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## Midwifery

An Executive Summary for *The Lancet's* Series



“Midwifery is a vital solution to the challenges of providing high-quality maternal and newborn care for all women and newborn infants, in all countries”

## Midwifery



Gaby Jeffs

### Midwifery matters more than ever

The essential needs of childbearing women in all countries, and of their babies and families, are the focus of this thought-provoking series of international studies on midwifery. Many of those needs are still not being met, decades after they have been recognized. New solutions are required.

The Series provides a framework for quality maternal and newborn care (QMNC) that firmly places the needs

of women and their newborn infants at its centre. It is based on a definition of midwifery that takes account of skills, attitudes and behaviours rather than specific professional roles. The findings of this Series support a shift from fragmented maternal and newborn care provision that is focussed on identification and treatment of pathology to a whole-system approach that provides skilled care for all. This will require effective multidisciplinary teamwork and integration across hospital and community. The evidence discussed across the series indicates that midwifery is pivotal to this approach.

The Series comprises four separate papers<sup>1-4</sup> which have been developed collaboratively by a multidisciplinary group, including academics, researchers, advocates for women and children, clinicians, and policy-makers. Together, the papers address key issues on the contribution of midwifery, and challenge much of the current thinking and attitudes among health professionals, decision-makers, and the public. They provide health professionals and decision-makers with realistic, achievable, sustainable, and evidence-based strategies. Central to these is midwifery care for every woman and every newborn infant.

Midwifery is already widely acknowledged as making a vital and cost-effective contribution to high-quality maternal and newborn care in many countries. Despite this, its potential social, economic and health benefits are far from being realized on a global scale. This Series strengthens the evidence base and demonstrates the scale of the positive impact that can be achieved when midwifery is implemented, especially in the context of effective health systems.

The recommendations arising from this work can be tailored to individual communities and countries at all income levels. If implemented, these will be potentially life-changing for mothers and babies, whether they are the majority who are healthy, or the minority who need additional care and services to avoid adverse outcomes.

The strategies put forward here will help to meet the goal of universal health coverage and will be fundamental to the UN post-2015 development agenda. They will make an important contribution to the effective actions for the Global Strategy for Women's and Children's Health and the Every Newborn Action Plan.

### Key messages

- These findings support a system-level shift, from maternal and newborn care focused on identification and treatment of pathology, to a system of skilled care for all, with multidisciplinary teamwork and integration across hospital and community settings. Midwifery is pivotal to this approach.
- Future planning for maternal and newborn care systems in low-income and middle-income settings can benefit from using the evidence-based framework for quality maternal and newborn care (QMNC) for workforce development and resource allocation.
- The views and experiences of women themselves, and of their families and communities, are fundamental to the planning of health services in all countries.
- Midwifery is associated with more efficient use of resources and improved outcomes when provided by midwives who are educated, trained, licensed, and regulated, and midwives are only effective when integrated into the health system in the context of effective teamwork and referral mechanisms and sufficient resources.
- Promoting the health of babies through midwifery means supporting, respecting, and protecting the mother during the childbearing years through highest quality care; strengthening the mother's capabilities is essential to longer term survival and wellbeing for the infant.
- Strengthening health systems, including building their workforce, makes the difference between success or reversal in maternal and newborn health. Since 1990, the 21 countries most successful in reducing maternal mortality rates—by at least 2.5% a year—have had substantial increases in facility-birthing, and many have done this by deploying midwives.
- Effective coverage of reproductive, maternal, and newborn health (RMNH) care requires three actions. These are: facilitating women's use of midwifery services, doing more to meet their needs and expectations, and improving the quality of care they and their newborn infants receive.
- Although evidence from more settings is needed, evidence so far shows that midwifery care provided by midwives is cost-effective, affordable, and sustainable. The return on investment from the education and deployment of community-based midwives is similar to the cost per death averted for vaccination.
- Quality improvements in RMNH care and increases in coverage are equally important for achieving better health outcomes for women and newborn infants. Investment in midwives, their work environment, education, regulation, and management can improve the quality of care in all countries.
- Efforts to scale up QMNC should address systemic barriers to high-quality midwifery—eg, lack of understanding of midwifery is and what it can do, the low status of women, interprofessional rivalries, and unregulated commercialisation of childbirth.

