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Title:

The Midwifery Unit Self-Assessment (MUSA) Toolkit: embedding stakeholder engagement and co-production of improvement plans in European midwifery units

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Abstract:

Background

For women with straightforward pregnancies midwifery units (MUs) are associated with improved maternal outcomes and experiences, similar neonatal outcomes, and lower costs than obstetric units. There is growing interest and promotion of MUs and midwifery-led care among European health policymakers and healthcare systems, and units are being developed and opened in countries for the first time or are increasing in number. To support this implementation, it is crucial that practice guidelines and improvement frameworks are in place, in order to ensure that MUs are and remain well-functioning.

Aims

This project focused on the stakeholder engagement and collaboration with MUs to implement the Midwifery Unit Self-Assessment (MUSA) Tool in European MUs. A rapid participatory appraisal was conducted with midwives and stakeholders from European MUs to explore the clarity and usability of the tool, to understand how it helps MUs identifying areas for further improvement and to identify the degree of support maternity services need in this process.

Key conclusions of the paper

Engagement and co-production principles used in the case studies were perceived as empowering by all stakeholders. A fresh-eye view from the external facilitators on dynamics

within the MU and its relationship with the obstetric unit was highly valued. However, micro-, meso- and macro-levels of organisational change and their associated stakeholders need to be further represented in the MUSA-Tool. The improvement plans generated from it should also reflect these micro-, meso- and macro-levels considerations in order to identify the key actors for further implementation and integration of MUs into European health services.

Key words/short phrases:

Midwifery Units; Co-production; Continuous improvement; Stakeholder engagement

Key message:

- Engagement and co-production principles used in the case studies were perceived as empowering by all stakeholders
- A fresh-eye view from the external facilitators were highly valued by stakeholders
- Micro-Meso-Macro levels of change need to be further represented in the MUSA-Tool
- The high impact actions need to reflect the Micro-Meso-Macro levels to identify the correct players.

Title:

The Midwifery Unit Self-Assessment (MUSA) Toolkit: embedding stakeholder engagement and co-production of improvement plans in European midwifery units

Manuscript

Background

Evidence indicates that midwifery units (MUs) are associated with improved maternal outcomes and experiences, similar neonatal outcomes, and lower costs than obstetric units (OUs) for women with straightforward pregnancies (Scarf et al. 2018). There is growing interest and promotion of MUs and midwifery-led care among European health policymakers and healthcare systems (Rayment et al. 2020). MUs are being developed and opened in countries for the first time or are increasing in number (Rayment et al. 2020). To support the scaling up of midwifery units, it is crucial that implementation support is in place as well as practice guidelines and improvement frameworks, in order to ensure that MUs are and remain well-functioning and to ensure fidelity (Carrol et al. 2007). The Midwifery Unit Standards define a MU as a 'Unit which offers primary maternity care to healthy women with straightforward pregnancies in which midwives take primary professional responsibility for the care' (Rocca-Ihenacho et al. 2018:7). One of the core characteristics of MUs is that they should be underpinned by a bio-psycho-social philosophy of care which recognises the physiological, psychological and social needs of women and birthing people with a focus on a positive transition to parenthood (Rocca-Ihenacho et al. 2018). This approach to maternity services differs strikingly to a medical-industrial model of care which characterises OUs, focused on a risk-avoidance rather than on practices that create health and wellbeing (McCourt et al. 2016). MUs may be located away from (Freestanding or FMU) or adjacent to (Alongside or AMU) an obstetric service (Table 1) (Rocca-Ihenacho et al. 2018).

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Table 1- Definition of Midwifery Unit (Rocca-Ihenacho et al. 2018)

Despite strong evidence and policy recommendations for high income countries to scale up the provision of MUs, implementation has been slow (Rayment et al. 2020). In the European Union (EU) and the UK, only 14 countries have implemented MUs and not in a systematic manner (Rayment et al. 2020). OUs remain the norm for birth, and in some European countries, it is illegal to give birth outside of a hospital, meaning that the implementation of Freestanding midwifery units (FMUs) faces significant systemic challenges (Rayment et al. 2020). In the UK, MUs are more common than in the rest of Europe, and in Wales all eligible women have access to a local MU (Blotkamp et al. 2019; Aughey et al. 2019).

