THE STATE OF THE

WORLD'S MIDWIFERY

2011

DELIVERING HEALTH, SAVING LIVES

CONTRIBUTORS AND ACKNOWLEDGEMENTS

PROJECT COORDINATOR: Vincent Fauveau

ASSISTANT COORDINATOR: Mihaela Minca

EDITORIAL COMMITTEE: Sabaratnam Arulkumaran, Agneta Bridges, Catherine Carr, Vincent Fauveau, Helga Fogstad, Bjarne Garden, Peter Johnson, Laura Laski, Bridget Lynch, Viviana Mangiaterra, Mario dal Poz, Hamid Rushwan. *Ex-oficio:* Jim Campbell, Rupa Chilvers, Laura Guarenti, Petra ten Hoope-Bender, Rima Jolivet, Blerta Maliqi, Zoë Matthews, Joanne McManus, Mihaela Minca, Nester Moyo, Annette Mwansa Nkowane.

ADVISORY GROUP: Marie Ahouanto, Hirotsugu Aiga, Francesco Aureli, Jean Barry, David Benton, Yves Bergevin, Nouria Brikci, Mickey Chopra, Sadia Chowdhury, Frances Day-Stirk, Marjolein Dieleman, Carmen Dolea, Andres de Francisco, Frances Ganges, Alexandra Gilpin, Gulin Gedik, Leora Hanser, Sennen Hounton, Marian van Huis, Katja Iversen, Anneka Knutsson, Abigail Kyei, Geeta Lal, Elly Leemhuis de Regt, Mengjia Liang, Sverre Lie, Matthews Mathai, Anders Molin, Jo Nicholls, George Pariyo, Celia Pett, Helen de Pinho, Charlene Reynolds, Ellen Rosskam, Eva Schoening, Theresa Shaver, Della Sherratt, Jeffrey Smith, Mary Ellen Stanton, David Taylor, Kadidiatou Toure.

LEAD WRITERS AND EDITORS: Jim Campbell, Vincent Fauveau, Petra ten Hoope-Bender, Zoë Matthews, Joanne McManus.

EXTERNAL REVIEWERS: Luc de Bernis, Karen Odberg Pettersson, Khama Rogo, Harshad Sanghvi.

COUNTRY SURVEY, DATA ANALYSIS AND TECHNICAL SUPPORT: *Coordination*: Jim Campbell, Rupa Chilvers, Vincent Fauveau, Mihaela Minca. *Technical contributions*: Dinesh Agrawal, Moazam Ali, Shan Ambalanath, Teresa Attina, Narimah Awin, Linda Bartlett, Lucy Basten, Heli Bathija, Jacqueline Bell, Luc de Bernis, Maina Boucar, Agneta Bridges, Maurice Bucagu, Flavia Bustreo, Aferdita Bytyqi, Catherine Carr, Nidhi Chaudhary, Maureen Dariang, Bremen deMucio, Marjolein Dieleman, Sarah Dobson, Thinlay Dorji, Kristina Engelin, Ingrid Friberg, Kathleen Fritsch, Judith Fullerton, Atf Ghérissi, Wendy Graham, Sunanda Gupta, Pandora Hardtman, Marie Agnes Heine, Christopher Herbst, Jef Heuberger, Sennen Hounton, Louise Hutton, Julia Hussein, Rachel Ibinga Koula, Monir Islam, Peter Johnson, Rima Jolivet, Kate Jowett, Ardi Kaptiningsih, Tigest Ketsela, Alice Kiger, Teena Kunjumen, Geeta Lal, Emily Lanford, Sandra Lang, Joy Lawn, Christophe Lemiere, Wim van Lerberghe, Ornella Lincetto, Juliana Lunguzi, Bridget Lynch, Nyovani Madise, Blerta Maliqi, Viviana Mangiaterra, Antonio Manuel, Janviere Marimbu, Rosalia Marques, Elizabeth Mason, Zoë Matthews, Lauren Moleski, Ann-Beth Moller, Nester Moyo, Maria Mugabo, Aline Mukundwa, San San Myint, Sarah Neal, Andrea Nove, Triphonie Nkurunziza, Leopold Ouedraogo, Judith Oulton, Celia Pett, Marrgaret Phiri, Annie Portela, Mario dal Poz, Alain Prual, Cristina Puig, Juliette Puret, Ulrika Rehnstrom, Severin Ritter von Xylander, Narjis Rizvi, Catherine Schenck-Yglesias, Della Sherratt, Shegufta Sikder, Amani Siyam, Jeffrey Smith, Prakin Suchaxaya, Cherly Tam, Huyen Thi Thanh Le, Joyce Thompson, Kadidiatou Toure. Nicole Vidal, Tara Wignadasan, Dan Wilde, Sachiyo Yoshida, Micol Zarb.

Country contributions: Many thanks to the heads of the UNFPA country offices, their staff, and the 436 people that coordinated, completed, and verified responses to the State of the World's Midwifery country survey. A full list of the names of those that contributed is available on page 156 of this report.