## The challenge

Every year there are an estimated 139 million births. An estimated 289 000 women will die during pregnancy, childbirth or soon after, 2.6 million will suffer stillbirths, and 2.9 million infants will die in the first month of life. Poor quality maternal and newborn care is a major factor. Continued reductions in maternal and newborn mortality require overall improvements in quality throughout the continuum of care, as well as improved emergency services.

Poor quality care is not just evident in a lack of availability of services and care provision. While many women and infants have inadequate access to any care, there is global concern about the over-use of treatments that were originally designed to manage complications, with the consequence that many healthy women and newborns in high-income, middle-income, and low-income countries become exposed to the adverse effects of unnecessary interventions used routinely, including limited mobility in labour, episiotomy, and caesarean section. Both underuse and overuse of interventions contribute to acute and chronic clinical and psychological morbidity for an estimated 20 million childbearing women, with a lasting impact on mothers' and infants' physical and psychosocial health and well-being, on their need to pay for ongoing health care costs, and on the ability of their families to escape poverty. Poor quality maternal and newborn care also has an economic impact on communities and countries and hampers efforts to tackle intergenerational inequalities in health.

The quality of care is not directly related to the available resources in a health system. Despite their relative wealth, some high-income countries, such as the USA, rank lower on the health components of the 2013 Mothers Index than some far less wealthy ones, such as Poland and Estonia. Although the level and type of risks related to pregnancy, birth, postpartum and the early weeks of life differ between countries and settings, the need to implement effective, sustainable and affordable improvements in the quality of care is common to all, and midwifery is pivotal to this approach.

## QMNC framework

As an essential pre-requisite to the Series, a framework for quality maternal and newborn care was developed from analyses of existing reviews of women's views and experiences, practices and interventions, and workforce,

### Definition of midwifery

In some countries, the full scope of care that could be provided by qualified midwives is limited by health system and cultural barriers, and there is some overlap in roles and responsibilities between different health professionals. In many countries some aspects of midwifery care are provided by obstetricians, family doctors, nurses, auxiliary midwives, community health workers or traditional birth attendants, or by inadequately-trained midwives, as well as by competent midwives educated to international standards, and by nurse-midwives who are trained both as nurses and midwives. A definition of midwifery as a package of care is needed to identify the important aspects of this care regardless of care provider, and to provide a structure to support analysis of the reach and quality of midwifery care.

Midwifery is defined in the series as: "Skilled, knowledgeable and compassionate care for childbearing women, newborn infants and families across the continuum throughout pre-pregnancy, pregnancy, birth, postpartum and the early weeks of life. Core characteristics include optimising normal biological, psychological, social and cultural processes of reproduction and early life, timely prevention and management of complications, consultation with and referral to other services, respecting women's individual circumstances and views, and working in partnership with women to strengthen women's own capabilities to care for themselves and their families".

The International Labour Organisation describes midwives as the primary (but not the only) professional group to provide midwifery. The International Confederation of Midwives defines a midwife as "...a person who has successfully completed a midwifery education programme that is duly recognised in the country where it is located and that is based on the International Confederation of Midwives' Essential Competencies for Basic Midwifery Practice and the framework of the ICM Global Standards for Midwifery Education; who has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery and use the title 'midwife'; and who demonstrates competency in the practice of midwifery".

combined with the insight and experience of the series authors. This framework describes the characteristics of care that women, infants and families need from pre-pregnancy, through pregnancy, to birth, postpartum and the early weeks of life. The framework expands the notion of quality of care from the technical dimensions of *what* is done to include *how*, *where*, and by *whom* this care is provided within any particular context. The framework (figure 1) demonstrates the balance that is required between skilled, supportive and preventive care for all women and infants, regardless of education, income, or health status; and the promotion of normal reproductive processes, first-line management of complications, and skilled emergency care; all within the context of respectful care that is tailored to need and that works to strengthen women's capabilities. Crucially, the framework shows the importance of linking care and service provision across community and facilities, through continuity of care and care provider, and places midwifery into the mainstream of the wider health system provision.



