

## Midwifery 4



# Improvement of maternal and newborn health through midwifery

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In the concluding paper of this Series about midwifery, we look at the policy implications from the framework for quality maternal and newborn care, the potential effect of life-saving interventions that fall within the scope of practice of midwives, and the historic sequence of health system changes that made a reduction in maternal mortality possible in countries that have expanded their midwifery workforce. Achievement of better health outcomes for women and newborn infants is possible, but needs improvements in the quality of reproductive, maternal, and newborn care, alongside necessary increases in universal coverage. In this report, we propose three priority research areas and outline how national investment in midwives and in their work environment, education, regulation, and management can improve quality of care. Midwifery and midwives are crucial to the achievement of national and international goals and targets in reproductive, maternal, newborn, and child health; now and beyond 2015.

## Introduction

This is the final paper in a Series in which we provide evidence (analyses of systematic reviews, case studies, analysis, and modelling of deaths averted) for the contribution of midwifery to the survival, health, and wellbeing of childbearing women and newborn infants. We present the Series 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. To meet these needs is a crucial element in realisation of the right for all people to have the highest attainable standard of health. In the Series, we discuss the values, philosophy, and health system functionality needed to deliver high-quality maternal and newborn care. The evidence shows that increases in crude population coverage of services alone do not guarantee high-quality care or a reduction in maternal and newborn morbidity and mortality. Therefore, policies should address improvements in coverage and quality at the same time—both are equally important. This balance is the concept of effective coverage<sup>1-4</sup> (the proportion of the population who have need of an intervention and receive that intervention with sufficient quality to be effective, and benefit from it<sup>4,5</sup>). Women's use of midwifery services should be supported, more should be done to meet women's needs, and improvements should be made in the quality of care received by women and newborn infants. Progress in all three areas is needed to obtain a comprehensive health gain.<sup>5</sup>

In this paper, after briefly summarising the other three papers in the Series,<sup>6-8</sup> we discuss the lessons learned from efforts to improve the coverage and quality of maternal and newborn care and then identify actions that are necessary, urgent, and feasible to improve the health and wellbeing of women, newborn infants, and children. Proactive and substantial changes are needed

to make services for maternal and newborn health available and ensure that they are used and of high quality. We highlight research priorities to generate better evidence and suggest practical steps for all countries to move towards people-centred<sup>9</sup> and woman-centred<sup>10</sup> care, which includes the baby, the family, the partner, and others identified by the woman. In the final part of the article, we discuss how achievement of universal, effective coverage of high-quality maternal and newborn care is of central importance to primary health care and the broader agenda for global health.

Recognising the diversity of care providers across countries, the contributors of the other reports in this Series<sup>6-8</sup> examine both midwifery and the people who provide that care (midwives and others). This consideration has allowed an examination of the evidence base that distinguishes between what care is needed, how it is provided, and who should provide it, and thereby it can offer essential information to educators, regulators, health system planners, and decision makers (panel 1).

The article by Van Lerberghe and colleagues<sup>6</sup> provides a review of four countries' efforts (Burkina Faso, Cambodia, Indonesia, and Morocco) over the past three decades to improve maternal and newborn survival and health through investment in midwives and strengthening of other aspects of their health systems. In all these countries, a combination of system changes and initiatives were used to achieve sustained reductions in maternal and newborn mortality. The article shows a recurrent sequence of events, beginning with the expansion of networks of health facilities, then the scaling up of education and deployment of midwives and reductions in financial barriers, and, finally, improvements in quality of care. In every case, access issues (expansion of networks and workforces; reductions in financial barriers) were addressed well before concerns

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This is the fourth in a Series of four papers about midwifery

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**Key messages**

- Provision of accessible quality midwifery services that are responsive to women's needs and wants should be part of the design of health-care service delivery and should inform policies related to the composition, development, and distribution of the health workforce in all countries
- Efforts to scale-up quality maternal and newborn care should include effective measures to identify and tackle systemic barriers to high-quality midwifery—eg, the low status of women, interprofessional rivalries, poor understanding of midwifery care and what it can do, and unregulated private sector maternal and newborn health care
- To recognise and enable the important contribution of midwifery to improve health in both mothers and newborn infants is important for national, regional, and global health programmes, initiatives, and institutions
- Midwifery can lead to positive health outcomes, especially in settings in which midwifery services are valued and respected, community-based, and integrated effectively into a functioning health system
- Expansion of equitable coverage and improvements in the quality of midwifery care will be challenging for many countries, especially those in which the number of births per year is projected to rise
- Women and communities should be included in decision making to improve midwifery services
- Midwifery care can be cost effective, affordable, and sustainable; national governments should invest in deploying midwives and national health plans should have a strategy to scale-up midwifery
- More investment is needed (by countries and development partners) in relevant research and routine collection of data for quality maternal and newborn care and on the reproductive, maternal, and newborn health workforce
- The coverage and quality of midwifery care should be monitored regularly and be used to hold stakeholders, including providers and programme managers, accountable

