   iv. Clinical data review (in-unit and within LMS) to inform improvement, and review and investigation to share learning

Stated policy assumptions:
- One size does not fit all – variation is expected
- Needs leadership, which requires initial and ongoing resource (more for initial period)
- Assumes that there will be an increase in MLU and home birth if choice is increased, reducing costs, and therefore meeting efficiency requirements.

3.3.1 BUMP location and size

The LMS is large, covering a population of 1.3 million, with around 18,500 births each year. The major partners in the LMS are listed in Table 4 below:

Organisation	Details and changes during evaluation period
Birmingham Women's and Children's NHS Foundation Trust	Single hospital site, Birmingham Women's Hospital, including OU, AMU, Level 3 neonatal, transitional care, plus community midwifery and dedicated Home Birth Team
University Hospitals Birmingham NHS Foundation Trust	All sites formerly part of Heart of England Foundation Trust, which became part of University Hospital Birmingham Foundation Trust in 2017. • Birmingham Heartlands Hospital – OU, AMU, Level 3 Neonatal, Transitional Care, community midwives • Good Hope Hospital – OU, AMU under development, level 1 neonatal, community midwives • Solihull Hospital – no OU or AMU, FMU and community midwives.
Birmingham and Solihull Mental Health Foundation Trust (BSMHFT)	Mother and Baby Unit providing in- and outpatient care for people with severe mental illness. Community Perinatal Mental Health Service for women experiencing severe mental illness (service expanded in 2018 to include Birmingham Women's and UHB women)
NHS Birmingham and Solihull CCG	Formed following merger of 3 CCGs in 2018, Birmingham Cross City, Birmingham South Central, Solihull. Coterminous with STP.
Birmingham City Council	With responsibility for Public Health
Solihull Metropolitan Borough Council	With responsibility for Public Health

Table 4: Key partner organisations in the BUMP LMS

This information provides an insight on the scope and scale of the change required. The LMS is almost 3 times larger than the 'working model' specified in the policy, which brings its own challenges, and is coterminous with several other LMSs.

3.3.2 Status of the BUMP LMS

There were a number of specific contextual challenges to the leadership of this system change. One of these was the overlaying of the putative LMS on a number of 'Sovereign' organisations. Indeed the term 'sovereign' signifies the legal and governance status of the NHS Trusts involved. The focus of the trusts on the activity they managed and the key targets they were accountable for resulted in a particular way of working whereby the structures and processes involved rendered partnership and collaborative working challenging. There was frequent reference in the interviews with key staff about how realising the ambitions of BUMP was difficult because of the structural barriers to cross organisational transformation. For example:

That's a challenge for the NHS because probably over the last 10-15 years, managers and clinicians have been groomed to think 'my organisation' and 'sovereignty of my organisation' and not 'what can I learn by working collaboratively and how do I bring my colleagues into this?'

Senior Midwife

There was no lack of willingness on the part of those involved in BUMP however other than a small cadre of staff who were employed specifically to lead BUMP most of the staff were all accountable to their employing organisations and so they experienced tensions with regard to their

responsibilities to BUMP and the development of the LMS, and their 'day job'. This was reflected in problems encountered with regard to data sharing between organisations, governance, and financial modelling.

Given the nature, scope and scale of the transformation it took some time for the 'vision' of the LMS to emerge. BUMP was largely regarded as an entity in and of itself focussed on transformation. Many interviewees (other than senior team members) had no clear idea of what the LMS was or was going to be. This was compounded by the merger of the key constituent NHS Trusts involved in BUMP. Given these local contextual circumstances it is perhaps unsurprising that the 'sovereignty' issues remained unresolved. However BUMP was able to deliver on a number of the Better Births recommendations in spite of this significant challenge.

However in some key areas it was a particular difficulty. For example efforts to align clinical and financial models were hampered by a lack of progress with agreeing the most appropriate clinical model. This was compounded by a recognition that there was no benefit in having a shared budget. Despite this the LMS developed financial models across commissioners and local providers, although agreeing regional financial models and developing an outcomes-based model for commissioning proved more challenging to deliver and indeed was outside the remit of the programme to deliver. The programme brought together finance, commissioning and contracting colleagues across local providers, the CCG and NHS England but discussions were continuing during phase three of the evaluation.

The LMS developed an economic model that enabled it to model its current and future financial position across the LMS and the financial impact of implementing continuity of carer models. However it was based on assumptions about workforce supply, which were problematic given national staff shortages in the NHS. Similarly in the course of the evaluation it became clear that full roll out' of Continuity of Carer models was not possible with existing resources, and changes in tariff payments for the provision of neonatal care had not been accounted for in its design.

3.3.3 LMS leadership

Strategic BUMP stakeholders described how the legal framework for STPs and LMSs was not clear at the national level, and that there was no 'right' structure for leadership and governance to guide local decisions. As the leadership structure developed there was a shift to core team of independent, funded, designated leaders in the form of a 'triumvirate' made up of two senior clinical staff and a director of operations. They were supported by a wider team including a project manager and communications lead, as well as staff with expertise in finance, information technology and a wider team of senior managers and leads from across the LMS. This new structure was broadly welcomed, as it was seen as signalling a move towards system- rather than provider-based working. The development of the electronic patient record and alignment of guidelines and pathways were seen as key elements of this.

That triumvirate as I called it, quartet I think it is, there's four of them, actually was probably a watershed point where things started to get traction properly. Up until then we'd had a lot of attempts at trying to align and get people to be friendly to each other, but it was when it started to become slightly more structured in a programme management approach that it did need those four people fronting it up in human relationship terms for it to start to really get the traction. ***Leader***

This blend of designated and distributed leadership was regarded as a positive development. The new leadership team had more capacity and independence. The balance of leadership shifted and there was less distribution of work to local provider leaders than before, with some staff uncertain whether their previous contribution was of value. There was some distribution of leadership, with more equal BWC/HEFT representation in the latter half of the Early Adopter Programme. This provided designated leaders with capacity to deliver change, however they had no formal authority over the constituent sovereign organisations. Although this had an impact on the design and delivery of the LMS, they had limited ability to influence decisions and actions beyond the LMS.

…that needs to be our next focus to empower the leaders and the managers within the programme to have those conversations and involve their teams. Because I'm getting a sense that if you're involved, like if you're on the board or you're in a work stream you're quite up to speed of what's going on that otherwise you know there's an ambition for a system but you don't really know what that's going to mean for you and what it's going to mean for women. **Manager**

Best et al's (2012) rules for large scale system change suggest designated and distributed leadership are needed if change is to be successful. In what follows some of the challenging elements of leading BUMP are explored in this context to uncover, as far as possible, the reality of the leadership as enacted in the setting, along with drawing out overarching lessons about system change relating to leadership.

However this was not a universal view and some respondents identified limitations of the model and suggested caution with regard to its further development Although presented as a means of ensuring clear clinical Leadership of BUMP this needs to be balanced with the findings that indicate there was a lack of awareness in parts of the organisations involved in BUMP of the membership and purpose of the senior management team. Also the triumvirate was a focus of concern for a relatively small number of individuals involved in the leadership of BUMP rather than it being developed as a functioning form of leadership that was transferable to other settings. However there was no evidence, or at least no reports, that the model had been 'replicated' elsewhere. This suggests further investigation of this form of leadership and its impact on large scale transformation is required.

Reviewing the wider data set, leadership was associated with roles and people, rather than activities and teams. The way it was discussed reflected familiar narratives of action focused visionary leaders shaping the system. Leadership is central to large scale system transformation (Best et al 2012) however the extent to which a new approach necessary to drive large scale transformation was developed in BUMP was limited by disruption of the continuity in senior leadership and the lack of a clear vison of what the end point LMS should look like. As the phase 3 data collection period was coming to an end, further changes to the management/leadership structure were in progress.

3.3.4 Vision

BUMP was required to develop a local vision for improving services and outcomes, and developing the maternity aspects of the STP plans. In terms of vision, and what the BUMP programme entailed, there were two distinct pieces of work:

1. Developing and implementing an LMS, moving from provider- to system-working (the focus of this section of the report)
2. Developing and implementing a range of distinct service changes/innovations across the LMS (e.g.

hubs, continuity models, described in other sections)

Documents and communications set out the overall vision for the LMS:

"To deliver a consistent world class holistic service that empowers women and families to make informed choices, enabling them to access high quality care from a range of providers that is most suited to their personal choice and clinical need."

While discrete elements were developed to deliver the vision (guidelines, pathways), the specific detail regarding what the new system would look like, its future corporate and clinical structures, and how it would affect women, babies and staff, and when changes would occur, was still emerging at the end of the Early Adopter period. There were changes in some aspects of the vision, in particular from an initial plan for a system with 5 comprehensive maternity hubs, to a more phased approach to developing the hubs (explained further later in the hubs section). Some aspects of working as an LMS were described as more straightforward to define and communicate than others, e.g. aligning clinical guidelines, patient records, job descriptions and training across the LMS.

A number of influences on defining and communicating the vision of the LMS were observed:
- Complexity of the changes being implemented
- Size and scale of the organisations/groups involved
- No blueprint for an LMS, national uncertainty regarding the 'right' approach. Models and accountability structures were emergent and changed over time as the system learned 'what works' – this is expected in system transformation, but was challenging.
  In terms of the LMS, unless you are going to actually say that it has a governance function, I'm not entirely sure what the role is, because you've got heads of midwifery for each organisation, I'm not sure what the function would be for the LMS. **Leader**
- Differing views on the vision for the LMS
- Political and organisational context
  - Working as a system challenges providers' sovereignty, power and authority, with accountability structures still emerging, and it takes time for staff to develop collaborative working.
  - Power dynamics between different providers, and perceptions that key providers were looking to 'take over' others' services affected how key messages were received and interpreted.
  - Concurrent/recent local and national change (recommissioning child health, mergers/acquisitions in main providers and CCGs, Local Authority 'locality' approach.
- Change in leadership (individuals, structures, resource) – this was reported to be both a strength (opportunity to improve/refresh) and a challenge (discontinuity, confusion, change in plans).

The BUMP brand – what is BUMP?

The Birmingham and Solihull LMS is unusual in that it has a 'brand', BUMP, associated with it. Having a recognisable brand could facilitate engagement of women and staff, and break down organisational barriers. However, there were multiple accounts suggesting that BUMP meant different things to different people, including leaders of the transformation.

Well the BUMP project started off as a project involving a certain team of people with certain sort of views and certain objectives and obviously the LMS was then involved from there but to me it's where do we see the LMS going in the future, …there's a lot of opportunities to make things better for patients across Birmingham … I guess you know well we'll just have to see really where we go with it. **BUMP leader**

At the end of Phase 3 of the evaluation, despite efforts by the LMS to communicate with staff, wider stakeholders, and women and families (described later), many stakeholders reported they were unaware, or had only partial knowledge of the LMS vision and what 'BUMP' would look like in the future.

For me, I just want to see a picture, what is BUMP, okay what's the feedback, where do we get that access, let's say I'm a mother… how do I access what is BUMP, what has been done, so how do I know, if I got pregnant suddenly, how would I know where to go and what's available to me. What's the new changes? I'd like to know just what are Bump, what are the objectives, what have they achieved so far, what changes have been made, where we are going in the future.

Women's focus group

Where staff were confused about the nature of BUMP, and where it was perceived as separate to the core business of the providers, this seemed to reduce engagement and ownership of the transformation work.

Box 7: What is BUMP? Participants' accounts suggested it could represent a range of concepts:

- A time-limited transformation project that would not continue long-term
- A set of specific service innovations (e.g. hubs, continuity models)
- The name of the maternity transformation team (a separate team, not part of trust management/leadership structures')
- The official name of the LMS (BSol LMS is BUMP)
- A partnership of stakeholders in different organisations (all relevant stakeholders, not just the BUMP team)
- A brand staff and women would recognise - women will 'book with BUMP', not a hospital
- A brand for staff only ('wearing the same T shirt')
- Something that will happen at once in a 'big bang' way, or something which will happen gradually

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3.3.5 Involvement, engagement and communications with stakeholders

LMSs are expected to involve providers responsible for maternity/neonatal care, engage clinicians and managers, and co-design provision with service users and communities. LMSs also communicate with stakeholders to ensure that they are informed about plans and progress, but this is not the same as involvement, which is a more two-way process. In this evaluation, we used 'five simple rules' for large scale transformation, derived from an extensive evidence base of 'what works' in large scale service transformation.[2] The 'rules' include engaging/involving stakeholders, in this case- involving women and families in maternity transformation, and creating feedback loops to communicate with stakeholders about plans and progress. The focus of the analysis is on engagement of individuals and specific staff and patient groups, rather than engagement of organisations. There was a wide range of communication with, and engagement of staff and women throughout the course of the BUMP Early Adopter period, however, many perceived that there were opportunities for greater involvement and communication to build on what had occurred to-date.

There is often a gap between principles and practice when involving people in large scale system transformation projects, and this is challenging work.[2] Activity increased over the course of the

evaluation, and there are plans to engage further with primary care and health visiting colleagues in 2019/20.

Staff Engagement/Involvement/Communication

A range of approaches to engaging staff were employed throughout the transformation project. Much of the work was developed iteratively, rather than conducted according to an overarching engagement plan developed at the outset.

Activities included:

- Whole-LMS engagement events for all staff: Ask the midwife (Aug-Dec 2016), staff conferences at external venues, Jan 2018, June 2018, Jan 2019, consultant obstetrician dinner 2018

- Focused events to engage on specific areas/groups: Growing Together: developing a collaborative relationship framework for the local maternity system, summer 2018, to reflect on cross-organisational partnership working and future model. Specialist Perinatal Community Mental Health Team engagement event April 2018, BadgerNet events bringing key staff together, e.g. GP-specific engagement event October 2018 for SPA model, Workforce Away Day 2017.

- Ad hoc engagement: Director of Midwifery for LMS working clinical shifts in the LMS once per month, 'tea, cake and Badger' electronic records engagement taken to frontline staff in the clinical areas, leaders visiting clinical areas and meetings to engage with staff

- Training-as-engagement: BadgerNet training for frontline staff 2018/19, Continuity of Carer training events for midwives, 2019

- Distributed leadership as a route to engagement, e.g. asking senior midwives to join a task and finish group for workforce

- Communications to inform and engage staff: regularly on agenda for midwifery/obstetric colleagues, newsletter commenced spring 2018, relaunched in 2019, social media posts, posters, website also in place.