BACKGROUND PAPERS: Hirotsugu Aiga, Sharon Arscott-Mills, Sabaratnam Arulkumaran, Associação Portuguesa dos Enfermeiros Obstetras, Pashtoon Azfar, Wame Baravilala, Jean Barry, Monire Bassir, Juliet Bedford, Hilda Bonilla, Rita Borg Xuereb, Maina Boucar, Viviane Brunne, Fiona Campbell, Jim Campbell, Catherine Carr, Irene Cerejeira, Edina Chiwawa, Sheila Clow, Colegio de Obstetras del Perú, Rita Columbia, Rachel Cummings, Sheena Currie, Blami Dao, Jemima Dennis-Antwi, Carmen Dolea, Grace Edwards, John Eyers, Shamsul Farooq, Vincent Fauveau, Howard Friedman, Sylvia Fung, Frances Ganges, Meena Ghandi, Atf Ghérissi, Eleni Hadgigeorgiou, Pascale Hancart, Petra ten Hoope-Bender, Sennen Hounton, Laura Hurley, Julia Hussein, Rachel Ibinga Koula, International Confederation of Midwives, International Council of Nurses, Sue Jacob, Yannick Jaffré, Rima Jolivet, Julie Key, Shona Kirtley, Ana Labandera, Geeta Lal, Sandra Land, Joy Lawn, Wim van Lerberghe, Debrah Lewis, Mengjia Liang, Sverre Lie, Helen Lugina, Gaynor Maclean, Saramma Mathai, Zoë Matthews, Pamela McQuide, Nester Moyo, Catherine Murphy, Mary Namusisi, Ana Nordfjell, Tonia Occhinero, Judith Oulton, Neil Pakenham-Walsh, Niki Panayiotou, George Pariyo, Alain Prual, Ellen Rosskam, Boniface Sebikali, Gloria Seguranyes, Ukende Shalla, Alice Sham, Vinit Sharma, Della Sherratt, António Manuel da Silva, Chu Sing, Jeffrey Smith, Julie Spero, Debra Stevenson, Barbara Stilwell, Pey Leng Tang, Frédérique Teurnier, Kadidiatou Toure, Mehmet Hulki Uz, Nicole Vidal, Raquel Wexler, Tamara Windau, Sarah Williams, Tana Wuliji, Nathalie Zammit, Aoua Zerbo.

COMMUNICATIONS AND MEDIA: Leyla Alyanak, Jim Campbell, Mary Kay Carver, Deb Clark, Vincent Fauveau, Frances Ganges, Alexandra Gilpin, Lars Grønseth, Marie Agnes Heine, Katja Iversen, Rima Jolivet, Richard Kollodge, Laura Laski, Malcolm Macmillan, Lori Lynn McDougall, Mihaela Minca, Charlene Reynolds, Kadidiatou Toure, Anita Wiseman, Anne Wittenberg.

DESIGN, LAYOUT AND PRINTING: Chris Larson, Kevin Miller, Tina Larson, Greg Dayman, Yolie Dawson.

TRANSLATIONS: Diogo Ayres de Campos, Beatrice Bugni, Luis Cabero, Ramon Escuriet Peiro, Vincent Fauveau, Marcia Fontes-Conceição, Alice Frade, Gérard Jacquemier, Dan Wilde.

FINANCIAL SUPPORT: Department for International Development (United Kingdom), German Agency for International Cooperation, Maternal and Child Health Integrated Program, United States Agency for International Development, Ministry of Foreign and European Affairs (France), Ministry of Foreign Affairs (the Netherlands), Partnership for Maternal, Newborn and Child Health, Norwegian Agency for International Development, Swedish International Development Cooperation Agency, United Nations Population Fund.

Our appreciation is extended to the Instituto de Cooperación Social – Integrare, Barcelona, Spain and Prographics, Inc. MD, USA, for their support to the Editorial Committee in the research, development and production of the report, and all accompanying materials.

Cover photos (left to right): Titi Chairani, Jhpiego, Indonesia; Ron Haviv, East Timor; Nasratullah Ansari, Jhpiego, Afghanistan; Caroline Kilo Bara, UNFPA, Cameroon

THE STATE OF THE
WORLD'S MIDWIFERY
2011

DELIVERING HEALTH, SAVING LIVES

Foreword

This report comes at a propitious moment in the international campaign for women's advancement. The recent establishment of the dynamic new agency UN Women, as well as the launch of the *Global Strategy for Women's and Children's Health,* combine to offer hope for greater progress in the coming years.

Nowhere is this more urgently needed than in preventing one of the greatest tragedies of our time: the needless death and injury each year of millions of poor and marginalized women and children worldwide. Of the eight Millennium Development Goals, the two specifically concerned with improving the health of women and children are the furthest from being achieved.