Save the Children Liberia/Jonathan Hyams

This evidence-based framework underpins all papers in the Series and has been used to: assess evidence on what women and infants need from maternal and newborn services; define the range of practices included within the scope of midwifery care; and identify components of quality care that have to be strengthened in country-level examples. The framework can also be used to assess the quality of care, to plan workforce development, resource allocation, or an education curriculum, or to identify evidence gaps for future research. It is intended to be relevant to any setting, and to all who need, or provide, maternal and newborn care and services. Inherent in this framework is the need for interdisciplinary team work and collaboration.

### What women need from maternal and newborn services

The QMNC framework was used to review the evidence on what women and newborn infants need from maternal and newborn services. This review showed that information and education were essential to enable women to learn for themselves, to build on their own strengths and to access services in a timely way. The review showed that women needed services to be provided in a respectful way by staff who engendered trust and are empathic and kind, with care personalised to their individual needs. Particularly, women wanted health professionals who combined clinical with interpersonal and cultural knowledge and skills.

### Effectiveness of maternal and newborn care practices

The evidence examined in this Series suggests that midwifery is uniquely placed to contribute to the QMNC framework and to offer this combination of skills and relationship-based care, appropriate to the context and situation, and across the continuum.

Following on from the analysis of women’s views and experiences, an analysis of 461 Cochrane systematic reviews was undertaken to develop the framework and inform the important components of quality care. Through this process, 122 effective practices were identified as relevant for all childbearing women and infants. Of these, 72 effective practices were identified

#### Quality agenda for maternal and newborn care

Over the past decade, the primary care movement has fully recognised the importance of person-centred and people-centred care. Despite decades of protest by women’s advocates, midwives and academics, the main focus of developments in maternal and newborn health services has until recent years tended to be on life-saving interventions and increasing coverage of services. In that context, the quality agenda for maternal and newborn health is only now slowly starting to emerge. In high-income countries, the quality of care debate has often focused on informed choice, without addressing the other aspects of quality maternal and newborn care. This has resulted in a focus being on relatively “quick fix” technical solutions while ignoring the more difficult longer-term task of building systems that include preventive and supportive care that upholds the appropriate provider values and attitudes required for delivering it.

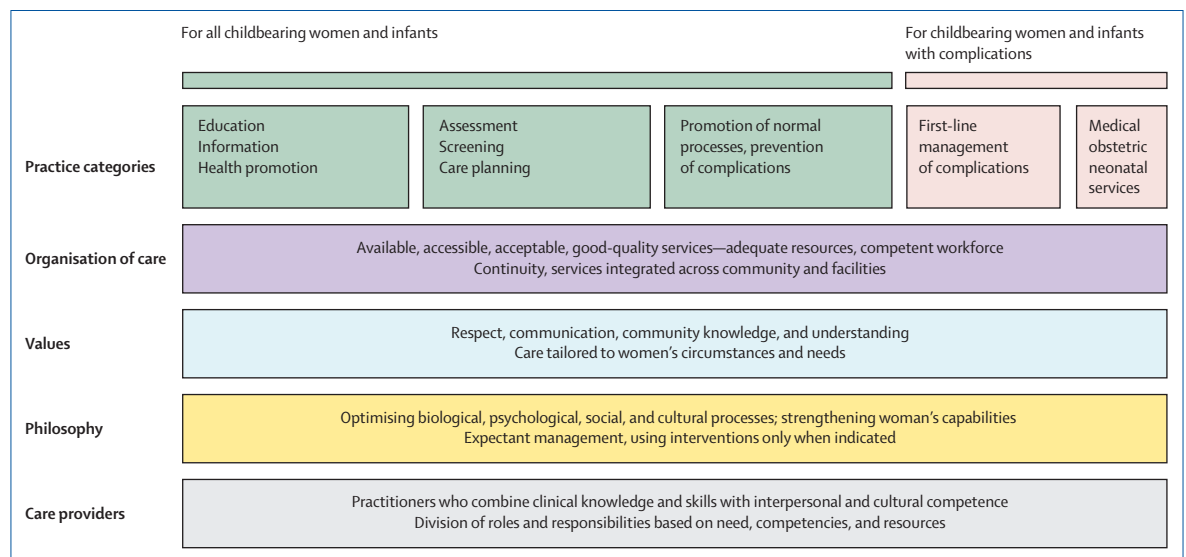


Figure 1: The framework for quality maternal and newborn care  
Maternal and newborn health components of a health system needed by childbearing women and newborn infants (as re-drawn for Renfrew et al).