Women and Families' Engagement/Involvement/Communication

Engagement with and involvement of women in the transformation programme was primarily facilitated by the Maternity Voices Partnership one of the new structures established across England following Better Births. National Maternity Voices states: *"A Maternity Voices Partnership (MVP) is an NHS working group: a team of women and their families, commissioners and providers (midwives and doctors) working together to review and contribute to the development of local maternity care."* The BUMP MVP was commissioned by the Birmingham Clinical Commissioning Groups to undertake this function, and support the transformation programme. It was established in April 2018, with a Chair and Vice Chair from the community, and a manager from Gateway Family Services facilitating the work. The MVP was recommissioned the following year. In its first year its activities relevant to the BUMP programme included:

- Attendance at BUMP Clinical Workstream meetings and BUMP events
- Service user and engagement network mapping
- Continuity survey (99 women)
- Compilation of a membership list of women willing to contribute (61 women)
- Focus groups to gather views on specific topics (multiple groups held, at one point two planned per week)

- Social media promotion of MVP and LMS work
- Meetings held quarterly, close to hospital sites in the LMS. Between 9-13 women in attendance at each meeting. Topics addressed included: single point of access, PMCBs, continuity of care, update on BUMP programme
- Engagement with other MVPs around the country

Other engagement/involvement activities occurred in addition to the MVP's work:

- Service users contributing to the Perinatal Mental Health Workstream
- Focus groups held with women led by senior midwives and the CCG in the period before the MVP was established.
- Women's survey undertaken by the CCG
- Patient stories presented at Board
- Chair of previous MSLC Chair of original Stakeholder Council in 2017 (now disbanded)

Facilitators of engagement, involvement and communication:

General points:
- A Communications and Engagement Workstream and Stakeholder Council were established at the beginning of the BUMP project, aligning with the national maternity transformation structure. The Communications and Engagement Chair reported to the Programme Board.
- Recruitment of a dedicated Communications and Engagement Lead with capacity and expertise to support the programme was seen as transformative: activity increased significantly in 2019 following recruitment, and a new strategy was produced.
- Leaders recognised that engagement and involvement was important.
- Funding for staff and resources to deliver engagement and communication was reported to have improved the scale and quality of activities, in particular the Early Adopter funding, and MVP funded by the CCG.
- Communications and engagement were regular agenda items.
- Stakeholder mapping was undertaken in January 2018.
- A Stakeholder Council was established at the beginning of the project, with a wide range of stakeholders.
- Early Adopter funding enabled the LMS to provide staff to support the engagement work, and host high profile events, to involve staff in discussing and shaping the nature of BUMP.
- Staff and women described how multiple, regular, embedded approaches to communicating with and involving them were required: there is not a 'one size fits all' model. Leaders recognised this.
- It was suggested that it would be useful to consult stakeholders to check that approaches to involvement and communication were working for them, and seek suggestions for how they could be improved.

Facilitators of women's engagement/involvement:

- It was suggested that an LMS-wide MVP, rather than separate MVPs in each trust, facilitated strategic thinking.
- The CCG commissioned a third sector organisation with strong links to the community to deliver the Maternity Voices Partnership. It was reported that this increased the representativeness and independence of the MVP. MVP activities involved women from a range of communities in the city, and the new structure was reported to be more representative than previous Maternity Services Liaison Committees.
- The Perinatal Mental Health Workstream included service users who attended, and contributed to discussions at every meeting, which was welcomed by women and staff.
- The use of non-NHS community venues with easy public transport access, welcoming children and providing activities was reported to facilitate the involvement and engagement of women.
- Women provided direct input into the content of the BadgerNet electronic patient record and Single Point of Access.
- It was suggested that all women involved in the work should be paid for their time to compensate them.
- The MVP engaged with women in existing community groups, and this was described as a good way to reach a range of women.

Facilitators of staff/external stakeholder involvement and communication:

- Staff were keen to be involved where they perceived change would affect them and the women and babies they cared for. Focusing on aspects which engage/motivate staff were reported to be important, however these did not always align directly with the policy priorities. For example, clinical staff were reported to be strongly motivated by safety initiatives, such as Saving Babies' Lives, rather than the policy aims of Better Births.
- Tangible change, 'things' which could be seen/felt/used by stakeholders, such as the electronic patient record, appeared to be powerful tools for engaging staff in the project.
- Good communication about engagement opportunities, funding/backfilling staff time, and bringing events close to staff were described as facilitating engagement.

Challenges/barriers to engagement, involvement and communication:

General points:
- The Communications and Engagement Chair had a large portfolio in addition to the BUMP work, reducing capacity to focus on the programme. Following reorganisation in 2018, the dedicated workstream was disbanded.
- Initial communications and engagement plans were deemed unaffordable.
- Overall strategy and discussions in meetings were more focused on communicating with stakeholders, rather than involving them in co-creating the plans.
- Early in the programme, there were different interpretations of how involvement would work in the coproduction of the changes to the LMS. Some felt it was the responsibility of leaders of individual change projects to arrange their own coproduction activities, and there was a lack of clarity as to whether this would be initiated and organised centrally by the engagement

workstream and MVP. This appeared to create delays in involving stakeholders in early stages of the project.

- Staff and women we spoke to reported they felt there was scope for greater involvement. For some participants their experience of involvement was frustrating as they did not feel in some cases where they had been involved it had been meaningful, with perceptions that decisions had already been made beforehand.

- Those we spoke to wanted to know more about how things were progressing, including where plans changed, timescales slipped, or initiatives had not worked as expected. Where there were gaps in 'official' news about progress and change, there was a perceived loss of momentum. Informal sharing of rumours among staff appeared to create uncertainty.

- The range of stakeholders is wide, across multiple organisations, and different stakeholders have different roles in coproducing change, and different information expectations/needs. Communication and involvement of staff, wider stakeholders, women and families is highly complex. It can be challenging to involve many partners while retaining focus and moving forward without groups and/or the process becoming unwieldy.

- The project timescales limited the opportunities for meaningful involvement of women and staff in the development of plans and participants reported that in many cases they were being consulted about decisions that had already been made.

- Staff and women wanted to hear more about involvement/engagement activities, and the impact they had on plans.

- Sometimes there was a disconnect between what was important to staff and women, and plans being implemented, for example midwives suggested that implementing continuity models that prioritised intrapartum continuity was less important than improving antenatal and postnatal community for women.

Challenges/barriers to women's involvement and communication:

- The time taken to commission the MVP meant that it was halfway through the Early Adopter period before the Partnership was in place.

- The Stakeholder Council did not meet for a number of months, following the change in leadership and strategy. It was relaunched in 2019 but attendance was relatively low, and the Council was not clearly scrutinising/challenging/contributing to plans.

- Women have busy lives, or are socially excluded, and can find it challenging to get involved in shaping health services: some women are more likely than others to engage.

- MVPs are in place to provide a structure to involve women in all maternity care improvements long-term, not solely the transformation programme. As such, it is involved in other initiatives, such as the 15 Steps to Maternity Programme, not directly related to the transformation objectives. Participants suggested that the MVP was relatively small, and had limited capacity to provide the level of input necessary to inform the transformation programme.

On the side of women, I think maybe the MVP was a little bit seen as the be all and end all. It took a long time. The MVP has only been up and running just less than a year and I think it's been good. It's done some good things…There have been lots of positive things but I don't think we've really engaged with thousands of women across Birmingham and Solihull. I think that's the bit that's been missing. We have talked to Healthwatch Birmingham, particularly, and we want to link in with Healthwatch Solihull around how we can use their networks to get some of this out and about a bit more and get that feedback from people about what's working, what isn't working and how they'd like to see things happening differently. I think we've made some inroads on the public involvement

- The MVP model is new, and there are contrasting views concerning its function and links to the system. The contract has been revised to clarify the role and approach. It was suggested that while diversity and representation has improved, there is scope to increase engagement of more women, and others (e.g. fathers) in order to access a wider range of voices in future.

- Involving a diverse range of women requires support for vulnerable women and women whose first language is not English.

- It was suggested that more direct engagement with women in routine clinical care would be an effective way of reaching a wider range of women, e.g. gathering input by speaking to women in the antenatal clinic waiting room.

  …lets be on the delivery suite and the birth centre, and talk to mums as and when it's kind of happening, okay, maybe not when they're in labour, but you've got your captive audience there at the hospital… mum's don't want to be filling out a hundred and one forms and feedback this and feedback that cause nothing happens to it, and then do their own, what are our priorities, these are the Better Births but actually, what are our priorities for Birmingham and Solihull, is it matching with the national priorities, how can we think about it and tweak it…I think the priorities are all skewed and if they'd started from the bottom up model rather than these are our priorities and we're trying to filter it all down. **Women's focus group**

Challenges/barriers to staff involvement and communication:

- Staff engagement activities were often discrete events off-site, rather than a programme of activity in the workplace. Staff reported that they found it difficult to attend events, or were not aware they were happening.

  Well there's been big events hasn't there at the Motorcycle Museum and Aston Villa [football ground] and all that and that's lovely, that's great, everybody likes a day out you know and we know the girls from Heartlands and all that, that's lovely but actually the staff and community on delivery suite, they are not going to go to that, one they don't know what it's about, they are not that interested and it's difficult to release people, but we do try but it doesn't engage those at grass roots… **Senior midwife**

- With a large workforce it is huge challenge to ensure all staff are informed and involved.

- Staff awareness of what was happening was often low, and there was a strong desire for more information, including where there was 'no news' or where plans had changed.

- BUMP is a complex programme, and had been subject to significant change, including in its leadership and vision. This compounded the difficulties of determining what needed to be shared outside of the immediate team, when, and with whom.

- A fundamental barrier to engaging staff was the workload pressures. Working in an environment with high vacancy rates staff were 'stretched' and even accessing emails and 'newsletters' was difficult. Similarly participating in focussed coproduction activities required time away from clinical work which was not a feasible option for many staff. In addition even when encouraged and supported to participate in the large 'showpiece' events designed to publicise the programme and enable engagement, it was not always possible for some staff to be released to attend. It was reported that leaders with fewer clinical responsibilities found it easier to attend events than frontline staff.

- The focus of the strategy was on engaging stakeholders as the plans moved to implementation,

rather than engaging in a two-way process to shape and develop plans, or seek feedback at an earlier stage. A need to connect staff to the BUMP brand and vision to create 'proud brand ambassadors' was identified. Staff engagement was described by members of the senior team in terms of staff events/conferences and the communication strategy, rather than an integrated programme of activities incorporated into the participating organisations.

- Some stakeholder groups were regarded as being more challenging to engage than others. In particular, obstetricians were described as less engaged, and plans were being made to address this in 2019.

- Staff demonstrated some resistance to change in general, and to some specific proposals in particular. For example midwives had concerns about the continuity models under consideration, and the obstetricians were not in favour of providing community outpatient clinics. Staff were understandably focused on their existing roles, and/or disengaged as a result of previous negative experience of change programmes, including recent mergers. Low awareness of the overall vision for BUMP, how it would affect them, or a belief that 'it will never happen' also led to disengagement on the part of some staff. A historical power imbalance between key providers, and the perception that initially the transformation programme was led by one provider, and fears about being 'taken over' appeared to further reduce some individuals' willingness to engage.

There have been quite a few BUMP meetings that people can go to if they want to. We get the emails about them. I certainly get emails about them and that come round saying, 'There is a BUMP meeting.' I think it's not really tangible yet for a lot of people. There is all this work going on in the background. Once it's hitting me in the face, I need to know more about it then, I think. Because I've been involved in trying to deliver some of this, I've found that some of the joint working, across the different organisations, has been a little bit difficult at times. I've felt quite a lot of it is being driven by this side but they may well say the same from their perspective as well. **Obstetrician**

- Involvement of some groups was still emerging, but was increasing with plans to do more in 2019/20, e.g. primary care, Health Visitors.

3.3.6 Enabling integration

The LMS was expected to put infrastructure and protocols in place to integrate across organisations and services, and work had been undertaken to do so, including:

- Development of interoperable electronic records (see separate section on EPR)
- Agreement on shared standards, protocols, operational and clinical governance (explored later in this section)
- Establishment of community hubs (see separate section on hubs)
- Professional training and working (including coordination of workforce) across professional and organisational boundaries (explored later in this section)

3.3.7 The 'Local Maternity Offer'

The LMS had set out the vision and plans for its Local Maternity Offer in its 2016 LMS Plan. It had also set up a website for the LMS, with the BUMP branding, giving details about the different services on offer. While present in the 2017 Implementing Better Births guidance, the Local Maternity Offer 'living

document' was not explicit in the subsequent policy recommendations, Early Adopter MOU, or in the documents, meetings, interviews or focus groups in our evaluation, suggesting that this aspect of the policy was of lower priority as the programme developed.

3.3.8 Clinical and operational governance structures:

3.3.8.1 Governance system: alignment of pathways, standards, guidelines and protocols

The LMS was required to align clinical pathways, standards, guidelines and transfer/referral protocols. Achievements, barriers and facilitators are described below. During the course of the evaluation the focus was on alignment within the two main NHS maternity providers. However there were also some examples of alignment in the work of the perinatal mental health workstream, and smoking cessation. Alignment work with other partners such as children's services, general practice and mental health was emerging at the end of the evaluation period.

Achievements in aligning pathways, standards, guidelines and protocols:

- Nine clinical guidelines were aligned across the LMS
- Processes had been put in place to 'sign off' guideline across the LMS Pathways
- Future demand modelled and confirmed sufficient capacity to deliver care
- A number of pathways were developed across the LMS:
  o Single Point of Access to align access to maternity care
  o 7 collaborative care pathways for women requiring consultant and community care
  o Babies born <27 weeks
  o Women with perinatal health concerns
  o Smoking cessation
     Standards developed/aligned across the LMS:
- Clinical Dashboard
- Workforce standards (job descriptions, banding, and training) aligned across LMS. Some training standardised.
- Electronic patient record – was also implemented.

Work still to do in aligning pathways, standards, guidelines and protocols included:

- Implementation of new guidelines and pathways was often not commenced/complete: further work is likely to be necessary to ensure and measure implementation of the new written guidelines/pathways.
- Plans for LMS-wide capacity management in development.
- Hubs and support service alignment pathways (with the exception of smoking cessation) were under development.
- Aligning guidelines, pathways and standards for women cared for across LMS boundaries-this need was recognised at the end of the evaluation period.