about quality of care were noted by health system developers. Government responses to quality of care included improvements in technical standards, competencies, and equipment, and carrying out systematic death and near-miss audits. The experience of the four countries confirms that, when 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. However, the time lag between expansion of coverage and improvement in quality, and these improvements being limited to technical dimensions and essential interventions, is concerning. In these selected countries, and in many others, a substantial gap exists between the attributes of quality care and the realities on the ground. Indeed, in some countries, decision makers are only now starting to

**Panel 1: Definitions used for midwifery and midwives**

In this Series, we define the practice of midwifery as: “skilled, knowledgeable and compassionate care for childbearing women, newborn infants and families across the continuum throughout pre-pregnancy, pregnancy, birth, post-partum 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<sup>11</sup> describes midwives as the primary professional group to provide midwifery. The International Confederation of Midwives<sup>12,13</sup> defines the midwife, as well as core competencies and standards for education and practice as: “A midwife is 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' (ICM) 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 practise midwifery and use the title midwife; and who demonstrates competency in the practice of midwifery”.

We define reproductive, maternal, and newborn care as the care provided to girls, women, and newborn infants during pre-pregnancy, pregnancy, and birth, the post-partum period, and the postnatal period, and through to the early weeks of life.

become aware of the multiple dimensions of quality—ie, the technical (competencies, equipment), the interpersonal (respectful, responsive, inclusive care), and the organisational (facilities, referral mechanisms).

Using analyses of what women and infants need, and recognising that the midwifery care that women and newborn infants need can be provided by a diverse workforce composed of midwives and others, Renfrew and colleagues<sup>7</sup> define the key aspects of quality maternal and newborn care. These features include: provision of preventive and supportive care and effective treatment for problems when they arise; respect for women and newborn infants and being responsive to their needs, including those for safety, privacy, and dignity; use of interventions only when they are indicated; and strengthening of the capabilities of women to care for themselves and their infants. The contributors propose an evidence-based framework for quality maternal and newborn care, which expands the notion of quality of care from the conventional technical dimensions of what is done, to include how, where, and by whom this care is provided. The framework shows a balance between preventive and supportive care, in addition to elective

and emergency care, and allows for continuity of both the care and the caregiver from community to facility settings. The report proposes a shift from a system that focuses on identification and treatment of disease and disorders to a system of skilled care for all (figure 1).

The report by Homer and colleagues<sup>8</sup> uses the Lives Saved Tool<sup>14</sup> to model the potential effect of scaling up essential interventions for reproductive, maternal, and newborn health<sup>15</sup> that are within the competencies of the midwife.<sup>13</sup> Findings show that scaling up midwifery could help reduce adverse health outcomes, even in resource-constrained environments, and could be implemented with successful outcomes at any stage of a country's transition to lower maternal and newborn mortality rates. Policy makers can use this paper as a guide to strengthen the efficiency and effectiveness of their services for reproductive, maternal, and newborn health and to measure how they affect outcomes.

The scope of midwifery practice combines both technical interventions and family planning, providing a substantial return on investment that is enhanced further by appropriate and timely referral to specialist care. In low-resource settings, as an example, the model predicts that, compared with present baseline estimates, and over 15 years, a 10% increase in coverage (every 5 years) of interventions (including family planning) given by midwives would lead to a 27% drop in maternal mortality. A 25% increase from available baseline estimates would lead to a 50% reduction of maternal mortality, and 95% coverage would prevent 82% of maternal deaths. The effect on reductions of stillbirths and newborn infant deaths would be similarly great. In Malawi (which has a population of slightly less than 15 million people and a maternal mortality ratio of 460

