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## Special Article



# Where do women birth during a pandemic? Changing perspectives on Safe Motherhood during the COVID-19 pandemic

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No potential conflict of interest relevant to this article was reported.

### Author Contributions

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## ABSTRACT

During the coronavirus disease 2019 (COVID-19) pandemic, health systems all over the world are either stressed to their maximum capacity or anticipating becoming overwhelmed. The population is advised not to attend hospital unless strictly necessary, yet this advice seems to apply to all but healthy women during childbirth.

Specialized hospital care during childbirth can be lifesaving in case of obstetric complications or for COVID-19 symptomatic women, while strong evidence suggests the appropriateness of midwifery units that are integrated into the healthcare system for eligible women. We must ask ourselves whether obstetric units are the appropriate birthing facilities for healthy women during the pandemic.

We have learned from previous crises that the needs of women and children are often badly served during disasters. The COVID-19 pandemic raises concerns over escalation of mistreatment and abuse media are already reporting on restrictions to the rights of birthing women in Europe and the US. In addition, concerns have emerged over increased risk of infection to COVID-19 among birthing women and families by concentrating all women in obstetric units and lack of optimal care due to pressure on staff and resources. Women's rights in childbirth are being threatened by lack of care during labor, restrictions on accompaniment, unnecessary interventions including inductions, separation of mother and baby and prohibition on breastfeeding.

An effective response to the crisis depends on strong and coordinated health care systems where mothers can birth safely, and the needs of the newborn babies are met. The interpretation of what constitute safe care is a stimulus for a strong debate between those who argue for strengthening community and primary care services and those who recommend for centralization of all births in hospitals. This debate is particularly salient during this pandemic and in preparation of future pandemics.

We propose a strategic response in the face of the pandemic by expanding the use of midwifery units both alongside the obstetric unit and freestanding (in the community). Where midwifery units are absent pop-up units can be created quickly following the example of the Netherlands.

This strategy in high income countries is evidence-based and also serves as a response to the surge in requests of safe childbirths pathways away from the obstetric unit by concerned women at unprecedented rates. We urge policy makers to consider replicating this model in low- and middle-income countries where hospital conditions are more precarious.

A strong collaboration between midwives, nurses, obstetricians and neonatologists and the integration of primary care and acute services could ensure safety while maximizing the rational use of resources. Immediate strategic action would ensure that women are able to access appropriate care at the appropriate time, while hospitals continue to respond to the COVID-19 crisis and obstetric units are kept for women needing specialist care.

**Keywords:** Midwifery; Birthing centers; Pandemics; Global health; COVID-19

During the coronavirus disease 2019 (COVID-19) pandemic, health systems all over the world are either being stressed to their maximum capacity or anticipating overwhelming demands that are unlikely to subside for months.

Telemedicine, social isolation, lack of personal protective equipment, lack of generalized testing capacity, overcrowding of intensive care units, and risks to healthcare workers are only some of the issues that health care systems and hospitals are having to manage. In the middle of the focus on COVID-19, women and families are asking themselves; “where do I go to have my baby?”.

Currently, hospitals in several European countries and parts of the USA most affected by the pandemic are overwhelmed. Meanwhile, hospitals in the rest of the world are trying to learn from the struggles of European countries and prepare for the coming weeks and months. The World Health Organization (WHO) and governments are advising or mandating social distancing to reduce the chance of transmission of COVID-19. The population is advised not to attend hospital unless strictly necessary, yet this advice seems to apply to all but healthy women during childbirth.

An effective response to the crisis depends on health systems developing evidence-based strategic plans to ensure safe care during childbirth.<sup>1</sup> Throughout this crisis, women will continue to become pregnant and give birth, deserving the same right to safe maternity services and compassionate care as they always have. This includes physical and emotional safety for the mother, baby and the birth partner. The interpretation of which strategies are associated with safe care is cause of a strong debate between those who argue for strengthening community and primary care services and those who recommend for centralization of births in hospitals.