Facilitators to alignment of pathways, standards, guidelines and protocols:

- Clinical commitment, organisational and clinical support of the principles of harmonisation and standardisation of clinical guidelines.
- Employment of Guideline Midwives to lead this development
- Allocating resource for staff time to work on guidelines
- Senior support to unlock barriers and ensure the most appropriate staff members are involved
- Electronic patient records - facilitated development of the dashboard and work to establish baseline measures across the service to inform pathway redesign
- Good working relationships - facilitated access to data and collaboration to deliver guidelines
- Piloting before launch - used to develop new pathways (e.g. SPA, smoking)
- Sharing and comparing between providers – motivating each other to improve

Barriers to alignment of pathways, standards, guidelines and protocols:

- Capacity/time/resource
  - Time consuming task, clinicians in particular reported time pressures of clinical work limiting their involvement.
  - Scale of task: around 100 guidelines to align. Progress made in 2018 (9 guidelines aligned), however no further guidelines had been signed off by the end of the evaluation in 2019.
- Process
  - There was no strategic plan to align all guidelines systematically, including prioritisation
  - There was uncertainty about some key concepts that were central to pathway development. For example what the SPA and hubs would look like, and how they would impact on/facilitate guidelines/pathways. The interdependencies between these undefined concepts (e.g. how could a community pathway be planned without specific detail about the services a community hub would provide?) hampered progress.
  - LMS-wide alignment, while beneficial, adds extra layers of consultation/approval, which is more time consuming and complex
  - No clear national standard in some cases e.g. national dashboard developed later in the process
  - Women and staff were not always involved in the alignment work, and so their impact on, and uptake by women and staff may be reduced
- Local context
  - Definitions/measures vary between organisations, e.g. how Caesarean section is categorised and recorded.
  - Variation between providers and women/babies' needs – some guidelines reported to be easier to align, with little variation. Some guidelines were subject to more variation/debate regarding content, some were more challenging where changes to provision were required to enable adherence to guidelines (e.g. antenatal scanning capacity in NHS providers, smoking cessation provision variation in Local Authorities).
  - Concurrent change and uncertainty in the system, e.g. awaiting service recommissioning/reorganisation, made collaboration across the system and developing pathways challenging.
- Clinical
  - Clinical pathways are complex – designing 'best fit' without overcomplicating things was

problematic.

- o The development of consistent written guidelines/pathways/standards did not guarantee consistent implementation, as this required clinicians to adopt them and change their practice.

  What we want to know on the back of that is actually how it's [new guidelines are] being implemented on the ground, because I guess once they were agreed they went back to the individual organisations and they've taken it forward but I think that's not been fed back into BUMP and understanding that methodology it is being implemented but I just want to understand how it's sort of, just to close the loop. ***Manager***

- Leadership
- o Discontinuity leading to delay or change in confirming plans/vision
- o Overrepresentation of one organisation in the alignment process reduced the relevance of the agreed guidelines for other organisations.
- o Organisations were reported to be operating in ways not consistent with a system approach, e.g. provider- level safety concerns reducing system-wide capacity management by capping maternity bookings.

- Data issues
- o Access to data (affected by informatics capacity, different systems, governance issues, relationships, multiple data reporting responsibilities)
- o Lack of electronic data system to effectively record baseline activity (resolved through EPR)
- o Quality and granularity of data was not sufficient to develop plans

3.3.8.2 Governance system: Interfaces between different services (e.g. access to diagnostic equipment)

Important changes in the interface between services were the electronic patient record, and plans to improve the 27/40 neonatal care pathway, described elsewhere.

3.3.8.3 Governance system: shared learning, development, training and staffing

Learning, development, training and staffing achievements:

- Midwives and others across the LMS were trained in Continuity of Care by RCM staff, funded by HEE
- Midwife perinatal mental health training course replaced with standard HEE modules.
- Midwife joint sonography training extended (and a bid was submitted to HEE to fund further training).
- Standardised job families and job descriptions were developed for staff across the LMS.
- Continuity of care models were piloted in both main providers
- The Professional Midwifery Advocate role was in place at one trust, with plans to roll it out across the LMS.
- Midwives were seconded to posts to better support women with low to moderate mental health needs throughout their pregnancy.
- Allied health professionals were working to identify ways to standardise provision in neonatal services
- Birthrate Plus data was used to inform workforce planning at LMS level

  I hear about training that's happening across sites so, if a training day has been set up on one

*particular site it's not just for you know the people on the Heartland's site, it's a day, it's on the Heartlands site, who can come? And there will be people from the women's coming across and this is, that tells me that actually the learning and the work that's been set up and the pathways that have been developing actually are flowing across all of the sites which is really, really exciting. **Leader***

Future plans/vision for workforce:

- Long term vision to have a more flexible workforce, able to work across sites and providers, early discussions across providers had commenced.
- Leaders across the LMS, particularly in midwifery, expressed commitment to developing a 'joined up' approach to staffing.
- Scoping of workforce requirements, Training Needs Analysis and creation of a shared training faculty were planned for 2019/20.
- Plans to have a 'staff passport' for clinicians to work across the LMS were in development
- Continuity of care lead midwife posts created (recruitment imminent at the end of the evaluation) for each provider to support workforce change
- Plans to expand the role of MSWs in the LMS
- AHPs in neonatology were exploring how to improve training across the LMS
- The Home Birth Team from one trust to be expanded as a pilot, to cover both providers, with 2 additional midwives (Autumn 2019)
- Link workers: £25K secured from HEE to pilot Link Worker provision in the LMS. Plan for 2 Link Workers plus part time Link Worker in Children's Centre. To focus on supporting access, EPR.
- Mental health peer supporter recruitment was imminent.

Challenges to workforce planning:

- Uncertainties concerning proposed service models, these included:
  o No single continuity model had been established in the LMS by the end of the evaluation.
  o This resulted in concerns about affordability as requirements were not clear.
  o It was recognised that the Link worker pilot scheme needed to be significantly scaled up to meet the need for support.
  o Efficiency and sustainability of deployment was highlighted as requiring further work in the future, e.g. community scanning clinics were reported to have smaller lists than hospital-based, and obstetric community clinics were perceived not to be efficient or cost-effective.
- Staff needs/preferences needed to be accommodated (e.g. specific settings/sites/work patterns)
- The main focus of plans to-date had been on midwifery, but all staff groups important
- Increasing clinical complexity increased the demands on the workforce
- Pressure in the service was reported to impact staff wellbeing
- Gap in midwifery leadership for a time perceived to impact on workforce development progress
- Local Authority resources and services vary, making alignment more challenging
- Local Authority resource/service gaps place extra demands on NHS to deliver service
- Challenges in the wider health service regarding supply of staff, which are a feature across the NHS in England at the present time and not exclusive to this LMS:

- o Demographic changes in workforce (including many nearing retirement)
- o Competition with other providers for staff
- o Insufficient midwives and doctors in training, and loss of bursary for nursing and midwifery students also impacts
- o Recruitment and retention gaps among midwives, doctors, AHPs, MSWs (in particular MSW attrition from training)

For the maternity services to be successful you have to have a happy workforce. If you don't have a happy workforce and let staff feel that they've got a sense of belonging and are looked after and nurtured with a nice environment you're not going to keep staff. We don't keep on staff anywhere, they leave and if they've got no ties to Birmingham and they're young, they're out of here. They see the writing on the wall and they go 'I don't want to be part of that'. **Hospital Midwife**

3.3.9 Clinical data review (in-unit and within LMS) to inform improvement, and review and investigation to share learning

Development of an LMS-wide approach to clinical governance was led by the Clinical Director of the LMS.

Achievements in clinical data review included:

- AN LMS-wide clinical dashboard was developed collaboratively.
- Informatics leads from the two main providers worked to agree the methodology to capture dashboard data.
- A Clinical Governance Framework was developed for approval by the main maternity providers.
- Clinical Governance Task and Finish and Shared Learning Working Groups were established to develop the LMS- wide approach.
- A perinatal mortality review process was developed collaboratively by the LMS in 2018.

Work still to do in clinical data review at the end of May 2019:

- The Clinical Governance Framework was yet to be agreed across the LMS (meetings scheduled for later dates by the end of the evaluation).
- Agree and implement LMS-wide processes to investigate clinical incidents and disseminate lessons learned from incidents (planned by September 2019).
- Introduce a programme of clinical safety initiatives by December 2019.

I guess one of things is that we have got agreement for a shared clinical governance system. I would say, at the moment, it's largely a bolt-on to what's existing rather than we've managed to take any steps out of individual organisation's systems. We have now got clinicians across the LMS coming together and reviewing incidents, reviewing data and looking at the clinical dashboard and information. We're starting to look how we can learn from each other which is really good progress, I think. **BUMP leader**

Facilitators of clinical data review plans:

- Data capture and quality was facilitated through:
  - Face to face work with Informatics and Clinical leaders to work through the challenges of measurement and reporting
  - Recruitment of an LMS-wide Informatics Lead (though not in post at end of evaluation)
  - Development of the Electronic patient record
  - BadgerNet Midwives in post
- The Birmingham Hospitals Alliance prioritised governance issues, which is likely to facilitate resolution of challenges in future
- LMS-wide groups set up to deliver the work
- Focus on 'easy wins' (e.g. joint training) improved clinical buy-in to joined up approach

Challenges in establishing clinical data review:

- It was reported that there was a lack of clear accountability and responsibility between providers and the LMS, requiring work with leaders from across trusts to identify the approach, which was ongoing: this is a national challenge for system leaders and not unique to BUMP (see findings regarding sovereignty).[11]
- There were challenges in agreeing content and definitions, and populating dashboard with complete and accurate data from the two main providers. Informatics capacity, organisational priorities and relationships were reported to influence this.

  There was great work done in the dashboard itself, but it was still coming with errors …we, don't quite take this as read cause actually there's a bit of data quality in there, you know, the bit about getting to a dashboard is great, you know, we're trying to do it in another area, you know, it is just taking an awful amount, seeing something in one place as a systemised LMS is really important for patient safety and outcomes.   ***Leader***
- It was reported that some obstetricians had not engaged with joint processes across the LMS.
- Concerns were raised regarding the affordability of some of the system-enabling aspects and how they would be financed as 'business as usual' to support the LMS in the long term.

3.4 Findings part 4: Specific innovations, interventions and service changes

This section provides a summary of the individual areas of innovation and service development, structured as follows:

- A table cross-referencing achievements with the Better Births recommendations, and the 'deliverables' outlined in BUMP's Early Adopter Memorandum of Understanding (MOU).
- Facilitators: what helped the LMS in the delivery of the specific innovation/development?
- Barriers and challenges in delivering the specific innovation/development.
- For some innovations, we have provided further detail regarding how plans have emerged, and the models tested.

The innovations/changes are:

- Digital innovations (electronic patient record, single point of access, maternity portal)
- Choice and personalisation, including personalised maternity care budgets
- Continuity of carer
- Community hubs/care closer to home
- Improving safety and outcomes
- Postnatal care
- Perinatal mental health
- Prevention, early intervention and inequalities
- Neonatal care

3.4.1 The Electronic Patient Record, Single Point of Access, and Digital Maternity Portal

Goal	BUMP progress at end of May 2019
Better Births recommendations:	
5.3 Use of electronic maternity records should be rolled out nationally, to support sharing of data and information between professionals, organisations and with the woman. Commissioners and providers should invest in the right software, equipment and infrastructure to collect data and share information	There was successful introduction of electronic maternity care records using the BadgerNet platform. Although there were some issues with connectivity and access in some geographical areas and locations covered by BUMP there was widespread recognition that this was a significant achievement which had huge potential for service delivery.
1.2 Unbiased information should be made available to all women to help them make their decisions and develop their care plan drawing on the latest evidence, and assessment of their individual needs, and what services are available locally. This should be through their digital maternity tool.	Electronic Maternity Portal developed and available online and via an app, includes information to support choice, many women accessing this (see below), not yet clear how women are using this information. Mental health resources being developed for inclusion in the portal. Not clear how choice is being offered/supported for women not accessing portal.
MOU deliverables	
Create a single maternity Electronic Patient Record (EPR) for all pregnant women	EPR went 'live' on April 1st 2019. Interface change to the system undertaken on 25th April and all joint records merged on Monday 29th April. >90% of women consented to access the eportal by the end of the local evaluation, and between 57 and 77% of booked women were accessing the portal each month (to March 2019). Use of portal and EPR by women yet to be measured. Link Worker pilot will assist women to access/use, though capacity of Link Workers to meet all women's needs not yet clear.
Having one maternity record that links into fetal medicine, neonatal and health visiting services. This record will be accessible by the woman and professionals engaged in the care of the pregnancy and the newborn and will be in use by 2018	Maternity notes portal (BWH) launched with >90% women consenting to access, and between 57 and 77% of booked women accessing the portal each month (to March 2019). The potential for better and quicker decision making based on the availability of clinical information was recognised and welcomed. In order to maximise the benefits of a single maternity record, the need to include neighbouring LMSs was identified. The process of engaging the Black Country LMS had started with the Black Country Trusts in an effort to encourage them to adopt the single record. There are plans for the single record to link to the neonatal BadgerNet and access is being tested for GPs and Health Visitors.
Develop a single point of access supported by guided choice and access to a full range of wraparound services, including prevention, mental health and wellbeing for all women	Single point of access developed in collaboration with women and staff SPA being piloted in primary care. This SPA is not yet linked to a wide range of wraparound services, but there are plans to do so. Plans for digital maternity triage are also being developed.

Facilitators of digital innovation:

- The drive from policy, the Early Adopter Programme, and the LMS to develop a single EPR provided a focus for activity.
- Familiarity of many staff at UHB with existing BadgerNet system facilitated implementation.
- The leadership and support of the IT team, and engagement of Clevermed/BadgerNet as a partner were reported to have been invaluable in developing the digital platforms, and in enabling staff to develop the skills necessary to use the EPR.

- The team worked with women and staff to develop the digital innovations for the LMS.
- Pre-testing of the single patient record prior to roll out facilitated implementation, along with 'floor walking' post launch by key staff to help alleviate any problems.
- Piloting of the SPA in primary care is being undertaken to test and improve the platform before system-wide rollout.