as being within the scope of midwifery and were further analysed to identify the outcomes improved. It was found that 56 outcomes could be improved by the combination of practices that fall within the scope of midwifery. The scale of the impact of these outcomes will vary across settings and will depend on the organisation of services and the skills and competencies of the workforce. Further analysis found that 44 (61%) of the 72 effective practices identified demonstrated the importance of optimising normal processes of reproduction and early life and of strengthening women's capabilities to care for themselves and their families.

### Scope of practice of midwives

Educated, trained, licensed, and regulated midwives can provide the full scope of midwifery as defined in this Series. Multiple providers are active in providing midwifery care, but with limited benefits where reliance is solely on less skilled health-care workers. Care led by midwives—educated, licensed, regulated, integrated in the health system and working in interdisciplinary teams—had a positive impact on maternal and perinatal health across the multiple stages of the framework, even when compared with care led by other health professionals in combination with midwives. In the high-income settings in which resource use has been examined, there are indications that such midwife-led care is a more cost-effective option than medically-led care. When midwives work in collaboration as part of multidisciplinary teams providing integrated care across community and hospital settings, they can also provide effective midwifery care for women and infants who develop complications.

### The projected impact of scaling up midwifery

The Series demonstrates the substantial health and well-being benefits for women, mothers and their infants, as well as families, when high-quality midwifery care is delivered by midwives and others with midwifery skills.

The Lives Saved Tool (LiST) was used to model the potential impact of the essential interventions for reproductive, maternal, and newborn health (RMNH) that are within the competencies of the midwife.

The modelling showed that scaling up midwifery could help reduce mortality, even in resource constrained environments. Midwifery could be implemented with successful outcomes at any stage of a country's transition

to lower maternal and newborn mortality rates. Universal coverage of specific, essential interventions for RMNH that are within the competencies of the midwife will lead to reductions in maternal deaths, stillbirths, and newborn deaths in 78 'Countdown' countries classified according to the human development index (HDI).

In low-resource settings the model predicts that, compared with current baseline estimates and over 15 years, maternal and newborn mortality and stillbirths could be reduced by between 27% and 82%. For example, a recurrent 5-year increase of 10% coverage of the interventions (including family planning) delivered by midwives would lead to a 27% drop in maternal mortality. A 25% increase from current baseline estimates would lead to a 50% reduction of maternal mortality, while 95% coverage would prevent 82% of maternal deaths. The impact on reducing stillbirths and newborn deaths would be similar.

The Series also estimated the value of incrementally adding specialist care to midwifery on maternal, fetal and neonatal lives saved. However, the impact of adding specialist medical services to the midwifery package of care was found to be far less than the impact observed when only activities considered to be part of midwifery (both maternal and child health and family planning) were implemented.



Gaby/Jefferis

### Impact of midwifery on health, psychosocial, and resource use outcomes

The analyses showed that outcomes improved by midwifery care include reduced maternal and newborn mortality, reduced stillbirth, reduced perineal trauma, reduced instrumental birth, reduced intra-partum analgesia or anaesthesia, less severe blood loss, fewer preterm births, fewer newborn infants with a low birth weight, and less hypothermia. The analyses also found increased spontaneous onset of labour, greater numbers of unassisted vaginal births, and increased rates of initiation and duration of breastfeeding. Increased referrals for pregnancy complications, fewer admissions to neonatal intensive care units, and shorter stays in neonatal units are examples of outcomes that indicate both improved care and resource use. Importantly, women reported a higher rate of satisfaction with care in general and with pain relief in labour in particular, and improved mother-baby interaction was also identified.