Although the majority of women give birth in hospitals, we must ask ourselves whether these are the appropriate facilities for healthy women to give birth in during this time. Strong evidence suggests that birth in freestanding midwifery units (FMUs) (also known as midwifery centers and birth centers) is relatively safer for healthy women and just as safe as an obstetric unit (OU) for babies.<sup>2-6</sup>

Improved safety in midwifery units stems from lower rates of unnecessary intervention and the support of the physiological process of labor.<sup>7</sup> Healthy women giving birth in an OU are associated with higher rates of post-partum hemorrhage, severe perineal tears and

higher rates of admission to intensive care units.<sup>7</sup> The midwifery model that is practiced in midwifery units has proven to reduce unnecessary interventions during childbirth, decreases costs to healthcare systems, and improves women's satisfaction of their birth experience.<sup>4,8,11</sup> Women who plan to birth in midwifery units receive evidence-based advice about eligibility criteria during the prenatal process to ensure they are fully informed about whether they are likely candidates of a spontaneous, vaginal birth and that they have the emotional support they need for pain management.

## INITIAL INTERNATIONAL RESPONSES

In the United Kingdom some services are maintaining and expanding their midwifery unit services while others are moving towards centralization of all care in OUs. One of the reasons for this is concern over staff shortages. In the Netherlands on the other hand, primary care midwifery has been reinforced and the phased approach to how to deal with the increase in midwives shortages includes using hotels nearby OU for the centralization of healthy women in labor in order to avoid hospitals.<sup>12</sup> In some European countries, such as Italy and Spain, several maternity units have centralized all births and even closed some OUs to offer intrapartum care only in designated OUs.

In the US, hospitals are providing telemedicine consultations to patients in general for any level of care that does not require a physical examination. Women with prenatal appointments that do not involve an ultrasound or laboratory tests are simply told not to come to the hospital or health center. Women have voiced fears of birthing in hospital because of the risk of becoming infected while giving birth or in the postnatal word as well as frustration that birth companions are being restricted. Hospitals are recommending women only be accompanied by one person, which eliminates doulas or other support people. Some hospitals are refusing partner accompaniment and separating mothers and babies out of concern of contagion. Finding healthcare providers to care for these isolated newborns, who would normally be with their mothers, is another stress on already taxed systems. Midwives are requesting governors lift practice restrictions in states where midwives must obtain physician authorization or where certain midwifery licenses are not legal.

In contrast, responses to the crises from New Zealand and the Netherlands offer an alternative, evidence based and 'common sense' alternative. Both countries recommend that women should avoid hospital settings unless they are ill. In the Netherlands a strategic plan was developed including three phases which account for different degrees of depletion of availability of primary care midwives. Phase 1 includes the continuation of current primary care activities, including births. Phase 2 introduces the use of pop-up birth centers which is set up in a location near a hospital with an OU. Phase 3 involves the centralization of services into the hospital OU in case of a drastic reduction of staff levels due to sickness.<sup>11</sup>

## DIRECT CONCERNS OVER CENTRALIZATION OF MATERNITY SERVICES

We argue that reducing community and primary care services such as primary care birth facilities, birth centers in the community and in hospitals, will increase the workload for already busy services.

Additionally, women have a higher risk of becoming infected while in hospital. The layout of hospitals often requires laboring women to enter through triage facilities either via the general ER or via the Maternity Services triage. In this scenario, healthy laboring women and their families are waiting for care in the same (often crowded) space as COVID-19 asymptomatic laboring women or general public.

Hospitals and hospital staff may be a source of infection to healthy individuals, especially if moving across different departments.<sup>13</sup> An OU in which an anesthesiologist circulates between intensive care and obstetrics may pose serious risks to women in labor. Nurses and midwives who rotate between departments or come into contact with staff that are caring for patients with COVID-19 also pose risks to laboring women. Nursing and midwifery staff will be stretched thin as this pandemic continues, as they become ill with symptoms of COVID-19. Avoiding centralization of staff might offer the advantage of avoiding cross-contamination which can also occur among staff when for example they are sharing a staff break room among a large team. Small midwifery teams which function is relative autonomy form the rest of the OU might offer advantages in limiting cross-contamination.

As exposure and illness lead to staff reductions, less staff will be available to care for women and babies. Therefore, preventing staff contamination as well as planning extraordinary ways of increasing the workforce, including activating community health workers, need to be included while planning a strategic response.

Using smaller facilities will reduce the risk of exposure. Eventually when rapid testing will be widely available COVID-19 positive and negative or immune pathways and facilities can be developed until a vaccine becomes available.