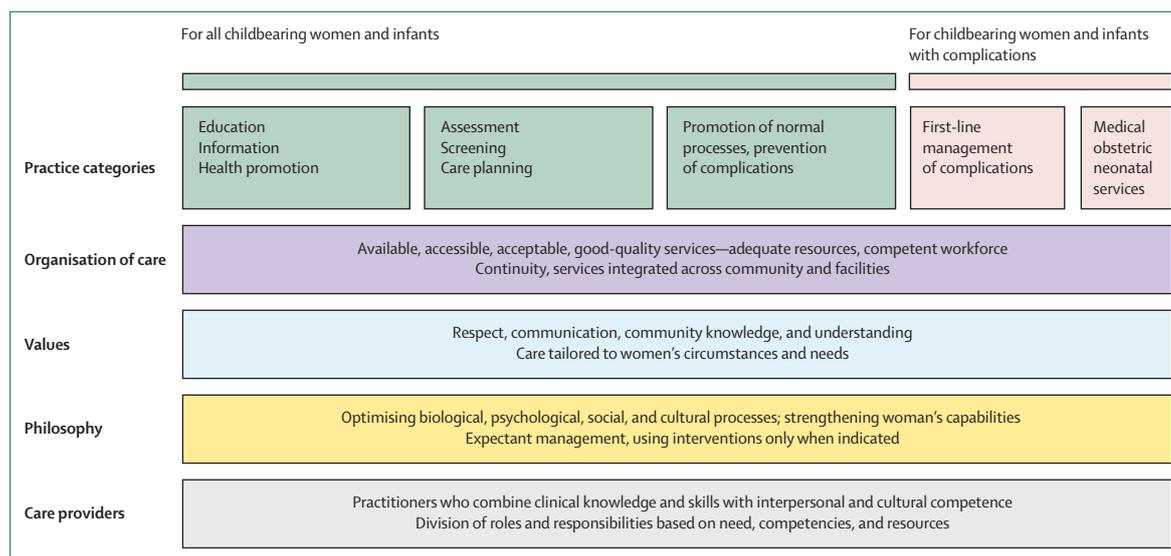
per 100 000 livebirths<sup>16</sup>) a 10% increase in coverage every 5 years would reduce maternal deaths from 4500 per year in 2010 to 1200 per year in 2025, fetal deaths would decrease from 27 500 to 7200, and newborn infant deaths would fall from 30 000 to 8000. A list of modelled deaths averted for the 78 countries is available in the online appendix for the paper by Homer and colleagues.<sup>8</sup>

In their paper, they suggest that there is unexploited potential to improve outcomes for women and newborn infants through collaborative practice<sup>17</sup> of health-care professionals working along the continuum of care, provided that there are accessible health services, provisions for communication and transportation, and no financial barriers.

### Towards effective coverage of maternal and newborn health care

In many countries, multiple health-care professionals, such as doctors, midwives and nurses, are engaged in services for reproductive, maternal, and newborn health, and supported by auxiliary health staff, and community health workers. To ensure continuity and quality of care, their varied competencies and expertise should be brought together into an interprofessional practice-ready team. Health-care professionals working together with local providers can increase the reach of the health system, thus combining coverage with quality of care. Midwives, provided they are well educated and supported, possess the competencies across the reproductive, maternal and newborn health continuum and are both a connector across and a driving force behind that continuum.<sup>18,19</sup>

Scaling up the contribution of midwives to the expansion of available reproductive, maternal, and newborn health care is a strategic option of great appeal for policy makers.



**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**

Used from Renfrew and colleagues,<sup>7</sup> the first report in this Series.

The effectiveness of midwives is evident in the countries documented in this Series<sup>6</sup> and by modelling of the potential effect of technical interventions that are in midwives' scope of practice.<sup>8</sup> The health and social effect of scaling up the contribution of midwives would be enhanced further through fuller attention to the other dimensions of the framework for quality maternal and newborn care—ie, optimisation of normal processes of reproduction and early life; continuity of care; and competent, caring, and trustworthy care providers.

However, the challenges for implementation of the framework for quality maternal and newborn care are substantial in low-income and middle-income countries with high maternal and newborn mortality, incomplete service delivery networks, and insufficient human resources. Additionally, inefficiencies can occur when midwives and other health cadres are not given the chance to practise to their full competence. Sub-Saharan Africa, where the number of pregnancies and births per year will continue to rise,<sup>20,21</sup> is of particular concern, in view of the projected deficits in the health workforce to meet increasing demand.<sup>22–24</sup> According to the medium scenario in UN Population Projections,<sup>20</sup> the number of births will grow from 11 million in 2010 to 16.8 million in 2035. The extent of the challenge is shown by the 14 sub-Saharan countries with high maternal mortality that have available trend data on the midwife-share of assistance at childbirth. In 2009–10, 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%.<sup>19</sup> Although this figure is nearly 1 million more than the 2.1 million births attended by midwives in the early 1990s in sub-Saharan Africa,<sup>25</sup> this increase in service provision is not sufficient to keep up with the demographic growth. Improvements in effective coverage while midwives work with this additional workload will not only need an accelerated expansion of the number of full-time equivalent midwives (the workforce stock), but will also need substantial increases in their productivity. No golden standard exists to measure health workforce productivity and determine staffing requirements,<sup>26</sup> but for the purpose of the challenge, we use the number of births per year attended by a midwife (figure 2).