### Essential and effective interventions

The specific interventions examined were those identified in the *Essential Interventions, Commodities and Guidelines for Reproductive, Maternal, Newborn and Child Health* as being able to be delivered as part of midwifery services, in particular, by midwives educated to international standards and integrated into the health system.



Scaling up midwifery in high-income countries is likely to have more impact on morbidity than mortality, given the very low rates of mortality in these settings. Even though over-use of technical interventions is a problem in countries at all income levels, the relative negative contribution of over-use to under-use is likely to be greater in high-income countries. Different approaches therefore need to be developed to model the impact of midwife-led care in countries with different income levels.

### Strengthening health systems and the deployment of midwives in countries with high maternal mortality

#### Learning from experience

The Series presents case studies from four countries that sought to improve maternal and newborn survival and health over the past three decades by investing in midwives and strengthening other aspects of their health systems. In Burkina Faso, Cambodia, Indonesia, and Morocco, a combination of system changes and staffing and service provision initiatives was used to achieve sustained reductions in maternal and newborn mortality. These four countries have opted, successfully, for a rapid scale-up of their midwife workforce, and their experience highlights two important issues.

First, it suggests that a strategy for improving maternal and newborn health cannot be reduced to a choice of the professional category to be scaled up, but critically depends on the design and investment in the overall service delivery network. The deployment of the workforce within this network is a question of managing pace, cost and quality. Second, it confirms that where systems are consistently strengthened over a long period of time, investment in midwives is a realistic and effective strategy to reduce maternal mortality, including in resource-constrained contexts. Building a network of facilities from scratch, as in Burkina Faso and Cambodia, takes time. However, once it is in place, deploying a workforce can proceed quite rapidly.

In three of these countries (Burkina Faso, Morocco, and Cambodia), a substantial amount of time passed between the expansion of infrastructure and the deployment of a midwifery workforce. In Indonesia, the new workforce was not just intended to staff facilities, but also dedicated, village-level maternal health services in parallel with the facilities. However, their productivity was limited to the number of pregnant women in a village and they operated as solo practitioners. This suggests that most of the benefits in maternal mortality reduction came from improved access to formal facilities where more midwives were deployed (figure 2).

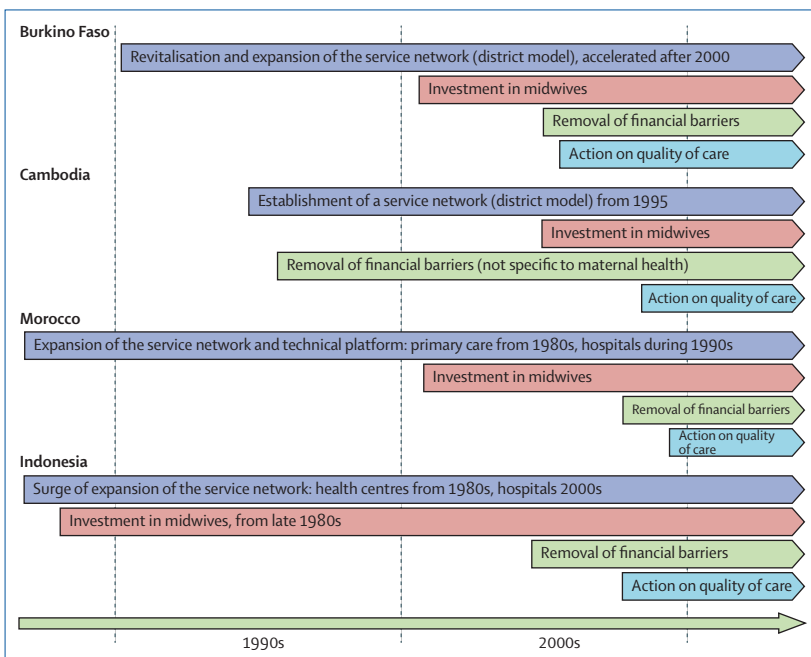


Figure 2: Sequence of crucial interventions for health-system strengthening in support of quality and maternal newborn health in Burkina Faso, Cambodia, Morocco, and Indonesia, from 1980s to present

#### The quality challenge

In the four countries described above, concerns about quality of care appeared late, well after the expansion of networks and workforces, and the reduction of financial barriers. More recently, all four countries have become aware of the need to improve technical standards, competencies, and equipment. Death-miss and near-miss audits have also had an important role in identifying areas that needed to be improved. Health authorities in the four countries have also shown willingness to improve access, while identifying problems and obstacles over time. The design and implementation of solutions may have suffered delays and setbacks, but on the whole, there has been a progressive sophistication in the management of the maternal and child health programmes in all of the case studies. This has created contexts in which substantial increases in midwives were confirmed as a strategic element in contributing to maternal and newborn survival.