The number of AMUs in England has increased by 51% between 2011 and 2016, and births in MUs have increased to 14% from a baseline of 5% in 2010 (Walsh et al. 2018), representing a £10 million savings for the National Health Service (NHS) (calculation based on Schroeder et al. 2012). In France, following the positive impact and the positive outcomes of the implementation of the first five pilot MUs, legislation has passed in 2020 for the implementation of an additional 12 MUs (Journal Officiel De La République Française 2020). Recent mapping of English maternity services suggests MUs have the capacity to support around 36% of all women during labour and birth, meaning they are still underutilised across the UK and Europe (Walsh et al. 2018; Walsh et al. 2020). Against this backdrop, the Midwifery Unit Network (MUNet), a European community of practice with the objective of supporting the implementation and improvement of MUs across Europe (Newburn and Rocca-Ihenacho 2018), has been collaborating with local stakeholders in Spain, Portugal, Czech Republic and Bulgaria to support the implementation of MUs for the first time. Significant effort has also been applied in Italy, France, Belgium and Switzerland, where MUs exist but are still considered an exception to the norm. MUNet includes 8,000 members in its social media platforms and offers support to its members via networking, conference organisation, training, consultancy and research in collaboration with its academic partner, City, University of London. A core aim of MUNet is to promote an organisational culture that embraces the bio-psycho-social philosophy of care and positive interdisciplinary collaboration (Rocca-Ihenacho et al. 2018; Rayment et al. 2020). MUNet promotes midwives' sense of ownership and engagement with the MU, allowing them to take a central role in the continuous improvement of the unit (McCourt et al. 2016). The aim of this project was to: 1) to implement the MUSA Tool in European MUs; 2) to explore the clarity and usability of the tool; 3) to understand how the tool helps MUs to identify areas for further improvement; 4) and to identify the degree of support maternity services need in this process. In this paper we discuss the co-creation of the Midwifery Unit Self-Assessment (MUSA) Tool and the stakeholder engagement activities conducted to ensure that the tool is user-friendly and achieves its aim to support the continuous improvement of MUs across Europe.

Development of the Midwifery Unit Self-Assessment (MUSA) Tool

In 2018, MUNet in partnership with City, University of London and the European Midwives Association (EMA) launched the first European Midwifery Unit Standards (Rocca-Ihenacho et al. 2018; Rayment et al. 2020) with the aim of offering quality guidance to those working in or planning a new MU. The development of the Midwifery Unit Standards was a co-produced and evidence-based process to ensure that it was robust and inclusive (Rayment et al. 2020). It included a systematic review and synthesis of relevant evidence, a two-round Delphi survey, case study interviews, stakeholder meetings, and peer review. In 2019, the Midwifery Unit Standards received accreditation from the UK's National Institute for Health and Care Excellence (NICE).

In 2019, researchers from City, University of London collaborated with an international group of advisors and service user representatives to develop the MUSA-Tool with the purpose of helping MU staff to benchmark their settings, performance, organisation of care against each standard. The implementation of the MUSA-Tool includes the principle of co-production with stakeholders in the creation of an advisory group which contributes to the identification of strengths and area for improvement for the MU, based on the results of the completion of the MUSA-Tool.

The development process involved:

- Review of existing self-assessment tools and the methodology behind indicators;
- Meetings with key international stakeholders and experts with experience in creating indicators and self-assessment tools for maternity care;
- A Delphi survey with two rounds to achieve consensus amongst experts;
- Expert stakeholder event;
- Peer review.

Before the creation of the indicators and self-assessment tool commenced, existing self-assessment tools and methodologies behind the creation of indicators were reviewed and examined (Boesveld et al. 2017; NICE 2019). The research team consulted with the American Associations of Birth Centres (AABC) and Euro-Peristat about the process of developing indicators and a self-assessment tool. A first draft list of indicators was created by tabulating all the MU Standards and identifying an outcome measure. The first round of the Delphi survey was composed of ten sections and 77 proposed indicators which were linked to each of the 29 standards. Experts with experience in developing, evaluating, working in and managing MUs or in the creation of indicators were invited to fill out the survey and to rate the proposed indicators on a scale from 1 to 5 based on the SMART criteria (Specific, Measurable, Attainable, Relevant and Time-bound). Indicators that scored less than 75% in the ranking process were either removed or reviewed. Seventeen of the 77 proposed indicators scored lower than 75% and were changed or left out. Results from the open questions/comment sections of the first Delphi round suggested that SMART was not an ideal criterion to rate the draft indicators, so a different rating method was used for the second round. The second survey was composed of 66 proposed indicators. Experts were invited to rate the proposed indicators between 1-5 for clarity and measurability (1 – Not clear and measurable, 3 – Neutral, 5 – Very clear and measurable). Eight of the 66 proposed indicators scored below 75% and again were reviewed or removed. A first draft of the MUSA-Tool was then produced and peer-reviewed by ten experts in developing and managing midwifery units, during a face-to-face stakeholder event. This engagement event with European stakeholders led to a second draft version of the *MUSA-Tool* which was then sent for a second round of peer-reviewing to seven international experts in midwifery units. The research team then incorporated all the feedback received and drafted the final First Version of the MUSA-Tool.