At present levels of productivity, a doubling of the number of midwives by 2035 (a net increase of nearly 3% per year) would achieve only 36% coverage. Coverage of 75% of births in 2035 would require an increase of stock to 299 661 full-time midwives—a net growth of nearly 6% per year. Without an expansion in the number of midwives, productivity would have to increase to an average attendance of 175 births per midwife per year (the current WHO benchmark<sup>27</sup>) to achieve 75% coverage, which could exceed the available working time of a midwife for health service activities,<sup>28</sup> restrict the care provided to attendance in labour and birth, and compromise woman-centred quality care.

In the report *State of the World's Midwifery 2014*<sup>29</sup> new calculations based on data from many countries make it possible to refine staffing requirements in relation to women's needs for the continuum of maternal and newborn care.

Investment in education alone will not suffice and will have to be combined with investment in regulation, effective human resource management, and the service delivery environment in which future midwives will work, so that they will not only be able to cope with the increased workload, but will also ensure quality clinical and psychosocial care. More evidence is needed to inform effective ways of scaling up the midwifery workforce: education, regulation, in-service training, career progression, deployment, and retention and increasing of the quality, relevance, and productivity of midwives across public, private, and not-for-profit sectors. Three priority research areas are of interest.

First, better evidence is needed about labour mobility—the recruitment, posting, and transfer of staff to remote and underserved areas; how to measure and improve staff deployment and retention; and how to ensure that the net increase in the number of midwives matches increases in demand in rural and urban areas. New thinking on posting and transfer is emerging<sup>30</sup> and WHO<sup>31</sup> guidelines are available for recruitment and retention of health workers in rural and remote areas. New technologies allow for the identification of subnational geographical differences in the supply of and demand for maternal and newborn health services; information that is essential to identify and address inequities in access to these services.<sup>32–34</sup> Disaggregated, locally driven data are also important to inform appropriate strategies for labour mobility and effective coverage.

Second, a better appreciation of productivity is needed. Assessment, understanding of, and improvements in productivity is an area of increased interest that is partly based on health labour market studies<sup>22,35,36</sup> and new initiatives for results-based or performance-based financing but is also associated with discrepancies between health-care providers' knowledge, behaviours, and skills (competence); what they personally can or cannot do (capacity); and what they ultimately do (performance).<sup>37</sup> A deeper understanding is needed of the productivity of the midwifery workforce, maternity units, and the models of practice, such as midwifery led care<sup>38</sup> and collaboration with traditional birth attendants and community health workers that can drive gains in efficiency in low-income and middle-income countries. However, any work in this area must be careful not to lose sight of the essential need to prioritise delivery of quality of care over simple economics.

The 2005 WHO benchmark of attendance of 175 births per midwife per year<sup>27</sup> is a frequently used productivity benchmark for workforce planning and projections. However, this figure, which is well above the current

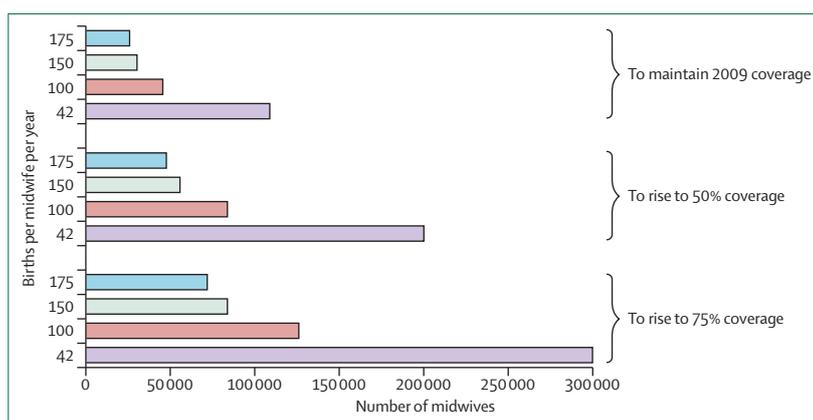
average of 42 in sub-Saharan Africa, needs to be refined to allow for greater sensitivity in subnational settings and contexts so that future guidance can propose a range of estimates that meet women's needs throughout pre-pregnancy, pregnancy, birth, and post-partum and postnatal care, in remote, rural, peri-urban, and urban areas. Also needed is a set of effective implementation strategies that both enhance productivity and are compatible with the framework for quality maternal and newborn care for health services provided by teams in facilities and close to the community.