## Policy implications for improving maternal and newborn health through midwifery

The evidence outlined in this Series shows that increasing coverage of services alone does not guarantee high-quality care or a reduction in maternal and newborn morbidity and mortality. Therefore, policies should address improving coverage and quality at the same time: both are equally important. This is the concept of “effective coverage”—the proportion of the population who have need of an intervention and receive that intervention with sufficient quality to be effective, and who benefit from it. This means facilitating women’s use of midwifery services, doing more to meet women’s needs and improving the quality of care women and newborn infants receive.

Scaling up the contribution of midwives to the expansion of available RMNH care is a strategic option of considerable appeal among policy-makers today. The effectiveness of midwives is evident in the country experiences documented above and by the modelling of the potential impact of technical interventions that are within midwives’ scope of practice. It is likely that the health and social impact of scaling up the contribution of midwives would be further enhanced through fuller attention to the other dimensions of the QMNC framework: optimising normal processes of reproduction, embedding midwifery into the wider health system, continuity of care, and competent, caring, trustworthy care providers.

Implementing the QMNC framework will be challenging in those low-income and middle-income countries where maternal and newborn mortality remains high, service delivery networks are incompletely developed, and human resources are wanting—see example of Sub-Saharan Africa in panel. Additionally, there can be inefficiencies in allocation of resources when midwives and other health cadres are not enabled to practice to their full competence.

To deliver high-quality care in all settings, health professionals and policy-makers need to create an environment where the 72 effective midwifery practices identified in this Series can be implemented in line with the woman-centred values and philosophy outlined in the QMNC framework. This is likely to have important economic effects, potentially reducing health spend, and increasing the sustainability of maternity care systems in the longer term.

### Family planning as part of the midwifery package of care

Including family planning in the full package of midwifery care would prevent 50–75% of maternal, fetal and neonatal deaths, with an additional effect of 10–20% reduction in all deaths when linking to specialist care. Family planning alone could prevent 57% of all deaths, because of reduced fertility and fewer pregnancies. In combination, the full package of midwifery care with both family planning and maternal and neonatal health interventions could avert a total of 83% of all maternal deaths, stillbirths and newborn deaths.

### Midwives as the essential link in the continuum of care

Although the full spectrum of care up to and including specialist medical care averts the most deaths, the midwife addresses the continuum of care from the community through to complex clinical care whereas the medical specialist may not. Midwives are potentially the facilitators—the essential link—to bring the woman into the health-care system at the most effective and efficient time and level. Effective referral is often hampered by practical considerations such as lack of finance, transport services and lack of services and access to specialist medical care once in higher-level facilities. Again, this highlights the need for midwifery, and midwives more specifically, to be situated as part of a team within a functional and enabling health system that has a skilled health workforce with the appropriate competencies, and is based in the community as well as in the hospital or health facility. This is an important step in ensuring that women can have access to a quality midwifery service that can use effective and appropriate maternal and newborn health interventions and preventive health care strategies.

### Expanding the midwifery workforce, investing in midwifery

Sub-Saharan Africa, where the annual number of pregnancies and births will continue to rise in the foreseeable future, is of particular concern given the projected deficits in the health workforce to meet increasing demand. Available data for 14 high maternal morbidity countries in the region show that in 2009–10, the 71 243 midwives and nurse-midwives in these countries attended an average of 42 births per year (3 million in total), resulting in a coverage of 27%. Although these data show an increase in service provision, it is hardly sufficient to keep up with predicted population growth. Improving effective coverage while coping with this additional workload will not only require an accelerated expansion of the number of full-time equivalent midwives, but substantial increases in their productivity.