  I think one of the key things that's important, that we'd set out to achieve, was the Single Point of Access and it was really heartening to see how that's now being piloted in General Practice and how they are looking to extend it further into General Practice, but also how, along the way, the initial concept of Single Point of Access has changed and has been modified, hopefully to reflect a more useful approach because at the beginning I was quite sceptical personally around that concept so it looks like a very useful tool now that has been piloted and hopefully I would see that being taken on, so certainly Single Point of Access, I'm really delighted to see that that's taken off.
  Leader

- The plan to link all aspects of the digital programme (EPR, portal, SPA) was regarded as essential: initial plans for a standalone portal to guide choice were changed to enable linkage.
- There were clear advantages of the EPR in streamlining aspects of the service, for example: the LMS was able to identify that many women who did not need to were going to the Antenatal Clinic in the trust when they could be seen in the community. This in turn informed the development of the collaborative care pathways by the LMS to deliver maternity care in the community.
- The potential of the EPR as a source of comprehensive information about women was a motivator for some staff to advocate its use to colleagues.
- Training was provided for staff in the use of the EPR.
- The LMS worked with primary care to widen access to WiFi to improve connectivity for community staff.
- The LMS worked with women and staff to ensure that the portal, SPA and EPR aligned with need.

Challenges in implementing digital innovations:

- Gaps in coverage of WiFi across the LMS hampered progress of the roll out of digital solutions.
- Problems with functionality occurred for some staff, particularly in the community: staff were advised that BadgerNet worked 'offline', however this was not always the case. Some staff reported writing paper notes to be added to the electronic record later, duplicating work.
- Moving to electronic records required different approaches to using information for staff, e.g. midwives were used to rapidly navigating the paper 'green notes' to find the information they needed during the antenatal period, and they were not yet used to doing this in the new system (though it is expected that this will be resolved with time).

  F: So they [women] come to day assessment unit and unless you actually log on to Badger[Net] and work your way through hundreds of pages of information you actually don't know anything about them.
  F: It is hard to navigate, yeah.
  F: And it's the really important things like 'Did their last baby die?' and you know, you don't know. Whereas with the green notes it was instantly you knew a bit about these women and what their position was. **Hospital Midwives (immediately following launch of BadgerNet)**

- There were varying levels of uptake, for example some women used the Badger App whilst others did not have it and some were not aware it was available. This may increase inequalities: women who do not speak English, or who face challenges in accessing and using digital platforms are likely to require additional support. While plans were in development to recruit Link Workers to support women to access their records, the number of workers (three at the end of the evaluation) was

unlikely to be sufficient to support all women with language/access needs across the LMS.

Its [EPR and portal] great for the majority but I think there a cohort of women, they're more vulnerable, more complexities, they won't be able to access that information throughout the pregnancy because they can't read English, or they can't read all the time, so, you know, how do they update themselves, how do you get information through to them? That's one of my only concerns really. **Senior Midwife**

- There were inconsistencies in adoption, with BadgerNet being used on some units but not on others.
- Neonatal BadgerNet and Maternity BadgerNet were not linked across the LMS by the end of the evaluation.
- The time needed to get data sharing agreements between the constituent trusts in place delayed progress.
- Lack of equipment (e.g. computers) to enable use of the EPR, and system incompatibility between organisations.
- Information governance between organisations created additional barriers.
- The Single Point of Access concept required refinement, as the concept meant different things to different people. For example, initially there had been consideration of face to face access and telephone access, with the final plan focusing on a digital SPA.
- Integration with other systems in the LMS, e.g. System One, Rio, PICS, and cross-LMS for women receiving care across LMS boundaries, will be necessary for a fully integrated EPR.

3.4.2 Choice, and Personalised Maternity Care Budgets

Goal	BUMP progress at end of May 2019
Better Births recommendations:	
1.1 Every woman should develop a personalised care plan, with their midwife and other health professionals, which sets out her decisions about her care, reflects her wider health needs and is kept up to date as her pregnancy progresses and after the birth	EPR records all women as having choice conversations with midwife. Electronic Personalised Care Plan template developed. Women able to access Personalised Care Plans, with >90% consenting to access the eportal, and between 57 and 77% of booked women accessing the portal each month (to March 2019). Quality of plans and updating of plans yet to be measured. Link Worker pilot will assist women to access/use Plans, though capacity of Link Workers to meet all women's needs not yet clear.
1.2 Unbiased information should be made available to all women to help them make their decisions and develop their care plan drawing on the latest evidence, and assessment of their individual needs, and what services are available locally. This should be through their digital maternity tool.	Electronic Maternity Portal developed and available online and via an app includes information to support choice, not yet clear how women are accessing and using this information. Mental health resources being developed for inclusion in the portal. Not clear how choice is being offered/supported for women not accessing portal
1.3 Women should be able to choose the provider of their antenatal, intrapartum and postnatal care and be in control of exercising those choices through their own NHS Personal Maternity Care Budget.	Women offered choice, but some gaps (e.g. not all women were aware they had a choice of hospital). Different views regarding future vision (whether choice related to the setting or specific hospital offered). Consultant Midwives piloted questions around personal budgets in 2018/19: midwives found this challenging, and women were uncertain of the purpose or benefit. Women now offered option to have PMCB discussion but not offered routinely. Focus on personalised care planning, rather than budgets.
1.4 Women should be able to make decisions about the support they need during birth and where they would prefer to give birth after full discussion of the benefits and risks associated with each option.	Full range of birth place options available already within the main providers, and offer increased during the Early Adopter period. All women now recorded as having choice conversations, including place of birth. Women are being offered choice, but our data suggest some gaps in what is offered, and quality/content.
7 Establishing a revised contract arrangement that enables innovations and changes in practice, including an option for women to hold a personalised health budget to facilitate choice of provider(s) for antenatal, postnatal and birth care	Personalised budget conversations piloted as described above. Women now offered option to have PMCB discussion but not offered routinely. Focus on personalised care planning, rather than budgets. Development of novel payment system was deferred due to uncertainty created by the still-embedding local provider changes.
MOU Deliverables	
Develop single point of access supported by guided choice and access to full range of wraparound services	Single point of access developed. SPA being piloted. Some expansion of services (Doula, mental health peer support), but extensive 'widening and deepening' of choice not yet achieved.
Commissioning and working with new care providers to enhance the portfolio available	Doula support to vulnerable women expanded. Third Sector provider commissioned to offer perinatal mental health peer support (recruiting at time of writing). Independent midwifery providers not engaged, perceived low demand due to existing comprehensive offer.
An increase in homebirth and MLU births	Dedicated home birth team BWC, to extend into UHB Autumn 2019. Home birth rate steady (0.8% of births), most BWC births (112/135 2018), increase at BWC from 1.1% to 1.4% 2015-2018. Good Hope MLU to open late 2019. MLU births have reduced from 11.1% to 9.7%
Choice: place of birth, additional services e.g. breastfeeding	Baseline of wide birthplace choice. Planned home birth and MLU expansion to widen choice: 'pop up' FMU Solihull, Good Hope AMU, expanding home birth team. Doula, mental health peer support expansion. Extensive 'widening /deepening' of choice not yet achieved.
Revised contracting to facilitate choice, Personal Maternity Care Budgets	Piloting of 'personalised budget choice conversations' described above. PMCB conversation offered but not given routinely.

BUMP was both a Choice and Personalisation Pioneer and Early Adopter, meaning a strong focus in this area, and support from NHS England.

Facilitators of improvements in choice and personalization:

- Funding and scrutiny of work on this agenda was reported to facilitate the work.
- There was a baseline of wide choice of birth place, including a dedicated home birth team, so the LMS was already providing good choice.
- BadgerNet enabled consistent messages, signposting, prompting to staff to discuss, and measure the choice offer.
- Previous work to improve place of birth discussions with the University of Birmingham was reported to have improved quality.
- Link Worker model is being piloted to facilitate choice for women who do not speak English.
  The idea is that they [Link Workers] will navigate women through their personalisation and choice conversation through the app, they'll navigate them through the BadgerNet system so they can do the first part of their booking there so that the midwife doesn't have to rely on an interpreter
  BUMP leader
- Work had been undertaken to explore what was possible with the PMCB concept as part of the Choice and Personalisation Pioneer work in the LMS. Focus groups with women, piloting of PMCB discussions in clinic by Consultant Midwives, and a literature review of personalised budgets in healthcare provided evidence that the approach had been tested and this learning was shared nationally. The data also informed the decision to offer the option of PMCB discussions to women, but not to hold them routinely.

Challenges in implementing choice and personalization plans:

- Challenging to ensure quality and standardization of discussion with women by midwives, and measure informed/meaningful choice (not tick box on electronic patient record).
- Women described choices, though some women we spoke to were not aware they should be offered a choice of place of birth. It is likely that not all women, particularly those with language/technology needs (e.g. no electronic device on which to access a Personalised Care Plan), are able to navigate choices in the same way.
- Plans for Link Workers to navigate/support choice unlikely to meet needs of all women with language/technology needs.
- Limited availability of 'wider and deeper' choices available within the LMS, e.g. no additional breastfeeding support provision was put in place.
- Choice is not 100% compatible with efficient capacity management (as excess capacity would be required to enable choice), equality (as some will always find it easier to exercise choice within the system), and safety (as some choices may increase risk). E.g. safety/capacity management can restrict choice, where elective caesarean care is provided on one site to improve efficiency/safety it limits the choice of birth hospital for others.
- Providing wide choice may increase costs, e.g. the Home Birth Team was available to support home births but was reported to be expensive.
- LMSs must juggle these competing priorities to offer sufficient choice, within existing capacity, while reducing inequality and managing risk: it is not possible to have all four priorities fully achieved without compromise. It was suggested that choice of place of birth would probably have to be limited in some way, e.g. as with school admissions processes.

I think the first step will be that, with the Single Point of Access, we make it really clear from the start and say, 'We will do our best, as a system, to accommodate your choice. If you want to be at Good Hope, we will do our best to ensure you're at Good Hope. However, it's not always possible. **BUMP leader**

- Some staff feared that choice would increase the likelihood of women choosing care which that was less safe (others accepted and supported choice regardless).
- Despite the provision of a dedicated home birth service, home birth rates were low, and it was suggested that many women would not choose home birth even if this was a safe, suitable option for them.
- Choice of alternative maternity providers was not offered by BUMP. Many viewed this as unnecessary as the current offer was comprehensive and there was no reported demand for this from women. However a small minority of staff participants suggested that alternative providers could/should be engaged, particularly for women who find NHS providers unsuitable/unattractive.

And a lot of the research is that a lot of women aren't that interested, they just want to be able to know that they can get access to the services, and most of the services they want, are already provided by the NHS anyway, so, yeah, that's a bit of a, better births that hasn't sort of really materialised in this area. **Senior midwife**

- Choice can mean many things therefore defining and measuring it in a meaningful way is challenging – birth place, location and time of routine care, add-on services offered and so on all relate to choice.
- The Personalised Maternity Care Budget concept was felt to be unworkable by many in the LMS at the current time, and work by the leaders with other LMSs was reported to have revealed similar challenges around the country. These included: the complexity of the maternity pathway meant that funding needs varied over time, were unpredictable, were challenging for women to understand, and did not provide additional funds for add-ons such as breastfeeding support.

Personalised budgets weren't a way forward. We aren't going to push them. So all the workshops that I understand that we've had, women have said 'We want the choice, but we do not want to get involved in holding a budget' or a notion on budget or whatever. **BUMP leader**

- Women and staff were confused regarding the PMCB concept, what it would mean for them, and what it encompassed.
- Early on, it was expected that PMCBs would involve choice of provider for a range of additional services, e.g. breastfeeding support. The range of services was not extended (discussed elsewhere in the report), and choice of these services was not part of a PMCB/choice offer from BUMP.

3.4.3 Continuity of carer

Goal	BUMP progress at end of May 2019
Better Births recommendations:	
2.1 Every woman should have a midwife, who is part of a small team of 4 to 6 midwives based in the community who know the women and family, and can provide continuity throughout the pregnancy, birth and postnatally.	At the end of the Early Adopter period, 19% of women cared for by the BUMP LMS were booked onto a continuity based model of care. A wide range of models had been piloted, though some had been unsuccessful and were discontinued. Sustainability and scalability was still to be determined, along with whether models provided 'true' throughout women's pregnancies, births and postnatally.
2.2 Each team of midwives should have an identified obstetrician who can get to know and understand their service and can advise on issues as appropriate.	Collaborative care pathways have been developed for women requiring shared care, with link obstetrician. Implementation not measured at time of writing.
2.4 The woman's midwife should liaise closely with obstetric, neonatal and other services ensuring that they get the care they need and that it is joined up with the care they are receiving in the community.	Collaborative care pathways have been developed for women requiring midwife/obstetrician shared care. Implementation of pathways not measured at time of writing.
MOU deliverable:	
4 Developing and operating a multidisciplinary community maternity team, providing continuity of carer to women and their families	Models implemented as described above. As national focus has been on midwifery continuity, expectations not yet clear regarding multidisciplinary team involving: • Shared care pathways between midwives and obstetricians. • MSWs and Link Workers.

Change was slow to start, however, by the end of the evaluation period activity was increasing, engagement with frontline staff was building, and the LMS was booking 19% of women onto a continuity model. A range of models were implemented across the LMS, including developing existing services, and piloting new ones. The range of models is described over the following two pages, based on data/reports to May 2019. The LMS planned to issue a position paper summarising progress in July 2019, after the completion of the data collection period for phase 3 of the evaluation, and so was not available at the time this report was compiled.