Third, rising demand in a tight labour market is likely to accelerate the commercialisation of childbirth. The rapid growth of private sector for-profit maternity services, insufficient regulatory mechanisms, and informal fee-for-service payments<sup>39</sup> are examples of policies and practices that lead to overmedicalisation. To address the social and economic mechanisms underlying the commercialisation of childbirth has not been at the top of the agenda for maternal and newborn health research, policy, and practice development over the past three decades. The development of adequate strategies to manage increasing commercialisation needs a better understanding for emerging trends and feasible options that will mitigate the adverse effects of commercialisation and tackle the resulting inequalities.

### Improvement of the quality of maternal and newborn health care

Over the past decade, the primary health-care movement has fully recognised the importance of people-centred care,<sup>39</sup> whereas within maternal and newborn health, the main focus has been on life-saving interventions and increases in coverage. This difference has led to the quality agenda for maternal and newborn health only now starting to emerge. Attention to quality of care has been shown in documentation about the sometimes difficult relationship between care providers and women,<sup>40,41</sup> which can result in disrespect, abuse, and abandonment of care. But these situations are often symptoms of deeper health system problems,<sup>42</sup> rather than simple measures of poor quality, and their documentation has not led to coherent political strategies to address these issues. In high-income countries, quality of care often focuses on informed choice without addressing the other aspects of the framework for quality maternal and newborn care, resulting in a focus on relatively quick-fix technical solutions while little attention is paid to the more difficult longer-term building of systems that include preventive care and that uphold the appropriate provider values and attitudes needed to deliver it.

Even in situations in which the health system provides adequate and appropriate facilities, workforce, equipment, and drugs, high-quality reproductive, maternal, and newborn health care might still not be good enough. Research done in facilities with at least



**Figure 2: Projected number of midwives needed to achieve specified coverage levels by 2035 in 14 sub-Saharan countries made under various assumptions of midwifery productivity**

The countries included are Benin, Côte d'Ivoire, Ghana, Kenya, Madagascar, Malawi, Mali, Namibia, Niger, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe. Midwifery productivity is identified as births attended per midwife per year.<sup>19</sup> At present, there are an average of 42 births per midwife per year in sub-Saharan Africa.

1000 births per year across Africa, Asia, Latin America, and the Middle East noted that a high coverage of essential interventions alone did not reduce maternal mortality.<sup>43</sup> Maternal mortality was only reduced in facilities that combined essential interventions with comprehensive emergency care and made overall improvements in the quality of maternal health care. The contributors concluded that, in facilities in which the workforce and enabling environment were present, mortality remained high when interventions were delayed or poorly implemented or when they did not form part of a continuum of care.

To deliver high-quality care, health professionals and policy makers need to create an environment in which the 72 effective midwifery interventions identified in this Series<sup>7</sup> can be implemented consistently with the woman-centred values and philosophy outlined in the framework for quality maternal and newborn care,<sup>7</sup> 43 (60%) of 72 interventions show a need to optimise the normal processes of reproduction and early life to avoid complications and to strengthen women's capability to take care of themselves and their families. This change is likely to have important economic effects, potentially reducing health spending, and increasing the sustainability of maternity care systems in the longer term. Education of health-care professionals and efficient regulation of practice are important components to make that environment possible, but it is also important to create partnership and dialogue between care providers and with care users and communities. The framework for quality maternal and newborn care provides evidence-based guidance to help to adjust education and regulation to the needs of such a collaborative environment.

All countries face challenges in provision and measurement of quality maternal and newborn health care. The medicalisation of childbirth<sup>44</sup> is increasing in most countries. In lower-income countries, pregnancy

and childbirth are slowly moving from a normal life event to a medicalised intervention. As in many high-income countries, care is also becoming more medicalised, resulting in similar shortcomings in quality. Experience from some high-income and middle-income countries, as discussed in other papers in this Series,<sup>7</sup> shows the importance of using a framework such as the framework for quality maternal and newborn care to strengthen the quality of services and service providers and to ensure that all aspects of quality care are monitored and addressed.