## **INDIRECT CONCERNS OVER CENTRALIZATION OF MATERNITY SERVICES**

There is evidence suggesting that the concentration of all birth in OUs increases the risk of unnecessary interventions, which are associated with poorer maternal clinical outcomes including admission to intensive care units.<sup>8</sup> Unnecessary clinical interventions comprise inductions of labor at or near 39 weeks of gestation in the absence of a clinical indications, cesareans or separating mother and babies. These procedures will also increase workload and exposure of women, babies and staff to hospital acquired infection, without any associated health benefit.<sup>14</sup>

A Cochrane review recommended for continuous support for women in labor because associated with higher rates of spontaneous vaginal birth and shorter labors, lower rates of intrapartum analgesia, caesarean section or instrumental delivery.<sup>15</sup> Babies were less likely to have a low 5-minute Apgar score. Several European countries and parts of the US have introduced strict norms against the presence of birth supporters during labor and/or in the postnatal word. In many low- and middle-income countries (LMICs) women are systematically denied birth supporters, even before the pandemic. As a result, midwifery units have emerged in low- and middle-income countries as women seek more respectful care.<sup>16</sup> Integrating midwifery centers in LMICs could help decrease the burden on hospitals.

We anticipate that the deployment of midwives in other non-maternity areas needing additional human resources will result in a lack of optimal care in labor. This may occur

especially in countries where the professions of nurse and midwife are blended, and professional differentiation is weak. Lack of midwifery care, lack of support and lack of continuity of care will be associated with an increase of unnecessary interventions which will strain already limited resources while worsening clinical outcomes and women's experiences of care. They also contradict recommendations by the WHO, International Confederation of Midwives and Royal College of Obstetricians and Gynecologists.<sup>17-19</sup>

This bleak outlook on obstetric care becomes further compounded in LMICs. In these settings, health care systems already make difficult decisions regarding care, where supplies and systems are already extremely precarious. Rates of disrespect and mistreatment are high, and healthcare workers are burnt out, exhausted, and often lack basic supplies such as gloves and soap.<sup>20-23</sup> Some research has even suggested that hospital settings do not significantly impact mortality rates in low and middle income settings.<sup>24</sup> The impact of COVID-19 on these systems will be devastating. Our responsibility as a scientific community therefore is to prepare for making alternative facilities available for safe and healthy childbirth in all global settings. While health systems in LMICs may already be overwhelmed and struggling, the pandemic may offer an opportunity to introduce triage measures for women in labour that may reduce strains on hospitals that are already overcrowded. Integration of community birth facilities in LMICs must follow global standards for equipment, personnel and operations to ensure integration allows for timely referral to emergency obstetric care in cases of complications.

## RINGFENCING AND EXPANDING COMMUNITY AND PRIMARY CARE SERVICES

Lessons learned from previous disasters include the prioritizing maternity care as an essential service for vulnerable population.<sup>1</sup> Midwifery units are community-based healthcare facilities offering sexual and reproductive healthcare, using the midwifery model of care. Present in high, middle- and low-income countries, they vary in services offered, model and integration within health systems.<sup>16</sup> Midwifery units aim to cater to women's physical, psychological and social needs which are associated with optimal care and outcomes which has proven not only to reduce unnecessary interventions during childbirth, but also to decrease costs to healthcare systems, and improve women's satisfaction of their birth experience.<sup>7</sup>

In these exceptional times the advantage of birth in midwifery units seems to be reinforced by the benefit of avoiding sources of infection and reducing OU use to those who truly need it.

We are at a juncture where plans could be put in place to ensure that midwifery units can not only continue to provide care for healthy women and expand their capacity, lifting restrictions to allow for an increase in activity. Teams of midwives could be created to offer care exclusively in the community, through well integrated midwifery units. Community midwives should remain separated from the hospital teams to reduce the risk of transmission of COVID-19 for them and the families for whom they are caring and implement systems for the containment of cross-infection to healthcare providers. Keeping community and hospital staff separate is a systems-wide approach at workplace segregation. Specific guidelines and protocols should be developed that outline scope of care, consultation and referral that are relevant to community healthcare provision. Special attention should be placed on responsible social distancing and use of personal protective equipment when telemedicine

cannot be used for care. During the Ebola crisis we learned that community health workers step in when an infection devastates a healthcare system.<sup>25</sup> Response to COVID-19 requires systems thinking beyond hospital management and include community response and deployment of outreach services.<sup>26</sup>

A strategic response to maternal health during COVID-19 would include:

**Recommendation 1. All countries should develop a phased maternity care strategic plan:** This should include different phased responses depending on the number of cases, national and local response to the epidemic, testing and treatment capacity and availability of maternity staff.