Continuity models in place, discontinued, and yet to be implemented at the end of May 2019

Model	Location	Target population	How it delivers continuity	Achievements/ challenges
1) Continuity models implemented/piloted and still operational				
Diabetes shared care pathway	GHH, extending to BWC and BHH	Diabetes/ gestational diabetes	Obstetrician, diabetologist, specialist and community MW. Women get to know team, specialist MWs rotate round settings.	Specialist MW may provide continuity intrapartum if available, not always possible. PN continuity suggested not as good. Link worker role could be developed
Birth Centre pilot	Willow AMU, BHH	Low obstetric risk, higher social risk	Team midwifery, women move care to Birth Centre from 28/40	Improved relationships for vulnerable women
Dedicated Home Birth Team	BWC, extend to HGS autumn 2019	Choosing home birth (any risk)	Team midwifery with on-call for home birth. Named MW.	Bookings and births increasing but low uptake of home birth. Small team, sustainability challenging. MW not always available intrapartum. Small caseloads mean expensive.
Elective caesarean	HGS	Elective caesarean	Team midwifery, meet women throughout pathway in hospital, community MW provides AN/PN community care.	Potential to duplicate care or interrupt community MW AN continuity by adding in elective MW.
Elective caesarean	BWC	Elective caesarean	Woman's named community MW accompanies her for elective caesarean.	Service used support workers instead of named community MW as intended
Community growth scanning	BWC	Women at high risk of small baby	Team continuity in AN period for booking, appointments, growth scans. Not intrapartum/PN.	Moves care to community Level of continuity (same MW) not clear
Doulas	LMS-wide	Vulnerable women	Volunteer Doulas provide continuity.	No data identified
Multiple service	BWH	Multiple pregnancy	Specialist MW AN, intrapartum, PN care	No data identified
Vulnerable women's team	BWC	Vulnerable women	No data identified	No data identified
Mental health team	Across the LMS	Women with complex mental health needs	MWs seconded to posts to work with women throughout their pregnancy.	No data identified

Model	Location	Target population	How it delivers continuity	Achievements/challenges
2) Continuity models implemented/piloted and discontinued				
Birth Centre pilot, women attend from 34/40 to	BWC AMU	Low risk women (eligible for Birth Centre)	Team midwifery Women get to know core and community MW who may care for them in labour	Women request to continue community MW care, not Birth Centre MW. Women may not meet intrapartum MW in advance. MWs uncomfortable with AN appointments alongside intrapartum care. Some community MWs not referring.
Freestanding Birth Centre pilot	Netherbrook FMU, Solihull	Low risk women	Team midwifery across continuum	Some women dissatisfied when their midwife not available in clinic due to on call duties previous night
Antenatal and postnatal community	BWC and UHB	Low risk	Community MW holding caseloads of women – similar to current model, but explicit focus on maximising continuity.	95% AN care continuity was achieved but PN continuity was low. Mandated visits on specific days limit continuity. Did not include intrapartum care
3) Continuity models planned but not yet in place				
Freestanding 'pop up' Birth Centre pilot.	Netherbrook FMU, Solihull	Low risk	Team midwifery across AN, intrapartum and PN for women giving birth at unit.	Enable FMU to remain open in 'pop up' model, increases sustainability, provides choice of FMU
Link workers	LMS-wide	Support needs, e.g. language, vulnerable	Link Workers provide continuity to women	Pilot under development, funding identified to support model. Likely will need many link workers to meet need, but not yet clear.
Perinatal mental health	LMS-wide	Mental health needs	AN, PN and some intrapartum care provided	Model under review
Good Hope AMU model	Good Hope AMU	Low risk	Team midwifery from new Birth Centre.	Birth Centre opening imminent to provide this model
Preterm labour scan	BWC	Multiple preterm labour	Continuity of care in scanning provided by small team of MW sonographers and community MW	No additional data
Teenage women team	HGS	<20 years	Always provided AN and PN, starting to provide intrapartum continuity.	No additional data
Safeguarding midwives	HGS	Safeguarding needs	Moved to taking caseload (previously advisory only)	No additional data

Participants described the following facilitators of continuity implementation:

- Engagement with staff
  o Many staff felt that continuity of care would be beneficial.
  o There is an appetite for continuity for vulnerable groups, e.g. women with mental health issues, BAME women, disadvantaged women.
  o There are midwives keen to work in this way, and some are already providing continuity (some in an ad- hoc way)
  o Identifying and working with 'those willing to try'
- Training
  o Training from the Royal College of Midwives
  o Student placements and Band 5 rotations in continuity models described as promoting them and providing good experience.
  o Student midwives described enjoying providing continuity during training.
- Resources
  o Funding for training
  o Recruitment of continuity of care midwives in each provider (underway at evaluation end)
    Why we want to put a continuity of carer midwife in each organisation as a lead because they need to lead what they can do and it shouldn't be coming from us now, it should be coming from the organisations. I think a lot of barriers have been broken down between the organisations and particularly with the midwives. **BUMP Leader**
- Improving/developing existing teams to increase continuity (vulnerable women)
- National policy drive focused on continuity
- BUMP leaders engaged in national meetings and direction of travel, sharing challenges and working to resolve them
- Women's views
  o BUMP had explored women's preferences in continuity via the MVP.
  o Women described preference for continuity, particularly in antenatal appointments, to avoid repeating stories/information, reduce uncertainty, feeling comfortable, etc.

A number of barriers and challenges to continuity were described:

- Defining continuity
  o Definition of 'booked on' tick box, was not meaningful to many. Some did not regards this as 'true' continuity, and some perceived that the targets put in place were not meaningful and encouraged 'gaming'.
  o There were differing accounts of what continuity meant. For example: Is texting continuity? Is having met a woman once before birth continuity? Is sharing care across a team continuity? Is it continuity when it changes to another team during the course of the pregnancy journey?
  o The models and contexts on which the evidence supporting continuity is based are often different to what is being proposed: the assumed benefits suggested by the evidence may not be realised in practice if the contexts and models do not match the evidence base.
- Models
  o Complexity – may be trying to do too much, heterogeneity multiple approaches confusing, hard to measure, small populations, scale up potential was unclear
  o Efficiency – reported to require many midwives, double running, uptake/caseload of some models low (e.g. Home Birth Team)
  o Rebadging/developing existing roles, e.g. vulnerable women's midwives, may dilute specialist role

- o Some incompatibility with models and continuity, e.g. dedicated home birth team means that women may need to move to different a team if choice/risk profile changes. Some women reported they wanted continuity with previous/existing community midwife rather than continuity team on midwife-led unit. Some models mean that actual continuity is not achieved, even if the aim is to increase opportunities for women to see the same midwife, e.g. where community midwives undertake shifts in the birth centre.
  - o Disruptors of continuity included intrapartum care, which was seen as particularly challenging, fixed visits, part time working, increasing continuity in one area decreases it in another, and long labours which require more than one midwife.
  - o Pilots had been undertaken with low risk women and a desire to focus on more vulnerable groups was expressed (and are happening now)
- Support for models – some don't believe they are better than current care models
- Workforce issues
  - o Willingness/ability, attrition risk, particularly where midwives are not used to doing 'on calls' (at BWC), work life balance, part time working, and caring responsibilities
  - o Cost
  - o Availability
  - o Training/skills to work across settings

    … Midwives are just wondering how they make leap from what's going to be expected of them to deliver continuity of carer. How they're going to get from where they are now to that place. And I think probably how organisations in some areas is well placed for that cause we have rotational staff but some people are really quite anxious about how they're going to upskill ready for what's required and actually I don't think it's the fact that they don't want to work in that way, they just don't feel prepared and just wonder how they're going to get from where they are now to you know, to be able to deliver and be competent and confident of delivering all aspects of the care pathway, you know, as midwives, we have areas of expertise don't we, so this is asking us to kind of, as some said, Jack of trades and master of none.
    Senior midwife
  - o Change management for organisations and staff to shift ways of working dramatically
  - o Need to avoid drawing continuity model midwives in to cover other areas of service
  - o Engagement of other staff groups- not just a midwife issue
- Other contextual issues
  - o History of failed continuity models. This was extremely important, mentioned often, and affected midwives' willingness to believe models would work, and to work in them. It was often unclear to midwives how continuity plans would avoid the same fate of Changing Childbirth policy in the 1990s.

    I think, having worked in a similar way to Changing Childbirth when I first went out into community, it was a tick box exercise cause I was not giving continuity for my antenatal and postnatal, my women cause I was up with overnight with somebody I'd never met before so I think, and we need to recognise the impact that true continuity of carer, that potentially has on our staff, as well as the patients. ***Senior midwife***
  - o Some women require continuity across LMS boundaries and how this would be delivered was not yet clear
  - o The large BAME population in BUMP means longer term continuity targets for this group harder to deliver
  - o Women's journeys through the system are complex and often unpredictable. Achieving continuity in antenatal, intrapartum and postnatal care, where women require care from a wide range of professionals, and with changing risk patterns, is challenging to operationalise.
  - o Some women reported intrapartum continuity was not important. Some prioritised antenatal continuity. Some women opted to continue with traditional model rather than switch to Birth Centre continuity model.

3.4.4 Community hubs/care closer to home

Goal	BUMP progress
Better Births recommendations:	
2.3 Community hubs should enable them [women] to access care in the community from their midwife and from a range of others services, particularly for antenatal and postnatal care.	Initial 'big bang' multiple hubs plan changed to phased implementation Two community hubs named: Solihull Hospital, and Lordswood Medical Centre. This was a 'rebadging' of existing services, rather than the establishment of new sites. Women will be able to give birth in Solihull in a 'pop up' hub using the Seacombe model from North West England. Scanning provided in Lordswood hub. Most women not accessing hubs as part of their maternity journey at present. Activity has been modelled to identify opportunities to move care into community.

Community hubs are 'one stop shops' which are intended to support women to access a range of services in one venue, and provide timely referral to specialist services when necessary. Much flexibility is offered in the policy and guidance, and LMSs are able to tailor the approach to local context[13]. The vison of the hub model in the BUMP LMS has changed over time, and been influenced by different stakeholders. This resulted in the initial plan for five hubs shifting, to one involving a higher number of 'hublets', and subsequently the notion of a 'virtual hubs' without a physical base. A broad concept of 'care closer to home' (i.e. moving from hospital to community) was introduced in 2018, with a move away from focusing on physical venues only. In 2019, an emerging 'place based' focus of health and social care planning, centred around 'Localities', and identification of local population need, began to feature in thinking about the location of future hubs, e.g. consideration of siting a hub in the East Birmingham locality. A gradual, phased introduction of hubs was underway, with two in place by the end of the evaluation. The Hubs in place were:

- **Solihull.** This hub is an existing acute hospital site, which hosts a freestanding midwifery-led unit/birth centre, and community midwifery base. It was designated as a hub although staff participants reported that what it offered had not changed, other than changing from a 24/7 staffing model to a 'pop-up' birth centre (only opened when a woman needs it to give birth).
- **Lordswood.** This hub is a GP surgery, and existing community midwife base, where women already attend midwife appointments. Development of the hub involved the addition of two weekly community growth scanning clinics, delivered by midwife ultrasonographers usually based in the hospital. This was an innovation led by one of the midwives from BWC. There were also discussions about obstetric clinics being set up, although they were not in place at the end of the data collection period.

Most areas of the LMS did not have a designated hub, and so most women in the LMS were not able to access services in a hub setting at the end of May 2019. Assumptions about the impact of hubs are yet to be tested, e.g. that they will move a significant proportion of care out of hospital, improve access and experience, and increase integration of care.

Facilitators of hub implementation:

- The hub concept was broadly welcomed by staff and women. The Women we spoke to prioritised accessibility in the community, and colocation of different aspects of care.
- Moving from a 'big bang' system-wide implementation to a flexible, pragmatic approach was identified as necessary, building on existing services rather than developing new venues from scratch.
- Moving services into hubs had been facilitated by the commitment of midwives and organisations to setting up services, and training midwives to deliver them.
- Identification of existing venues at NHS sites where hub facilities could be developed was developed as a pragmatic approach to implementation.
- The emerging locality-based approach in the STP may assist with the identification of best-fit locations for hubs which align with other services across the system.
- There was an appetite to focus on the non-financial aspects of models across the health and social care system to seek solutions to implementing new models.

Barriers and challenges in the implementation of hubs:

- Defining the model
  - Flexible/broad national policy meant that there was no clear model or approach. Defining the model was reported to be a challenging and unexpectedly time-consuming task.
  - BUMP plans/models/nomenclature changed over time. Stakeholders reported confusion and a loss of momentum. The lack of a single agreed model in current phased approach meant that communicating 'what a hub is' was more challenging, and the broader 'care closer to home' concept was reported to be confusing for stakeholders.
  - It was challenging to identify suitable hub models, venues and resources rapidly, where stakeholders were undergoing concurrent change, and finances were stretched. This resulted in a pragmatic phased approach to the development of hubs, building on NHS existing services. Predominantly this involved a 'rebadging' of existing services, rather than creating innovative new models, and hubs were not based in areas of greatest need.
  - Prevention, wellbeing and mental health provision had not been expanded in hubs, and plans to do so were unclear.
  - Midwives were keen to retain home visits for women, and avoid moving all care into hubs (no plans for this as yet).
  - Increasing obstetric complexity may increase the need for hospital, not hub-based provision.
- Interdependencies between hubs and other services/models/parts of the system
  - Delays in implementation impacted on planning in other areas, e.g. there was an early assumption that new perinatal mental health services could be delivered in hubs but this will take time.

    The hub issue is actually the thing which precludes us from moving anywhere because the really significant system change that is going on is actually that shift from a hospital base and therefore an obstetric-led, predominantly led, into a more tiered approach, three quarters, 80% of which, 85% of which can actually be delivered in a community setting… until we unlock that one, a lot of the other stuff can't quite come to fruition, can't actually begin to be conceived, understood and actually be operationalised and that's the key, so we need to get the hubs sorted   *Leader (Phase 2)*
  - Inconsistencies with other initiatives, e.g. choice in hub access close to workplace may disrupt continuity.
  - Impact on other services: concerns were raised regarding the efficiency and impact of moving obstetric clinics and scanning into hubs on existing stretched clinical provision in hospital.

Obstetricians did not wish to deliver care in hubs.

- o Hubs were perceived as overlapping/replicating past structures in the system, some of which were being closed/cut e.g. Children's Centres.

  …Went to a meeting, a BUMP meeting with commissioners and everybody and they said 'Oh yeah, we want to work to a model where everything's in one roof'. So they said, 'Can you describe what that might look like?', so I did and I described exactly what's been happening for donkeys years in children's centres etcetera and they went 'We need to capture this, we need to capture this, that sounds brilliant'. …I said
  'And this is happening right here, right now, today' …three weeks ago they told us 'You can't have those rooms anymore'. So those women who were all focusing on saying it's going to be wonderful, everything in one service, in one room that we're doing now…We've had to relocate them to a different GP surgery two bus rides away. ***Leader***

- o Hub planning was impacted by uncertainty/delay in defining other aspects of the system including: overall clinical model for maternity; suitable estate; electronic patient record; hub models in other areas of health and social care; Place Based/Locality working; recommissioning of children's services.

  I think the idea of this all-singing, all-dancing hub, we've got to be quite careful … we've got to be really mindful about what General Practice are doing with regard to the networks that are building up and working with General Practice to really try and achieve something good here.
  Leader

- o Approaches to financing hub models and use of estate across the health and social care system still to be resolved

- o While new services were co-located in the Lordswood hub, it was reported that this was not integrated with the community midwifery provision (services operated separately).

- o There was uncertainty regarding the approach required to best meet the needs of women cared for across LMS boundaries

- o Obstetricians reported they did not wish to deliver clinics in hubs, and did not believe it was an efficient way to deliver the service.

- o Concerns were raised regarding the impact on staff who would need to change workplace or working pattern in the future to deliver the service.