In low-income and middle-income countries, there are signs of increasing user expectations for high-quality, safe care during pregnancy and childbirth. Individual

and community drivers (eg, local opinion about facility birthing, experience at facilities by other members of the community, absence of equipment and drugs, and a bad reputation for interpersonal relations) are strong influences on people's decisions about choice of birthing facility, with patients bypassing nearby facilities in favour of those with a better reputation further away. A recent study showed that the quality of care in bypassed clinics was indeed worse.<sup>45</sup> This finding led to suggestions that it would be more efficient to invest in making birthing services available at a level at which quality care can be provided, rather than to provide care unconditionally at community level.<sup>46</sup>

Countries across a wide geographical and income range have reduced maternal and newborn mortality by offering more effective services. Several countries have tackled the entrenched financial and health system barriers to midwifery services and attempted to solve fragmentation of the scope of midwifery among different cadres, but most countries are still contending with ineffective policy environments for quality maternal and newborn care, the low status of women,<sup>47–49</sup> and the domination of midwifery by medicine.<sup>50,51</sup> Countries are showing a trend towards increased service provision by doctors, which, in some countries, has led to a significant reduction in the number of practising midwives<sup>51</sup> and increased medicalisation of pregnancy and childbirth.

Professional education is core to increases in the quality and coverage of quality maternal and newborn care.<sup>52</sup> WHO guidelines<sup>53</sup> on transformative education targeted to low-income and middle-income countries, emphasise that both pre-service and in-service health professional education must increase the quantity, quality, and relevance of future providers for them to meet the needs and expectations for population health. New ideas and avenues need to be explored to produce a workforce that is fit for purpose<sup>24</sup> and regulated to enable their full scope of practice to contribute to the effective delivery of quality maternal and newborn care.

### What midwifery can contribute to effective coverage and woman-centred agendas

Midwives, when working to the framework for quality maternal and newborn care and within an enabled environment, have the potential to bring care close to women and communities and tailor it to their social and cultural needs. As this Series shows, midwives can optimise the normal processes of reproduction and the early years of life, and still ensure the identification and management of complications before they become life threatening and to refer women when necessary. Results from the reviews of systematic reviews done in this Series<sup>7</sup> show that midwifery, as defined in this Series, can result in a decrease in maternal and newborn mortality, stillbirths, perineal trauma, instrumental births, intrapartum analgesia and anaesthesia, severe blood loss, preterm births, newborn

#### Panel 2: Pragmatic actions to improve the coverage and quality of maternal and newborn care through midwifery.

- Regularly discuss and refocus the package of care and the quality (technical capacities, interpersonal relationship capacities, and ability of health systems to create the enabling environment) that reproductive, maternal, and neonatal health teams provide using the framework for quality maternal and newborn care.
- Involve women, families, and communities in the design and delivery of quality maternal and newborn care.
- Ensure that education covers all the elements of the framework for quality maternal and newborn care and is taught to all providers of reproductive, maternal, and neonatal health care. Ensure that there is a balance between theory and practice so that midwives can be fully functional in all contexts as soon as they graduate. Ensure effective interdisciplinary education at all stages (pre-service and in-service), which is likely to result in a stronger integrated team for quality maternal and newborn care, decrease professional silos, and improve collaboration along the continuum of care.
- Use the framework for quality maternal and newborn care and its evidence base to identify, analyse, and solve problems in service provision and to strengthen regulation and legal frameworks used across reproductive, maternal, and neonatal health teams that promote and support collaborative practice and accountability.
- Undertake regular midwifery workforce assessments and reorganise the health system so as to ensure available, accessible, acceptable, and good-quality maternal and neonatal health services.
- Make the necessary health system and regulatory changes for midwives to work to their full capacity and to carry out all the basic emergency obstetric and newborn care functions as close to women as possible without compromising the quality of care. Those functions include prescription authority for essential medicines.
- Ensure that midwives have effective back-up when needed and that they are part of a collaborative team of health-care professionals to provide the continuum of care along the reproductive life cycle and from home to hospital. Midwife-led units that work closely with communities and community health workers are an effective mechanism to bring health systems closer to people.
- Secure a fully enabled environment, including functioning facilities and equipment, effective communication, and transportation for women and newborn infants in need, in addition to an efficient recruitment and retention of staff, an appropriate living wage, supportive supervision, and professional and career development opportunities.
- Test and develop the effectiveness of reproductive, maternal, and newborn health services with use of indicators such as rates of intrapartum stillbirth, early neonatal mortality, and maternal death surveillance and response mechanisms to monitor the quality of care and to guide and measure progress.

infants with a low birthweight, admissions to neonatal intensive care units, and hypothermia. The analyses also reported that midwifery can result in increases in spontaneous onset of labour, numbers of unassisted vaginal births, and incidence and prevalence of breastfeeding. Importantly, women reported a higher rate of satisfaction with care in general, particularly with pain relief. Panel 2 presents some essential actions in the areas of education, regulation and team development that can be initiated immediately to increase women's access to midwifery services and quality maternal and newborn care.