The resulting tool includes 61 indicators arranged into ten themes (Rocca-Ihenacho et al.,2019) which mirror those of the Midwifery Unit Standards. When completing the MUSA-Tool respondents will select either 'Yes', 'No', 'Partly' or 'Not applicable' to each indicator, and 29 of the indicators have follow-up 'Yes' or 'No' questions in the event that the first response was 'Yes'. Each indicator is also connected to one of the Midwifery Unit Standards, so that users can refer to the Standards for clarification. The MUSA-Tool is formatted into an Excel spreadsheet and can be completed either on a computer or on paper. As a first step into the further development of the MUSA-Tool, the team collected feedback from those working in and managing MUs who would be using the tool. A rapid appraisal was conducted to gather the views of service providers and users on the tool and the stakeholder engagement process to identify the degree of support needed by services in the process of self-evaluation and co-creation of an improvement plan.

Use of the MUSA-Tool and stakeholder engagement

Rapid participatory appraisal is the method that has been used to collect qualitative information about deprived areas in the United Kingdom but has also been extended to planning primary care services (Murray et al. 1994). The key aims of rapid appraisals is to gain stakeholders' own views on their needs, translate this information into action and establish partnerships between different health service providers and local communities. Information is collected about a variety of aspects that come together to form a multi-layered pyramid that establishes the micro-, meso- and macro-level contexts of a community or case study of focus. Rapid participatory appraisals are usually conducted within two weeks; however, our appraisal was conducted over a period of three months due to the impact of the first-wave of the COVID-19 pandemic on healthcare services, professionals and the complexity of migrating a face-to-face project online. Our team liaised with the service leaders and staff continuously to ensure that the participation was not adding unnecessary stress to the stakeholders during the pandemic, and online stakeholder events were postponed until the pressure on the services improved. Feedback from our stakeholders reassured us that they found the focus on the positive plans of improving their MU helpful and also they felt part of a community of practice.

We conducted the rapid appraisal in collaboration with four MUs (two AMUs and two FMUs) across Europe in order to explore the usability of the MUSA-Tool in practice. The locations were selected based on maximum variability and motivation, and both FMUs and AMUs were included. A call was sent to MUNet partners and stakeholders via our Facebook Group, and four MUs located in Belgium, Spain, Northern Ireland and Switzerland responded with interest in participating in the evaluation project. In order to take part, the MUs had to agree to:

- Complete the self-assessment tool
- Conduct a local stakeholder engagement to identify areas for improvement within the unit and high impact actions after stakeholder engagement
- Identify short, medium- and longer-term improvement high impact actions

- Implement three to five short term high impact actions within six months
- Participate in a follow-up call with a researcher to discuss the experience of using the MUSA-Tool
- Complete a second self-assessment after six months to identify which high impact actions had been implemented

Self-assessment and co-creation of high impact actions

Basic background information was gathered via the form completed to apply to be part of the project and some further information was gathered via email or a telephone call (see table 2). Version 1 of the MUSA-Tool was sent to the MUs and support was offered in completing it if necessary. Due to the COVID-19 pandemic, the FMU in Northern Ireland decided to suspend the participation in view of the temporary closure of the FMU. The remaining three MUs required some support (by LRI and ET) in completing the MUSA-Tool in the form of a call to clarify some of the items of the tool.

The completed tools were then returned to the research team who evaluated the responses and identified some key themes and areas for improvement in the MUs but did not share it with the participating units until the stakeholder engagement took place to ensure co-production and full participation of the stakeholders. The MU Teams were asked to organise a stakeholder event to discuss the findings of the MUSA-Tool and identify they key high-impact actions. The MUNet experts within the team (LRI and ET) offered support in the identification of the high-impact actions in the form of face-to-face or virtual participation. The three MUs received a different degree of support: the MU in Belgium received face-to-face support during a stakeholder event (LRI and ET); the MU in Spain received support during a two-hour video conference call (LRI); and the MU in Switzerland received no additional support.