3.4.5 Improving safety/outcomes

Goal	BUMP progress at end of May 2019
Better Births recommendations:	
3.1 Provider organisation boards should designate a board member as the board level lead for maternity services. The Board should routinely monitor information about quality, including safety and take necessary action to improve quality.	Board level leads designated, Boards routinely monitoring safety (note not LMS-level review as dashboard still to be fully operational). LMS-wide clinical governance approach, including perinatal mortality review tool developed.
3.2 Boards should promote a culture of learning and continuous improvement to maximise quality and outcomes from their services, including multiprofessional training.	LMS-wide dashboard developed, implementation not complete. Plans for LMS-wide multiprofessional training faculty.
3.3 There should be rapid referral protocols in place between professionals and across organisations to ensure that the woman and her baby can access more specialist care when they need it.	9 collaborative care pathways developed for women requiring joint obstetric/midwife care. 27/40 neonatal care pathway improvements developed. Escalation pathway developed for women with perinatal mental health issues
3.4 Teams should collect data on the quality and outcomes of their services routinely, to measure their own performance and to benchmark against others' to improve the quality and outcomes of their services.	LMS-wide dashboard developed to facilitate benchmarking, implementation not complete. EPR likely to facilitate more complete reporting of data to dashboard in future. Perinatal mortality review tool developed by the LMS. Joint working framework developed, and working towards LMS-wide SI investigation.
MOU deliverable:	
Improving outcomes for women, their babies, their families and the wider population, measuring against metrics which will include a decrease in infant mortality	Infant mortality reductions not reported, and participants highlighted that this long-term outcome will take time to address Multiple initiatives (e.g. Saving Babies' Lives, 27/40 neonatal pathway) to address outcomes, yet to be fully implemented and evaluated

The LMS was working to improve safety and develop and implement a standardised approach to clinical governance across the LMS (described in more detail earlier), improve the pathway for babies born <27/40, and improve collaborative care. A range of additional specific initiatives to improve care safety were being implemented nationally, in which the LMS was participating, including implementation of the Saving Babies' Lives Care Bundle, HSIB work, MatNeoQI. The smoking cessation work is discussed in elsewhere.

"Safety is down to the provider organisations fundamentally to deliver care. And we have done some work around looking at gap analyses around the Saving Babies' Lives care bundle. And we have not yet moved into the role of performance monitor and therefore driving improvements and it comes back to … having the leverage to be able to do that. So are we achieving anything in that respect, not specifically that the providers wouldn't already be expected to deliver themselves."
BUMP leader

Facilitators in improving safety:

- National drive and prioritisation of improvements in safety and outcomes.
- Clear, evidence-based interventions in Saving Babies' Lives with monitoring and incentivisation of performance.
- Professionals particularly exercised by work to improve safety and outcomes, and so there was a clear benefit/value of this work which meant it was easier to engage staff in this aspect of the agenda.

Barriers/challenges to improving safety:

- Cross-provider working is new, takes time to establish, is labour-intensive, and requires obstacles to be overcome (governance/geography/availability of stakeholders/sovereignty/relationship).
- Appetite for cross-system approach to governance/safety not universal: providers were already working to deliver improvements within their organisations.
- Change takes time: considerable work undertaken, but many plans yet to be implemented.
- Vision to reduce infant mortality is long-standing and a long-term outcome with multiple determinants, many of which are beyond the control of the LMS.
- Concurrent initiatives in maternity transformation and safety, not always closely aligned, which some staff found confusing.

3.4.6 Postnatal care

Goal	BUMP progress at end of May 2019
Better Births recommendations:	
4.2 Postnatal care must be resourced appropriately. Women should have access to their midwife as they require after having had their baby	Specific postnatal care improvements yet to be developed in line with NHS England plans for postnatal care improvements in 2019/20
4.3 Maternity services should ensure smooth transition between midwife and obstetric and neonatal care, and when appropriate to ongoing care in the community from their GP and health visitor.	9 collaborative care pathways developed for women requiring obstetric and midwife shared care. 24/40 neonatal pathway developed. EPR facilitates sharing between staff, and pilot scheme involving GP access to BadgerNet under development. No further improvements to transition between neonatal, GP and health visitor care, and no major improvements made to transition, but plans to address this.
MOU deliverables:	
Developing and operating a multidisciplinary community maternity team with access to a full range of wrap around services, including prevention, mental health and well-being	New collaborative care pathways and continuity models have been developed and continuity models piloted. Funding secured and plans in place to enhance Link Worker and Midwifery Support Worker roles in the LMS. Mental health service changes described elsewhere. Smoking improvements currently focus on antenatal rather than postnatal period. Plans for the electronic maternity portal to include information for women to support prevention agenda. Further development of preventive services yet to be planned, a priority for the LMS.
Improving the support offered to women postnatally to ensure families feel better supported from the start of their parenting journey enabling them to make more informed choices for their family.	Specific postnatal care improvements yet to be developed in line with NHS England plans for postnatal care improvements in 2019/20.
Choice of: Additional services based on individual wishes e.g. extensive breastfeeding support	No major changes to choices or providers of additional postnatal services such as breastfeeding support have been put into place across the system as yet, but this is planned in 2019/20.
Having one maternity record that has the ability to links into relevant health services including neonatal and health visiting services. This record will be accessible by the woman and professionals engaged in the care of the pregnancy and the newborn and will be in use by 2018	Electronic patient record in place between hospital and community maternity, women able to view their own records, and GPs and mental health professionals able to view. LMS is exploring how neonatal and health visiting records can be linked to the maternity records.

> *Researcher: As a mum, as a service user, what would be your priority to change in maternity services? Participant: My personal priority, the initial postnatal period what I found difficult and challenging.*　　　　　　　　　　　　　　　　　　　　　　　**Women's focus group**

Postnatal care was not the main focus of national or local transformation, and there were no significant changes made to the postnatal pathway in the course of the evaluation. However plans were agreed with NHS England to work on this in 2019/20. Measuring postnatal community care activity had previously been a challenge, and the EPR is likely to provide many opportunities to understand and improve care.

3.4.7 Perinatal mental health

Goal	BUMP progress at end of May 2019
Better Births recommendation:	
4.1 There should be significant investment in perinatal mental health services in the community and in specialist care.	National funding secured leading to increased postnatal perinatal mental health support, including peer support, from a new service initially at BWC now across LMS, for women with severe mental health concerns. Plan to extend this model across UHB following further funding success.
MOU deliverable:	
Developing and operating a multidisciplinary community maternity team with access to a full range of wrap around services, including prevention, mental health and well-being	Achievements to-date include: digital resources for self-management in development, to be included in the digital maternity portal; clinical pathway including escalation pathway has been developed; Health Education England modules standardised as training for midwifery/MSW/MA staff; standardised information for pharmacists and GPs developed, mental health service staff able to view and enter information in BadgerNet maternity notes. Aims to be achieved in 2019/20 are: implement clear clinical pathways for all levels of need; implement training for maternity/primary care/health visiting staff; extend moderate to severe mental health specialist postnatal care to 24 months; expand talking therapies to the wider family (over 3-5 years); offer assessment and signposting to partners of women using specialist services; increase psychological support, including digital approaches; develop clinical governance systems to measure quality across LMS.

So I think we have definitely, so we have actually got comprehensive services for everyone [with severe mental health concerns] which is fantastic. So we've got these community service development funds which are now translated into a proper service for all of Birmingham and all of Solihull which is pretty amazing. We've still got midwives and health visitors who are very much on board with it. I think it still needs to bed in and people need to understand exactly what it is they've got because I think it meant different things to different people at different times so I think we're still bedding in.

Leader

Facilitators to perinatal mental health work:

- External funding had been secured to expand service provision, which was seen as essential to delivery (Wave 1, Wave 2)
- Birmingham is a national leader in PNMH services with expertise, leadership, and existing relationships.
- Women were involved in the programme of work, and contributing to planning.
- BUMP leaders worked in a focused way with the PNMH workstream to clarify and set objectives and timelines.
- Bringing different areas of PNMH work (BUMP and the Wave 1/2 workstreams) within one group in the future is anticipated to facilitate the work.

Barriers and challenges in perinatal mental health work:

- PNMH work was undertaken in parallel with wider BUMP work in a separate workstream, and to the separately funded Wave 1/Wave 2 PNMH programme. This was a huge programme of work, and it was challenging to ensure effective communication between the different strands of work, and meant that psychiatric clinical capacity to support the work was stretched.
- Initial Wave 1 funding was for one of the two main providers, creating inequity, but the LMS has resolved this and secured funding for cross-LMS provision.

- Some participants were concerned that while the new resource was very welcome, it was not sufficient to meet current unmet need in PNMH, and it was not possible to implement an 'ideal' model for supporting women, and some plans required modification if they were to be delivered with existing resources.
- Some of the work is yet to be implemented, and this will happen in 2019/20.
- Many midwives, MSWs and MAs needed to be trained in PNMH, and most had not done so by the end of the evaluation: releasing time for mandatory training is a challenge and it will take time.
- PNHM services were reported to be a good fit with the maternity hub concept, but the delay in clarifying and implementing the hub model reduced the opportunities to align plans.

3.4.8 Prevention, early intervention and inequalities

Better Births does not have a strong focus on prevention, early intervention or inequalities in maternity care, even though many aspects of the policy are likely to affect these areas. The BUMP Early Adopter MOU includes a number of specific areas where prevention and inequalities feature. The NHS Long Term Plan also has a focus on inequalities, e.g. more disadvantaged and BAME women are required to receive continuity of carer.

Goal	BUMP progress at end of May 2019
MOU deliverables	
Developing and operating a multidisciplinary community maternity team with access to a full range of wrap around services, including prevention, mental health and well-being.	New models of maternity care have been developed and piloted. Funding secured and plans put in place to enhance Link Worker and Midwifery Support Worker roles in the LMS. Mental health service changes are described elsewhere. Plans for the electronic maternity portal to include information for women to support prevention agenda. Further development of preventive services were yet to be planned, and were a priority for the LMS. Major achievements in smoking, including: - Smoking needs assessment, strategy and guideline developed, many barriers addressed, though smoking status unknown for proportion of women. - CO monitors provided for all midwives to implement SBL smoking assessment. - Improvements in referrals, standardised electronic opt-out not yet in place across LMS. - MSW smoking cessation model developed, 4 MSWs recruited and trained, pilot in 2 areas. - Some midwives trained in smoking cessation but many more yet to train.
Improving the support offered to women postnatally to ensure families feel better supported from the start of their parenting journey enabling them to make more informed choices for their family.	Postnatal care improvements highlighted as a key future objective for the LMS, no major, at-scale changes to postnatal services in process during the evaluation period.
Improving outcomes for women, their babies, their families and the wider population, measuring against metrics which will include : A decrease in infant mortality	BSol is a national outlier in infant mortality, and significant efforts have been made over many years to address this. BUMP initiatives include planned improved clinical governance structures to improve safety, introduction of the Saving Babies' Lives Care Bundle, and improvements to smoking cessation provision. Infant mortality has many determinants and its reduction was identified as a long-term objective. Addressing the wider social determinants of infant mortality was recognised as crucial to future service improvements.
Choice of additional services based on individual wishes e.g. extensive breastfeeding support/ DOULA services etc.	Provision of volunteer doula services for vulnerable women was extended by BUMP. No major changes to breastfeeding support were put into place in the course of the evaluation.

BUMP serves a geographical area which has high levels of deprivation, making prevention, early intervention, and approaches to address inequalities extremely important. Progress has been made, particularly in smoking cessation provision, and plans to improve clinical safety in the LMS. Public Health Consultants from the two Local Authorities in BUMP, and a Specialty Registrar at BWC have provided expert public health input into the transformation programme.

So have we addressed some of the inequalities? I think we're trying. Have we been successful? I think in some areas yes, so we had the link worker and stuff like that. Have we got more to do? Yeah, we have.   ***Leader***

Facilitators in prevention, early intervention and inequalities work:

- Funding, e.g. to support smoking cessation training and engagement for staff
- Public health Specialty Registrar availability to lead the smoking cessation improvements. This capacity and skill credited with unlocking smoking cessation challenges. A new registrar was identified to continue this work. This is a key example of a focused approach to one aspect of the transformation work led by a named individual, with the support of a multidisciplinary group. It highlights the challenge of the complex programme: many areas of the BUMP work may have benefited from a similar level of focus, but often this was not possible.

  With regard to the Public Health in the council support that we've had, they've been massively supportive but…their capacity to actually make change happen has been really, really limited. If we hadn't had [a dedicated Specialist Registrar in Public Health] to actually do the do, we would have struggled to make as much progress as we have with some of the Public Health side of things.

  BUMP Leader

- Smoking needs assessment was undertaken to inform the approach.
- A focused working group set up to address antenatal smoking.
- National targets and the focused Saving Babies' Lives programme appeared to increase the focus on and resource for smoking cessation in the LMS.
- The electronic patient record has enabled the setup of referral mechanisms for smoking
- BUMP has undertaken an equality impact assessment of its plans (not seen by the research team)

Barriers and challenges in prevention, early intervention and inequalities:

- Due to the high level of social disadvantage and health need in BSol communities, it constituted a greater task than in other LMSs.
- Some key innovations may widen inequalities in BUMP:
  - The first two locations designated as maternity hubs in the LMS were not in areas of greatest need and may be more easily reached by advantaged women
  - The electronic patient record and portal may be difficult to access for women with language/ literacy problems and/or do not have access to the necessary technology. Link Workers are being put into place to facilitate this, but the pattern and scale of need is not clear and it is unlikely that the workers will have capacity to meet the need.
  - Some participants feared that new models of care, if focused on low risk women, may improve things for women who least require it.
- Gaps in the research evidence regarding what works in many areas mean it is challenging to know what to put in place to address challenges, e.g. obesity.
- Capacity of workforce to deliver planned improvements e.g. MSW smoking cessation, was unclear.
- There were challenges in smoking data quality, impacting on ability to measure baseline and improvements.
- Capacity to deliver the work is limited by the imperative to make improvements in clinical care and undertake business as usual e.g. it was suggested that the LMS should recruit a specialist smoking in pregnancy midwife to deliver plans.
- Local Authorities vary in service configuration and approach, e.g. smoking cessation provision and parentcraft.
- Many facilitators of prevention (children's centres, third sector provision) have been subject to reductions in resources.
- Child health provision in Birmingham was recommissioned during the Early Adopter period, which created uncertainty, and reduced capacity for engagement with stakeholders around this agenda.

- The prevention agenda is extensive, and requires the engagement of many stakeholders. Focus to-date has been on smoking and clinical care changes. Wider determinants, and specific preventive/ wellbeing services such as breastfeeding had been given less attention.