**Recommendation 2. Keep healthy women in the community:** Healthy pregnant women with no symptoms or who have tested negative to COVID-19 should be attended to in midwifery units where exposure to sick and symptomatic patients is minimized.

**Recommendation 3. Early access to respectful maternity care for women with symptoms with specific separated pathways and access to care:** Women who have symptoms of COVID-19 must receive care immediately and must isolate themselves unless they need higher level care. For mild cases telemedicine can be used for antenatal appointments. Intrapartum, separate access to care and specific pathways need to be developed to avoid cross-infections. Safe birthing rooms on the OU can still guarantee personalized and respectful care during labor and birth. If/when testing for the general population becomes available, COVID-19 positive or negative facilities could be developed in the community for low-risk women who are not symptomatic or with mild symptoms until a vaccine becomes available.

**Recommendation 4. Minimise the risk of infection to midwives in the community:** Ensure that community midwives are healthy and symptom free. Providers working in the community need to have effective personal protective equipment (PPE) to be used in the community for antenatal appointments and PPE for assisting births if women are positive but asymptomatic or presenting mild symptoms. We should in the near future be able to test community midwives to understand who is negative (at that moment in time) who is positive and hopefully when immunoglobulin G testing available, who is immune.

**Recommendation 5. Avoid unnecessary interventions:** At a time when our health care resources and personnel are needed to attend to the sick, it is essential that health care resources are used on the neediest. Routine induction of labor, artificial rupture of membranes, vaginal exams, augmentation of labor, use of cesarean-section and other routine hospital procedures which have been judged to provide no or little benefit, or even that are known to constitute a risk for maternal and child health, must be minimized.<sup>27-29</sup> Midwifery models decrease rates of medical intervention and decrease risks of premature birth.<sup>30,31</sup> In a time when we need anesthesiologists, specialist teams, and equipment to deal with the pandemic, health systems would benefit from ensuring that those who have no maternal/fetal or underlying risk factors are supported for a physiological birth with minimal intervention.

**Recommendation 6. Protect the mental health of new families and support women victims of domestic violence:** Post-partum is an extremely challenging time for women and the families. Low mood and clinical depression are relatively common in the post-partum period and may be exacerbated in times when social isolation is enforced. Domestic violence often escalates during pregnancy and in the post-partum period and, indeed, reports of

domestic violence reports have signaled increased violence against women and girls due to the increased stressed and isolation of COVID-19 responses.<sup>32,33</sup> Social distancing restricts women's capacity to escape domestic violence and increases stress at home, which can lead to higher rates and severity of domestic violence. As a result, we must ensure that women's mental health is attended to and midwives are able to detect signs of domestic violence. We know that post-partum mental health is affected by the birth experience.<sup>34,35</sup> Women who under-go a positive and empowering birth experience are much less likely to experience post-traumatic stress disorder and post-partum depression. Midwifery care and out of hospital birth have consistently shown to improve satisfaction and sense of empowerment after the birth process. Women who have developed a mutually trusting relationship with their midwives are more likely to disclose issues of domestic violence.<sup>36</sup> Midwifery units can enable online groups for new parents to continue to connect through the post-partum period in communities where wifi access is available and can provide safe refuge and reporting in communities where online access is limited.

In this unprecedented time when we must all work together to prevent the spread of COVID-19 and protect our communities, it seems essential to enable midwives to become the front line of maternity care within the community. We must approach maternity care in a strategic manner and avoid mistakes made in the past. Families are already taking the initiative across the globe by requesting to give birth out of hospital at unprecedented rates. Lack of integrated out-of-hospital birthing facilities will fail women who, desperate to avoid what they perceive to be infection filled hospitals, and denied basic childbirth rights, will resort to birthing without any qualified maternity care. This potential outcome presents serious risks for both women and babies. Policy initiatives and immediate strategic action will ensure that women are able to access appropriate care at the appropriate time, while hospitals continue to respond to the COVID-19 crisis. We have an ethical duty to ensure that women's human rights are respected at a time of crisis and that health services follow evidence-based practices. We need to come together to share what works, for who, and in which circumstances.

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