At current levels of productivity, a doubling of the number of midwives by 2035 (requiring a net increase of nearly 3% per year) would achieve a coverage of only 35.7%. A coverage of 75% in 2035 would require an increase of the stock to 299 661—a net growth per year of nearly 6%. Without an expansion of the stock of midwives, productivity would have to increase to an average of 175 births per midwife per year (the current WHO benchmark) to achieve 75% coverage, which could exceed the available working time of a midwife for health service activities, restrict the care provided to attendance in labour and birth and compromise woman-centred, quality care.

Education of health care professionals and efficient and effective regulation of practice are important components of making that environment possible. It is also important to create partnership and dialogue between care providers and with care users and communities. The QMNC framework provides evidence-based guidance to help adjust education and regulation to the needs of such a collaborative environment.



UNFPA, Zambia/Georgina Smith

*The Lancet Series on Midwifery Executive Summary writing team*  
 Mary J Renfrew,  
 Caroline S E Homer, Soo Downe,  
 Alison McFadden, Natalie Muir,  
 Thomson Prentice,  
 Petra ten Hoop-Bender

*The Lancet Series on Midwifery Executive Group* Jim Campbell,  
 Luc deBernis, Soo Downe,  
 Helga Fogstadt,  
 Caroline S E Homer,  
 Holly Kennedy, Zoe Matthews,  
 Alison McFadden (Secretariat),  
 Mary J Renfrew (Chair),  
 Petra ten Hoop-Bender (Series Coordinator)

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**Conclusion**

Midwifery’s contribution to the survival, health, and wellbeing of childbearing women and newborn infants is demonstrated in the analysis of systematic reviews, case studies, and modelling of deaths averted that was done for this Series. Midwifery is a vital solution to the challenges of providing high-quality maternal and newborn care for all women and newborn infants, in all countries.

The Series is presented from the perspective of what childbearing women need and want for themselves and their newborn infants: to be healthy, safe, supported, respected and to give birth to a healthy baby that can thrive, after a positive and life-enhancing pregnancy and birth experience, whatever complications they may experience. This is also most likely to promote effective attachment, and longer term survival and wellbeing for the infant. Meeting these aspirations and needs is a critical element in realising the right of all people to the highest attainable standard of health. This Series identifies the values, philosophy, and health-system functionality required to deliver QMNC for all women and all infants.

The evidence from this Series shows that there is unexploited potential for improving outcomes for

women and newborn infants through collaborative practice of health-care professionals working along the continuum of care. Educated, licenced and supported midwives, including nurse midwives trained to international standards in midwifery, possess the competencies that span the RMNH continuum of care, and are both a connector across and a driving force behind that continuum. Although there are resource constraints in many countries, there are examples of governmental success in promoting the implementation and expansion of midwifery even where this has been hard to do. This will need a vision for planning for optimum maternity care—shown here to be a highly-effective strategy—and a willingness to make it happen.

This is the most critical, wide-reaching examination of midwifery to date, and it includes a broad range of clinical, policy, and health system perspectives. The findings should be considered carefully, and debated widely. Practical testing of the evidence-based QMNC framework proposed could identify the short-medium and long-term outcomes—clinical, psycho-social, and economic—in low-income, middle-income, and high-income countries.

**Adding midwifery and midwives back into health systems**

Case studies from Brazil, China, and India demonstrate the tendency of health systems in rapid development to adopt a model relying on the routine use of medical interventions, without the balance brought by midwifery.

India, China, and Brazil are ranked first, second and eighth worldwide in annual numbers of births, and combined they account for 35% of all births globally. The case studies presented in the Series suggest that a focus on facility-based and emergency care can result in a reduction in maternal and perinatal mortality. However, without the balancing effect of the full spectrum of midwifery care, this strategy has also resulted in rapidly-growing rates of unnecessary and expensive interventions, such as caesarean sections, and inequalities in the provision of care and outcomes.

China and Brazil have taken steps to reintroduce midwives in recent years, as a strategy to reduce mortality, morbidity, and unnecessary intervention.

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