  The area of greatest achievement has been around the smoking in pregnancy …I think it's clear in the local maternity service work and all the early adopter stuff that the, it's been about creating local maternity systems and actually looking at, you know, continuity of care and single point of access and shifting services out to community hubs rather than, you know, prevention,… the Public Health, health promotion-y bits. **Leader**

- Baby Box University worked with the LMS initially to provide families with an online education programme, literature and 'safe sleeping' boxes, but this was discontinued due to a range of challenges (evaluation completed, in write up and yet to report).
- There was uncertainty regarding responsibility/accountability for prevention work, e.g. the midwives reported they were extremely stretched and unable to deliver extensive prevention intervention or increase their existing workload to undertake this work.
- Participants suggested that there is scope to better integrate volunteer doula services with professionals in the NHS providers, and to coordinate services for vulnerable women across the LMS.
- There is scope for a needs assessment that encompasses the wide range of women and child health needs and inequalities.
- Preconception care/prevention has not been incorporated into the work to-date.

3.4.9 Neonatal care

Goal	BUMP progress at end of May 2019
Better Births recommendation:	
3.3 There should be rapid referral protocols in place between professionals and across organisations to ensure that the woman and her baby can access more specialist care when they need it.	Neonatal Outreach service in place at one trust, and plans to develop across the LMS. <27 week pathway developed to promote in utero transfer and delivery in the most appropriate place, to reduce out of region NICU transfers (not yet implemented).
4.3 Maternity services should ensure smooth transition between midwife and obstetric and neonatal care, and when appropriate to ongoing care in the community from their GP and health visitor.	Same software company providing records (Clevermed), plans to enable direct link between Maternity BadgerNet and Neonatal BadgerNet – linkage (not in place across the LMS on completion of the evaluation).
6.1 Providers and commissioners should come together in local maternity systems covering populations of 500,000 to 1.5 million, with shared standards and protocols agreed by all.	Neonatal Network had aligned guidelines prior to the transformation programme. Developed <27 week pathway to improve care within and beyond LMS boundaries.
6.2 Professionals, providers and commissioners should come together on a larger geographical area through Clinical Networks, coterminous for both maternity and neonatal services, to share information, best practice and learning, to provide support and to advise about the commissioning of specialist services which support local maternity systems.	The LMS links to the Regional Neonatal Operational Delivery Network. Long-standing Neonatal Network in Region, reported to be working effectively, with guidelines already aligned. LMS is working with neonatal colleagues to explore tariff and pathways.
MOU deliverable:	
Improving outcomes for women, their babies, their families and the wider population, measuring against metrics which will include : • A decrease in infant mortality • Improved capacity across the STP	Saving Babies' Lives care bundle implemented Neonatal admissions and deaths reduced between 2016/17 and 2017/18 <27 week pathway developed to improve neonatal outcomes (not yet implemented)

At the end of the Early Adopter period, neonatal work was building, with a number of key priorities being taken forward.

Key priorities for neonatal services at the end of the Early Adopter period were:
- Standardised 27/40 pathway to improve safety and outcomes for babies, in collaboration with Operational Delivery Network (includes neighbouring LMSs)
- Extend and standardise of Neonatal Outreach across the LMS
- Explore the potential impact of neonatal tariff changes

Facilitators of neonatal improvements:

- A dedicated workstream was established to focus on neonatal care
- Neonatologist on the Programme Board
- Funding for Neonatal Chair time provided
- The LMS links to the Regional Neonatal Operational Delivery Network.
- Long-standing Neonatal Network in Region, felt to be working well, with guidelines already aligned. LMS is liaising with neonatal colleagues to explore tariff and pathways.
- Programme team member with previous neonatal improvement experience/relationships collaborating with neonatal services
- A Task and Finish Group was established to work on the 27/40 pathway
- Integration and engagement of neonatal colleagues increased throughout the project and added

impetus to the work.

- Neonatal Allied Health Professionals were engaged in the work, and were exploring how to improve provision in line with national staffing recommendations
- NHS Long Term Plan includes priorities for neonatal services, raising the work up the agenda, with National Review published to drive change.
- Commitment of neonatologists to the work (built gradually over course of the evaluation).
- Using same software company facilitates work to link electronic records between neonatal and maternity care.

Barriers and challenges to neonatal improvements:

- The Neonatal Workstream's activity and leadership varied (it was relaunched in 2018)
- At some points neonatology clinicians and commissioners were not able to attend Board meetings.
- Neonatal services managed separately within the providers, and it was suggested the work was easier to undertake when the neonatal and maternity services were part of the same management structure in providers.
- Overlapping care, and the need to manage capacity and transfers of babies and women between units beyond LMS boundaries meant that setting up an LMS would not 'fix' all of the challenges.
- Neonatology is a specialised workforce, consequently it was challenging to recruit/retain staff and there were gaps in allied health professional provision, which hampered progress.
- Limited capacity in NICU and maternity services made capacity management more challenging
- Concern about the future tariff and impact on LMS income (estimated loss of £1m income per year)
- Need to support neighbouring LMSs with NICU beds – further demand
- Currently no national system for cot capacity in neonatology

  I think at the moment we're the only LMS with a neonatal work stream and work with neonatal engagement and we pay a neonatologist as part of our thing and that's in our new structure, that we'll have a neonatologist from each of the units within our new structure. So we're going to keep that forward, in the ten year plan they're asking for that aren't they? So I think we're sort of ahead of the game. **Manager**

3.5 The future

As BUMP moves out of the Early Adopter phase, it has undergone a further restructuring of the leadership team, and set objectives for the following year, listed below. The evaluation makes recommendations for the future, which are detailed later.

Objectives for 2019/2020

- Delivery of the expanded Savings Babies Lives Care Bundle
- Delivery of the target to have 35% of women booked on a continuity of carer pathway, with a focus on women from specific BAME groups and those living in deprived areas
- Implement the Single Point of Access and engage providers in working towards a single demand management function for the LMS enabling women to move smoothly between providers and increase place of birth choice
- Continued implementation of the LMS digital maternity record and digital information tools
- Development of perinatal mental health pathways that cover the full spectrum from mild to severe need
- Work towards increased breastfeeding rates (initiation and sustained at 6 – 8 weeks postnatally)
- Commence work to improve collaborative working across maternity and health visiting services to improve continuity of carer in the postnatal phase
- Continue to move antenatal care and scanning our of hospital settings supported by collaborative care pathways
- Ensuring all babies within the local Operational Delivery Network born <27 weeks are able to access care in LMS neonatal units
- Understand the impact of the proposed neonatal tariff changes on LMS providers
- Define the role and remit of the local maternity system with commissioners and explore options for the potential development of an integrated care system.

Discussion

Summary of project and findings

Maternity transformation is a multifaceted undertaking with enormous potential to improve services and outcomes for women and babies. BUMP has established an LMS, and developed, tested and implemented multiple innovations in care, and enablers of care. Key achievements at the end of the evaluation period included:

- Development and implementation of a single Electronic Patient Record across the LMS, accessible to women via a maternity portal, including digital Personalised Care Plans
- Development and piloting of a digital Single Point of Access for the LMS
- Establishment of and coproduction with the Maternity Voices Partnership
- Development of an LMS-wide dashboard
- Establishment of two Maternity Community Hubs
- Alignment of nine clinical guidelines across the LMS
- Development of aligned collaborative care, <27 week neonatal, perinatal health, and smoking cessation pathways across the LMS
- Development of a shared Clinical Governance Framework and Perinatal Mortality Review Process for the LMS
- Standardisation of job plans and some training across the LMS
- Widening the choice of Place of Birth options available in the LMS, and recording choice discussions with all women booking with the LMS
- Piloting a wide range of continuity of carer models across the LMS and achieving 19% of women 'booked on' a continuity of care model.
- Delivered a work programme to improve antenatal smoking detection and support for women across the LMS
- Piloting Link Worker provision to address challenges in access

The scale of the change underway in maternity care is extensive. The Early Adopter Programme provided a focus on a number of important areas for BUMP, though anticipated timescales were ambitious, as is often the case in large scale policy change,[2] and this has been observed across the Early Adopters[11]. Innovative services have been developed but their implementation is not yet complete, and the work continues. Wider contextual issues including pressures in the system, and capacity to deliver change also affected progress, which again has been noted elsewhere confirming the challenges involved in such transformation projects.[14,15,16,17]

A future challenge will be the continuation of the maternity transformation work with reduced funding and capacity, as the Early Adopter support ends. The emerging evidence, policy and practice experience regarding systems, structures and the process of transformation indicates that maternity transformation is happening alongside significant wider system change (e.g. Integrated Care System implementation). This increases levels of uncertainty and challenge facing organisations and staff.

Significant achievements have been made, but there is much work still to do, and participants in our evaluation recognised that the task of system transformation is a long-term project. Focusing on tangible, symbolic enablers, such as the Electronic Patient Record, appears to drive change and build

momentum and engagement across the system, as has been observed elsewhere.[2] A 'big bang' approach to some changes, while successful in some settings,[18] may be challenging to deliver. For example it was appropriate for the implementation of the EPR in BUMP, but proved more challenging in other areas, the development of hubs for example. Involvement of stakeholders, including women and frontline staff, is crucial to success of change projects, and while this was undertaken throughout the BUMP work, it was challenging to deliver embedded, timely coproduction across such a broad programme of work, again something which has been found in research investigating large scale system transformation[2].

The National Maternity Transformation Team avoided tightly specified, centrally driven policy prescriptions, enabling localised, flexible implementation[19]. However, this flexibility meant more work was required to develop concepts, and caused some confusion regarding what was expected and how it would be measured. Concepts such as maternity hubs, continuity of carer models, and personalised maternity care budgets were challenging to operationalise sustainably at-scale, and some are still at an early stage of implementation. Further work is required to clarify definitions and approaches, and confirm what is, and is not possible in practice. In particular continuity based models of care may not provide *actual* continuity of midwife care throughout antenatal, intrapartum and postnatal care, and trade-offs are likely to be needed. Scaling up continuity based models for most women may also not be feasible if there are not sufficient midwives willing and able to work in this way, particularly providing intrapartum care[20]. Many of the midwives we spoke to in the course of the evaluation prioritised antenatal and postnatal continuity and felt it would be more realistic to deliver on this.

While LMSs can standardise care across a wide geographical area, many women still receive care across LMS boundaries, particularly in large conurbations such as the West Midlands. Work will need to continue to ensure that maternity care is integrated for women in this situation, and the increasing use of the BadgerNet platform across multiple LMSs has the potential to enable this.

It is important to ensure that the improvements in maternity care bring benefit to all women, and that inequalities are mitigated and reduced, e.g. in access to the electronic patient record for women who do not speak English, a challenge which has been observed internationally in eHealth innovation[21]. This has been recognised in the NHS Long Term Plan[22] which prioritises continuity based models for women in disadvantaged, black and minority ethnic groups. Changes thus far have focused primarily on system enablers and clinical improvements. As maternity transformation develops further a stronger focus on prevention, and the wider determinants of health and inequality for women and babies are likely to be required if the priorities of the Long Term Plan are to be addressed.

Strengths and limitations

This evaluation provided the opportunity for in-depth, rigorous, longitudinal work in a single LMS, to examine the process of maternity transformation as it happened, and how it changed over time. A diverse range of stakeholders participated, including frontline staff, women, managers and leaders. We also used a range of methods, triangulating data from interviews, focus groups, observations and documents to develop a comprehensive account of the programme, using what we know works in large system transformation to structure our analysis. The embedded nature of the evaluation, with close links to the leadership team, enabled researchers to feed back at regular intervals and serve as

a 'critical friend' as the transformation was in progress. This also enabled us to shape our approach to the evaluation in an iterative way, focusing on areas important to stakeholders as the complex programme developed.

Our evaluation explores a single LMS, therefore can only provide a perspective of maternity transformation in this particular context, though it is likely that many findings will apply across other LMSs and system transformation programmes. The evaluation was also time-limited, capturing the first 30 months of the process. Transformation timescales were longer than expected, and at the end of the evaluation most interventions were still in the early stages of implementation, or had not yet been launched, meaning that we were unable to evaluate outcomes. This also limited our ability to undertake work with women to explore their experiences of changes, as many had not yet taken place.

While many innovations have been modelled and/or tested by BUMP and the other Early Adopters, many others are still in development, or in the early stages of implementation. The structure and function of LMSs is also still evolving. It is crucial that ongoing learning continues to be captured and shared across maternity services as the Transformation Programme progresses. Some core concepts such as continuity-based models and community hubs are yet to be fully tested to ensure that they can be implemented at scale and achieve their aims. While there is a sense of urgency to deliver rapid, extensive change, timescales have had to be revised as the programme has progressed. BUMP has generated important learning regarding the establishment of an LMS, barriers and facilitators to transformation, and what can realistically be delivered in short time frames in large scale change projects, at a time when systems approaches are being implemented across health and social care.

Conclusion

BUMP embarked on an ambitious system transformation programme to improve the safety and quality of care for the women and babies it serves. Significant achievements have been made, for example the collaborative development and implementation of a maternity EPR, which is now being adopted in other LMSs across the country, is changing the way information is shared between women and professionals across systems. Participants were clear that it would not have been possible to deliver these achievements without the support provided by the Early Adopter Programme, along with the enthusiasm and commitment of a huge number of stakeholders across the LMS.

Recommendations

In this section we present recommendations for BSol LMS, policymakers, and for others undertaking maternity transformation elsewhere. Recommendations for BSol LMS were produced at the end of each stage of the evaluation, and fed back to the leadership team rapidly following initial analysis of data, in order to contribute to the ongoing work in real-time. The BSol LMS recommendations below were shared with the team in June 2019.

Recommendations for BSol LMS

1. **Consider combining the title of the Birmingham United Maternity and Newborn Partnership and the Local Maternity System as BUMP-LMS to clarify what BUMP/LMS is to all stakeholders.** In addition:
   1.a. Communicate the roles and structures that constitute the BUMP-LMS and relationship with constituent and other partner organisations.
   1.b. Consider holding an externally facilitated event for the senior team and other key participants (staff and women) to take stock, inform the identification of future priorities, and agree future plans.
   1.c. Develop a plan for embedding the key learning from BUMP into the BUMP LMS.
   1.d. Ensure the pilot projects to develop continuity of carer and hubs are completed and that the findings and learning are reported and shared widely.