The MU teams were asked to organise an event for key stakeholders, including obstetricians, neonatologists, service managers and service users to evaluate the responses to the MUSA-Tool, discuss areas for improvement, and identify short-medium- and longer-term actions. Two MUs managed to organise the stakeholder events, and a variety of people attended, collaborating in the creation of the improvement plans. For instance, the Belgian stakeholder event was attended by most of the MU team of midwives, the manager of the MU, the head of obstetrics (of the hospital) and link obstetrician for the midwifery unit and the midwifery manager of labour ward. The results of the self-assessment tool were discussed, and a timely and measurable plan was made for improvements of the MU. ET and LRI participated in the stakeholder event in Belgium face-to-face, which was beneficial for gaining a better understanding of the support needs and how to develop the MUSA-Tool further in terms of explanations, information-giving and synchronous support. ET and LRI only disclosed their impressions and identification of high impact actions after the team had discussed their views and priorities. It was clear that having outsiders coming with a fresh-eye approach was useful to the team. A very positive discussion about the MUSA-Tool responses arose during the stakeholder event, and this led to creating the initial

short-, medium- and longer-term actions with an identified lead and deadline for each action. A short report was also provided by ET to the team, summarising some of the key points of the discussion.

Similarly, the virtual meeting with stakeholders in Spain was very effective and led to the identification of several improvement actions. On the other hand, the actions identified by the Swiss team were less articulated and the lack of co-production with the interdisciplinary team and MUNet was felt as a limitation due to the absence of outsiders' fresh-eye impressions on the service. A summary of the high impact actions across the three case studies was produced and is available in Table 3.

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Table 3- Improvement plans and high impact actions identified by stakeholders

Lessons for further development of the tool

Several strengths have emerged during this evaluation. Midwives thought that the tool was structured well and straightforward, as well as an effective guide and motivator for assessing different aspects of the functioning of the MU, which they had not considered before. This made the teams enthusiastic about expanding their plans and empowered them to have a wider approach to service improvement. The teams from Belgium and Spain concluded that this was a useful exercise that should be repeated every three years, depending on the service context. The MUSA-Tool was transferrable, not just to the improvement plan, but also to other midwives; however, familiarity and confidence with the Midwifery Unit Standards was key to its successful use. All of the MUs reported that the tool reflected the Midwifery Unit Standards and strongly communicated the philosophy of care that is promoted by them.

Discussions with the midwives about using the tool revealed that there were accessibility issues, including language barriers for those who speak English as a second language. Some stakeholders found the tool to be content heavy and some aspects of the tool more applicable for a British maternity service context, meaning there was mismatch between tool components and their organisational culture or MU team structure. Additionally, the Swiss FMU was a private unit, while the other two AMUs were part of national health services. The Midwifery Unit Standards and MUSA-Tool have been primarily based on a publicly-funded, nationalised health service context, meaning they could be less suitable for private systems, which carry different considerations when organising care.

Support from MUNet in-between self-assessment and improvement plan creation, especially for identifying high impact areas and establishing timeline, was crucial. The level of support was equally important, in that it appeared to determine the MUs ability to complete the self-assessment and improvement plan. The Belgian MU, which received face-to-face support, completed the self-assessment twice and generated both short- and long-term high impact actions, without the need for additional support during implementation.

The Spanish MU, which received a two-hour video consultation completed the tool once and generated actions with a timeline but requested additional support during implementation. Finally, the Swiss MU, which received no additional support, completed the self-assessment, with some clarification needed, and generated high impact actions without a clear timeline.

Areas for improving the MUSA-Tool

Through collaboration with the MUs, we identified how to further improve the MUSA-Tool by eliminating some redundancies, clarifying the language and including a step-by-step guide about how to use it and the available support by MUNet with the MUSA- Tool.

More work with EU partners is needed to address the feedback about the requirement to adapt the Midwifery Unit Standards further to the European context and especially to privately-funded health care services. To what extent these concerns can be ameliorated through translating the Midwifery Unit Standards and MUSA-Tool into other languages and using locally salient terminology also remains to be seen. Translation of each document into Italian and Spanish is now complete, and Brazilian Portuguese, Czech, Dutch/Flemish and French is currently underway. For the English version, we did not conduct a literacy test for readability in this phase but plan to do one as part of the next round of improvement. Besides translation, improving the electronic interface of the MUSA-Tool will also work towards greater accessibility and usability. We plan to create supporting materials both in the form of a video guidance and an interactive page on the MUNet website for stakeholders to guide the use of the tool. We are exploring IT solutions to develop an interface for the tool that is visually easier to navigate, and which can generate suggestions for high impact actions based on the answers to the self-assessment. Ideally, this interface will incorporate a multi-level perspective, so that high impact action suggestions consider the micro-, meso- and macro-level contexts in which MUs are operating.