Evidence has been established for the potential gains for quality care being given closer to women and communities.<sup>54</sup> New approaches to identify students from rural locations will enable this goal, and it will be key for students from the community to be retained in that community.<sup>55,56</sup> Evans<sup>57</sup> reviewed the community-based midwifery diploma programme in Bangladesh and showed that a hub-and-spoke model of midwifery education reduced the cost per midwifery student per year to a third of the cost of traditional education models. The return on investment predicted from the deployment of additional midwives in rural communities in which maternal and newborn health needs are greatest includes increases in the number of lives saved, decreases in morbidity, and reductions in the number of caesarean sections. The assessment identifies the return on investment from the education and deployment of community-based midwives as similar to the cost per death averted by vaccination—known in public health as one of the most cost-effective ways to save lives.<sup>58</sup>

### High-quality maternal and newborn care: a global health priority

People-centred care that recognises people's legitimate right to and expectations for equitable, high-quality, safe, and respectful care should be a global health priority and be put at the heart of the movement to improve maternal and newborn care. 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. Improvements in availability, accessibility, acceptability, and quality of midwifery services, within a functioning health system that is responsive to women's needs and requirements, is crucial not only to accelerate efforts to attain the Millennium Development Goals (MDGs) by 2015, but also to the development of the post-2015 agenda's goals and targets, in which emphasis on reduction in maternal and newborn morbidity should be even stronger than it has been in the past.

Available guidelines and global initiatives for stillbirths,<sup>59</sup> family planning,<sup>60</sup> maternal,<sup>61</sup> newborn,<sup>62</sup> child,<sup>63</sup> and adolescent<sup>64</sup> health, HIV/AIDS,<sup>65</sup> and non-communicable diseases<sup>66</sup> are opportunities to promote the widespread adoption of the framework for quality maternal and newborn care proposed in this Series. This approach to midwifery is an effective solution to enable the achievement of these ambitious targets. Countries urgently need to put policies in place that allow for its implementation (table).

The health workforce has long been recognised as crucial to improvements in health outcomes.<sup>67,68</sup> The 2013 report *A Universal Truth: No Health Without a Workforce*<sup>24</sup> re-emphasised this notion. Unfortunately,

	Target year	Actions or targets
Stillbirths (2011)	2020	For countries with a stillbirth rate of more than five per 1000 births, reduce stillbirth rates by at least 50% from 2008 rates; for countries with a stillbirth rate of less than five per 1000 births, eliminate all preventable stillbirths and close equity gaps
Preventing early pregnancy and poor reproductive outcomes among adolescents in developing countries (2011)	..	To improve adolescent morbidity and mortality by reducing the chances of early pregnancy and its resulting poor health outcomes: Reduce pregnancy before age 20 years Increase use of contraception by adolescents at risk of unintended pregnancy Reduce unsafe abortion in adolescents Increase use of skilled antenatal, childbirth, and postnatal care in adolescents
Global Plan Towards the Elimination of New HIV Infections Among Children by 2015 and Keeping Their Mothers Alive (2011)	2015	Estimated number of new HIV infections in children reduced by at least 85% in each of the 22 priority countries; estimated number of HIV-associated pregnancy-related deaths reduced by 50%
Family Planning 2020 (2012)	2020	To make available affordable lifesaving contraceptive information, services, and supplies to an additional 120 million women and girls in the world's poorest countries by 2020
A Promise Renewed (2012)	2035	All countries to lower child mortality rates to 20 or fewer deaths per 1000 livebirths by 2035
Ending Preventable Maternal Mortality (2013)	2030	Proposal at consultation: to reduce maternal mortality ratios to less than 70 deaths per 100 000 livebirths by 2030
Every Newborn Action Plan (2014)	2035	Proposal at consultation: to reduce neonatal deaths to less than 10 deaths per 1000 livebirths and to reduce stillbirths to less than 10 per 1000 total births, by 2035, with interim targets for 2030
Framework of Actions for the follow-up to the Programme of Action of the International Conference on Population and Development Beyond 2014 (2014)	..	States should remove legal, regulatory, and policy barriers to sexual and reproductive health services for adolescents, and ensure information and access to contraceptive technologies, prevention, diagnosis, and treatment for sexually transmitted infections and HIV, including the human papilloma virus vaccine, and referrals to other health concerns such as mental health problems