2. **Continue, and increase communication activity with the full range of stakeholders in BUMP-LMS.**
   2.a. Ensure the regular newsletter continues, and reports tangible progress achieved by BUMP-LMS, what has been done so far, how women and staff shaped the changes, celebrate success.
   2.b. Produce a detailed schedule of key actions to be achieved in the next 2 years that can be shared with stakeholders, including an explanation how women and staff will be involved.
   2.c. Write a strategy to target and coordinate communication activities, tailored to specific groups e.g. explaining how the necessary changes will affect women and families, staff and other stakeholders.
   2.d. Build on communications approaches to-date and use a wide range of methods to communicate with women and staff and embed these in the work of the BUMP-LMS. Seek feedback regarding effectiveness/reach of messages and approaches to communication.

3. **Engage/involve women and staff more in the design/implementation/evaluation of future changes needed to meet the key priorities.**
   3.a. Engage the full range of stakeholders where appropriate (e.g. GPs, junior doctors, Early Years and Third Sector partners).
   3.b. Build on and add to existing successful approaches, using methods which mitigate barriers to involvement e.g. time, effort, venue, accessibility, incentives, payment. Reach out to women and staff in clinical areas. Consider asking staff to engage women in routine clinical situations, in addition to MVP work.
   3.c. Make engagement/involvement (in addition to communication) a standing agenda item for BUMP-LMS meetings, to review activity, impact, and identify where it can be enhanced.

4. **Put strategies in place to increase distributed leadership aligned to key priorities, to ensure sustainable change.**
   4.a. As the BUMP-LMS develops, identify specific distributed leadership roles aligned with key priorities.
   4.b. Clarify roles and job descriptions/role specifications for distributed leaders in BUMP-LMS.
   4.c. Secure agreement with employing organisations of job plans/objectives for distributed leaders.

5. **Enhance knowledge, skills and use of methodologies to support transformation.**

   5.a. Develop a learning and development strategy focussed on enabling key staff to acquire the skills necessary to support large scale change.

   5.b. Capitalise on existing resources/materials to support learning. Publicise these materials to designated leaders.

   5.c. Consider establishing Action Learning Sets of key leaders to learn about transformational change.

6. **Monitor implementation, uptake and impact of changes, to ensure they are embedded and being used as planned.**

   6.a. EPR – Record the proportion of women actively using the EPR; record the number of vulnerable/BME women using the EPR; monitor the resolution of connectivity problems to demonstrate progress. Explore ways to measure how women are being supported in their choices through the EPR and face to face contact.

   6.b. Continuity – in addition to measuring the number of women booked onto continuity models, monitor and report the number of midwives seen by each woman booked on each model, whether women receive intrapartum care and postnatal care from a midwife who has also delivered antenatal care, what women and staff think of models.

   6.c. Hubs –Where services are provided in a hub, record and collate data concerning attendance/uptake rates, and the extent to which hubs are moving episodes of care from hospital to community.

   6.d. Evaluate, write up and share learning from all models tested, even where they prove unsuccessful.

   6.e. Measure whether changes have been implemented in practice (e.g. new guidelines)

7. **Ensure plans for the next stage of the BUMP-LMS address health inequalities and prevention**

   7.a. Undertake equality impact assessments for key service innovations (e.g. EPR, hubs, continuity models), and identify where there is a risk of widening inequalities, and how to mitigate this.

   7.b. Review how best to target innovations in a way that will reduce inequalities, e.g. siting hubs in areas of deprivation, focusing continuity model implementation for women in BAME and vulnerable groups.

   7.c. Develop a strategy for the development of greater prevention provision, in addition to the smoking work already planned, in particular: preconception care, breastfeeding, obesity/weight management, parentcraft, group/peer support.

   7.d. Ensure monitoring/evaluation of changes considers inequalities, e.g. measuring access/ use/experience of EPR, hubs, continuity models by disadvantaged women.

   7.e. Conduct a review to identify how services can be 'joined up' to provide a population-level approach to identifying and supporting vulnerable women in the population served by the LMS.

   To build on success in smoking strategy the team can continue to draw on the expertise of public health consultants and trainees in the Local Authorities and at BWC

Recommendations for the National Maternity Transformation Team

We have not directly evaluated the work of the NHS England Maternity Transformation Team. The following recommendations are based on the local BUMP evaluation findings.

1. When implementing transformation programmes, take into account the scale of change, and wider contextual considerations, to set **realistic scope, timescales and targets**.
2. **Continue to test and adapt concepts as evidence builds.** Identify examples where LMSs have managed to implement models *at scale* and demonstrated sustainability, clinical and cost-effectiveness. Where this is not possible, consider modifications. In particular, many stakeholders are still sceptical regarding the feasibility of scaling up continuity models involving intrapartum care, but strongly support increasing antenatal and postnatal continuity. Consider exploring and **modelling/testing concepts more extensively prior to launching policy.**
3. Work with LMSs to ensure that all new care models developed and piloted are recorded, evaluated, to **capture the learning**, particularly where models have not worked as expected.
4. **Publicise learning rapidly**: the blank slate for service models drives innovation but can be overwhelming, creating huge uncertainty regarding the 'right' path to take, and may duplicate effort across the country.
5. **Consider the impact of policy on inequalities** and how to support LMSs to mitigate any negative effects. This includes women and babies in disadvantaged groups, and women who receive care across LMS boundaries.
6. **Coordinate reporting procedures** between national, regional and local bodies (e.g. Early Adopter, Pioneer, Regional NHS England, CCGs) to minimise duplication.
7. **Provide support LMSs regarding how to organise transformation programmes and LMSs long-term,** to minimise complexity, maximise efficiency, and align with business as usual.
8. **Work to resolve national challenges**, such as uncertainty faced by LMSs due to a lack of statutory status, and financial threats posed by changes to tariff.
9. **Provide guidance and set expectations regarding meaningful involvement/engagement**, and at what stage it should occur (i.e. throughout). This should include the 'feedback loop' where women, families and staff are informed regarding the impact of involvement activities on plans. Formal reporting should be considered.
10. Provide support to leaders to **build knowledge and skills in evidence-based system transformation and leadership**.

Recommendations for others transforming maternity services

1. **Designate and resource a dedicated transformation team**, including clinical expertise, and balanced representation across main providers (or independent leadership from outside the LMS. Maximise leadership continuity. Work to align plans with stakeholders across the health and social care system as much as possible.
2. Plan **realistic** transformation goals, taking local contextual issues into account. Focus on **tangible change, 'quick wins' and system enablers** such as EPR and hubs first. Some aspects will require 'big bang' implementation (e.g. EPR), others phased implementation.
3. **Write and adequately resource a communications and engagement strategy**. Ensure a strong focus on involvement of stakeholders from the outset. Communication and involvement is likely to require more time and resource than expected. Use multifaceted approaches and where possible reach out to women, families and staff 'where they are' rather than in separate events in order to involve them. Stakeholders will want to be informed about how their involvement affected plans, and to hear about progress even where plans are not yet clear or have changed.
4. **Consider inequalities and prevention**: assess plans' impact on inequalities, think 'beyond smoking' in prevention services, and involve public health expertise and wider stakeholders to keep the population health focus.
5. **Upskill workforce, including leaders** to address gaps in transformation/systems working knowledge and skills
6. **Explore opportunities to replicate/scale up approaches tested so far elsewhere**. In particular, the digital work to develop a maternity portal, EPR and SPA with Clevermed/BadgerNet has huge potential for implementation across LMSs around the country.
7. **Define and evaluate models/approaches put in place**, and share the learning widely, including what hasn't worked.

Appendices

Appendix 1: Evaluation Framework

Five 'simple rules' for large system transformation

Allan Best et al conducted a 'realist synthesis' of large system transformation studies, to identify 'what works, for whom, in what circumstances'.[2] They systematically searched for evidence from around the world, and identified 84 studies. By reviewing the findings across this large body of literature they identified five 'simple rules' for large system transformation, which were used to structure the approach to data collection and analysis for the BUMP evaluation.

1. **Blend designated and distributed leadership.** Engage individuals at all levels in leading the change efforts.
2. **Establish feedback loops.** LST efforts were recognized and sustained through the careful identification of measures and judicious disclosure to those both inside and outside organisations. Blend quantitative measures and accountability with qualitative methods.
3. **Attend to** (local) **history**, as an opportunity for learning. Educate. Build on the familiar. <u>But</u> lessons from the past should not be seen as predictions of how things will unfold in the future.
4. **Engage physicians.** Powerful and autonomous, principal players, champions. Influenced by alignment with professional and regulatory drivers, incentives to engage, facilitation/guidance, engagement with Royal Colleges/Associations.
5. **Involve patients and families.** Ongoing, not one-off. "Helps deliver improvements in care processes, gains in health literacy, and more effective priority setting…more appropriate and cost-effective use of health services and better health outcomes." Often gap between principle and practice. Needs leaders to be aware of patient perspectives/priorities, sense that chosen metrics are valid and equitable.

Normalisation Process Theory

The analytical approach for the BUMP evaluation was initially underpinned by Normalisation Process Theory (NPT).[23] This theory has been used widely in healthcare research to explore and explain the process by which new ways of working are introduced into complex social systems. People (in this case staff, partner organisations and patient representatives) undertake 'work' in order to put something new into place (in this case a new maternity system). NPT uses three 'constructs' to categorise and explain the work that individuals and groups must do to put a change into practice. However, using this theory to analyse Phase 1 data proved problematic. The 'process' that was to be 'normalised' was still emerging, and the context was highly complex. NPT was not a good fit with the data, as many of the important implementation issues described by participants were not accounted for by the theory. The theory rests on the assumption, and is most useful for analysis, when the nature of the change to be implemented is clearly articulated. The phase 1 data demonstrated that this was not the case with the BUMP Better Births implementation, and many concepts were still being developed, and so the utility of the theory was reduced. The team reflected that BUMP was not at a stage to be amenable to evaluation using NPT, and we instead selected the Best 'simple rules' to guide the evaluation going forward.

Appendix 2: Confidentiality and storage of data

The researchers arranged interviews and focus groups at locations and times convenient to the participants. Focus group discussions and interviews were transcribed verbatim by a professional transcription company used by UoB. Once transcribed and double checked, all audio files from the focus groups were destroyed. Documentation from this study will be stored in a locked filing cabinet in a locked room for 10 years; access is restricted to the research team. Computers used by the staff involved comply with University regulations for safe storage. Confidentiality of data (digital recordings and transcriptions) will be maintained by ensuring that data is stored securely with access only to the relevant members of the team. No participants will be individually named in any reports or publications arising from the study findings and any quotations used will remain anonymous.

Appendix 3: Staff focus group demographic information

Demographic information of clinical staff attending focus groups:		Phase 1 n=8		Phase 2 n=65		Phase 3 n=89		TOTAL
		BWC n=4	UHB n=4	BWC n=30	UHB n=35	BWC n=36	UHB n=53	n=162
Current role	Midwife	4	4	24	30	22	31	115
	Maternity Support Worker /St MSW/Nursery Nurse	0	0	4	4	5	9	22
	Student Midwife	0	0	2	1	2	9	14
	Obstetrician	0	0	0*	0*	7	4	11
Current workplace	Hospital	3	3	18	17	15	46	96
	Community	1	1	12	18	21	7	58
Age (years)	<20	0	0	0	0	0	5	5
	20-29	0	0	8	9	4	10	31
	30-39	0	0	9	10	8	12	39
	40-49	0	0	5	10	14	13	42
	50+	0	0	6	4	10	12	32
	Declined/Not completed	4	4	2	2	0	1	13
Highest qualification	Diploma/NVQ	0	0	5	3	2	14	24
	Registered Midwife	0	0	2	6	0	10	18
	Degree	0	0	18	22	14	19	73
	MSc/PhD	0	0	1	0	5	1	7
	Obstetric/Ob & Gynaecologist	0	0	0	0	7	4	11
	Not applicable	0	0	2	2	1	4	9
	Declined/Not completed	4	4	2	2	7	1	20
Ethnicity	Asian	0	0	1	0	2	4	7
	Black	0	0	2	1	1	6	10
	White	0	0	24	30	32	42	128
	Mixed/Other	0	0	0	2	1	0	3
	Declined/Not completed	4	4	3	2	0	1	14
Years worked	<1	0	0	0	0	1	7	8
	1-5	0	0	5	10	6	16	37
	6 - 10	0	0	6	8	3	5	22
	11 - 15	0	0	8	3	2	6	19
	15+	0	0	5	9	21	17	52
	Not applicable	0	0	2	3	3	1	9
	Declined/Not completed	4	4	2	2	0	1	13

Obstetricians were interviewed individually in Phase 2. In Phase 3 the approach was changed to focus groups.

Appendix 4: BUMP Workstreams and Task and Finish Groups at the end of the Early Adopter Period

Infrastructure Workstream subgroups:
- Finance and contracting
- Data and Activity
- Estates
- Digital

Clinical Workstream subgroups:
- Prevention and Early Intervention
- Perinatal Mental Health
- Workforce
- SPA
- Choice
- Community hubs
- Guidelines
- Clinical Governance
- Pathways
- Continuity of Carer
- Demand and Capacity
- Neonatal

Appendix 5: Glossary of key terms

Acronym	Definition
AHP	Allied Health Professional
BadgerNet	An end-to-end, paperless maternity system interface. Enables real-time recording of all care events.
BAME	Black and Minority Ethnic
BSoL	Birmingham and Solihull
BUMP	Birmingham and Solihull United Maternity and Neonatal Partnership
BWH	Birmingham Women's Hospital
BWC	Birmingham Women and Children's NHS Foundation Trust
CCG	Clinical Commissioning Group
EA	Early Adopter
EPR	Electronic Patient Record
GP	General Practitioner
HEE	Health Education England
ICS	Integrated Care System
LMS	Local Maternity System
MA	Maternity Assistant
MLU	Midwifery Led Unit
MOU	Memorandum of Understanding
MSLC	Maternity Services Liaison Committee
MSW	Midwifery Support Workers
MVP	Maternity Voices Partnership
NIHR CLAHRC WM	National Institute for Health Research Collaboration for Leadership in Applied Health Research and Care West Midlands
NNICU/NICU	Neonatal Intensive Care Unit
PICS	Prescribing Information and Communications System
PMCB	Personalised Maternity Care Budgets
PMO	Project Management Office
PNMH	Perinatal Mental Health
RCM	Royal College of Midwives
RIO	Electronic care record system
SPA	Single Point of Access
SRO	Senior Responsible Officer
STP	Sustainability and Transformation Partnership
UHB	University Hospitals Birmingham NHS Foundation Trust

Acknowledgements

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