MUNet is working on developing a more structured way of supporting the MUs that would like to receive additional personalised support. This could be in the form of consultancy and training, both face-to-face and remote. As we have presented, stakeholder engagement is key for the successful implementation of the self-assessment tool, as the process requires in-depth familiarity with and understanding of the Midwifery Unit Standards and connected indicators. While we recognise the importance of engagement and consultation, more work is still required to identify the optimal levels of each and how they might require to be tailored around the needs of the MU and local context.

Micro-, meso- and macro-level considerations

Adopting a multi-level perspective to service implementation, evaluation and improvement is beneficial because it displays how complex interactions between stakeholders, institutions and societies shape individual and organisational actions, as well as practice outcomes (Currie, et al. 2012). In general, there is limited theoretical work on how institutional and regulatory factors impact the implementation of midwives' full scope of practice (Smith, et al. 2019).

From the implementation of the tool and work with stakeholders, it emerged that the MUSA-Tool does not consider the micro-, meso- and macro-level perspectives of institutions and organisations (Scott 1995) within MUs' improvement. Micro-level changes, such as increasing visibility of the MU within a hospital by installing signs or becoming more strategic through promotion of the MU online, are examples of short- and medium-term high-impact actions which the MU staff is able to lead on and achieve. Other high impact actions might be more difficult for MU staff to enact. Often there are limitations, regulations or laws that are beyond MUs' control which make it all but impossible for midwives to implement alone. These actions may require input from strategic players who operate at the meso- and macro-levels: for instance, midwives may have a marginal role in antenatal care despite having the remit and skills due to role division within the maternity services (meso); or midwives might not be able to discharge infants because there are laws stating this is legally done by neonatologists (macro). Each have implications on how MU staff respond to certain indicators on the self-assessment tool.

Incorporating the recognition of the different levels is necessary in order to clarify at which level improvement actions operate and which stakeholders must be involved. For infant discharge, this requires changes to regulations at national level, implicating health care professionals, policymakers, lawmakers and politicians. We found that, without this incorporation, it is not straightforward to what extent a 'No' response is linked to meso- or macro-level constraint nor can these constraints be considered when comparing individual unit's responses and improvement plans. Clarifying indicators and actions by micro-, meso- and macro-level will not only contextualise the tool for researchers and MU users, but also organise larger scale improvement for MUs by clarifying which stakeholders need to be engaged.

Conclusions

We conducted three stakeholder engagement case studies to gain feedback on the usability and impact of a newly developed self-assessment tool based on the Midwifery Unit Standards. In this paper we reported the stakeholders' experiences of using the MUSA-tool and the high impact actions identified during the engagement events. Our rapid appraisal is the first to explore the use of a self-evaluation and improvement tool in a variety of MU settings, contributing to the implementation of the standards beyond the UK and into other European countries. We expect to see an evolution of the Midwifery Unit Standards and, consequently, of the MUSA-Tool, as more research on MUs located in European countries is undertaken and published.

Support and facilitation were regarded as crucial for clarifying aspects of completing the tool and useful in providing an expert fresh-eye view on the performance of the MU. Stakeholder engagement was also quoted as paramount to develop a MU improvement plan. Micro-, meso- and macro levels of organisational change and their associated stakeholders need to be further represented in the MUSA-Tool. The improvement plans generated from the self-assessment also must reflect the micro-, meso- and macro levels to

identify the key actors for further integration of MUs into European health services and increase the chance of success. Future research on MUs and their improvement should reflect the structural considerations of health care innovation and implementation.

Research Ethics Statement:

The authors of this paper have declared that research ethics approval was not required since the paper does not present or draw directly on data/findings from empirical research.

Contributor Statement:

LRI and ET conducted the stakeholder engagement; NU conducted the analysis of the case studies responses to the MUSA-Tool, CY conducted the rapid appraisal and all authors contributed to the first and final drafts.

Conflict of interest statement: The Authors declare that there is no conflict of interest

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