**Table: Guidelines and global actions and targets in reproductive, maternal, newborn, child, and adolescent health<sup>59-66</sup>**

progress made in the midwifery workforce has not been sufficient in the almost 30 years of the Safe Motherhood and Making Pregnancy Safer initiatives to enable the attainment of MDG 4 and MDG 5 in all countries by 2015. Horton<sup>69</sup> argues that the lack of a skilled health workforce is failing women badly, and that this failure is now the biggest obstacle to improvements in women's and children's health. The independent Expert Review Group on Information and Accountability for Women's and Children's Health<sup>70</sup> calls for quality of care to be a route to equity and dignity for women and children and to make health-care professionals that serve women and children with measureable effect count. Langer and colleagues,<sup>71</sup> in *A Manifesto for Maternal Health Post 2015*, call for "universal access...to properly trained health individuals, especially midwives and those providing midwifery services". The global consultation for the Every Newborn Action Plan<sup>62</sup> includes several calls to strengthen the role of the midwife.

*The Lancet* Commission on investing in health<sup>72</sup> shows that the return on investment in health is large, and that, with the technical and financial capacities available worldwide, it is possible to lower mortality rates to the levels of the best performing middle-income countries by 2035. This grand convergence can be achieved through a focus on infections; reproductive, maternal, newborn, and child health; and non-communicable diseases with targeted approaches not only in low-income countries, but also in lower-income and rural subpopulations of middle-income countries. Similarly, WHO, World Bank,<sup>73</sup> and WHO Consultative Group on Equity and Universal Health Coverage<sup>74</sup> identify reproductive, maternal, newborn, and child health; non-communicable diseases; and injuries as areas that will support the achievement and measurement of progress towards universal health coverage. Each of these forward-looking perspectives focuses on equity and improvements in the effective coverage of reproductive, maternal, and newborn health services, especially in the crucial period around pregnancy, childbirth, and the early weeks of life.<sup>75</sup> These are further justifications that investment in midwifery is an effective solution to attain MDG 4 and MDG 5 and the new global targets, provide a basis for primary health care and universal health coverage, achieve the grand convergence in global health by 2035, and deliver on women's rights to sexual and reproductive health.<sup>66</sup>

## Conclusion

As the 2015 target date for the MDGs draws near, and attention turns to the post-2015 sustainable development agenda,<sup>76-79</sup> this Series comes at an opportune moment to support the move towards universal coverage of high-quality maternal and newborn care. As shown by the estimates of lives saved through increases in coverage of the midwifery package of care<sup>8</sup> and the experiences of a few exemplary low-income and middle-income countries that have invested in midwives,<sup>6</sup> use of the framework for

quality maternal and newborn care is a means to good health and improved social outcomes for women, men, and children.

The momentum is tangible. Reproductive, maternal, and newborn health are global health priorities. Economic growth in Africa and southeast Asia creates opportunities for change, which could make greater the return on investment in quality maternal and newborn health care. However, many of the commitments that have been made to Every Woman Every Child by countries and development partners still only relate to provision of medical interventions for life-threatening complications. But essential medical interventions only cover a fraction of the needs of women and their families and miss the opportunity to prevent the occurrence of such life-threatening situations. The midwifery package of support and care is an efficient and effective way to optimise normal reproductive processes, improve health and psychosocial outcomes, and strengthen the capabilities of women and their communities in all countries.

The high-quality maternal and newborn care described in this Series should be at the heart of all subnational, national, regional, and global efforts to improve women's and children's health and wellbeing, and it needs a core position within the post 2015 agenda. The knowledge and methods are available to achieve quality maternal and newborn care. Political will and commitment are increasing, women's and families' voices are growing louder, and economic growth and education for girls are on the rise. The opportunity to transform health, education, and social systems and to make maternal, newborn, and child health a reality for all, is here.

### Contributors

PtH-B prepared the first draft. All co-authors, except WVL and VF, contributed sections to that draft and reviewed the paper. PtH-B, WVL, and JC further developed the second draft. All co-authors contributed to the further development, revision, and finalisation of the paper. All authors approved the final version.

### Declaration of interests

We declare no competing interests.

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