This is not a matter of statistics. The woman who perishes from hemorrhaging during childbirth or the infant who dies during a complicated birth each has a name and a family who love and cherish them. Beyond individual tragedy, these losses carry untold social and economic repercussions for society.

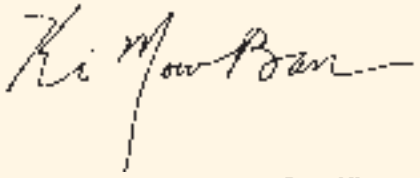
We know what is needed to make pregnancy and delivery safe: access to health services, including skilled birth attendants and a functioning health care facility. We also know it is possible to mobilize the leadership and action needed to provide these services to every expecting woman and her baby. At the launch of the Global Strategy, numerous developing countries demonstrated great political will — backed by new commitments — to scale-up the number of skilled birth attendants and provide the midwifery services that women need throughout their reproductive years.

The State of the World's Midwifery 2011 — the first of its kind — takes stock of the practice in 58 countries. Collectively, they represent 91 percent of global maternal deaths. Using fresh data, information and analysis, the report identifies common challenges within and among countries while highlighting promising approaches to strengthen midwifery services around the world.

The report focuses on the critical early period when deaths can be averted. It is an important companion to other efforts aimed at rigorously measuring action and results, including the Global Strategy and the report of the Commission on Information and Accountability for Women's and Children's Health.

Ensuring that every woman and her newborn have access to quality midwifery services demands that we take bold steps to build on what we have achieved so far across communities, countries, regions and the world.

Our responsibility is clear: we must safeguard each woman and child so they may live to their full potential. The results will reverberate far beyond the lives of those directly affected, fostering a better world for all.



Ban Ki-moon
Secretary-General of the United Nations

Executive Summary

Increasing women's access to quality midwifery services has become a focus of global efforts to realize the right of every woman to the best possible health care during pregnancy and childbirth.

Learning to record foetal heartbeat is one of the simplest and most common techniques. When part of a midwife's competencies, it is a life-saving aid. *(Sven Torfinn; Sudan)*

Ensuring that every woman

and her newborn have access to quality midwifery services demands that we take bold steps.

—Ban Ki-moon

It is a responsibility of governments and their political leaders and an investment that is key to reducing maternal and newborn mortality and morbidity. In addition to saving lives and preventing disability, the benefits of quality midwifery services extend to all members of society in far-reaching ways, including contributing to a country's human and economic development.

There is much that needs to be done. Every year approximately 350,000 women die while pregnant or giving birth, up to 2 million newborns die within the first 24 hours of life, and there are 2.6 million stillbirths. The overwhelming majority of these deaths occur in low-income countries and most of them could have been prevented. They happen because women — usually the poor and marginalized — have no access to functioning health facilities or to qualified health professionals.

Quality midwifery services that are coordinated and integrated within communities and within the health system ensure that a continuum of essential care can be provided throughout pregnancy, birth and beyond. Midwifery services also facilitate referrals of mothers and newborns from the home or health centre to the hospital and to the care of obstetricians, paediatricians and other specialists when required.

The State of the World's Midwifery 2011: Delivering Health, Saving Lives, coordinated by the United Nations Population Fund (UNFPA), is the result of the collaborative efforts of 30 agencies and organizations and hundreds of individuals working at national, subnational, regional and global levels. It responds to the 'Global Call to Action' issued at the Symposium on Strengthening Midwifery at

Women Deliver in Washington, DC in June 2010; and it is supportive of and aligned with the UN Secretary-General's Global Strategy for Women's and Children's Health.

The report presents a body of knowledge to inform and accelerate the availability of quality midwifery services for women and newborns. It aims to make a valuable contribution both to strengthening the midwifery workforce around the world and to the critical planning that is needed to achieve the health Millennium Development Goals. The first ever State of the World's Midwifery is focused on 58 countries with high rates of maternal, foetal and newborn mortality. Its content has been largely informed by responses to a detailed survey that was developed to collect new or updated data and information in six areas: the number and types of practising midwifery personnel, education, regulation, professional association, policies and external development assistance.

Every day, approximately 35,000 WOMEN will experience birth complications and 900 are likely to die.

Most of the 58 countries that participated have been identified as suffering from a crisis in human resources for health. Collectively, across these countries women gave birth to 81 million babies in 2009, accounting for 58 percent of the world's total births. The inequitable 'state of the world' is most evident in the disproportionate number of deaths in these countries: 91 percent of the global burden of maternal mortality, 80 percent of stillbirths and 82 percent of newborn mortality. These figures partly reflect the distribution of the global workforce: less than 17 percent of the world's skilled birth attendants are available to care for women in the 58 countries.

The diversity of responses confirms that there are significant gaps in data and strategic intelligence. However, three key points have emerged from a synthesis of the available evidence relating to the status of the profession and the many challenges and barriers that affect the midwifery workforce, its development and its effectiveness.

There is a triple gap, consisting of competencies, coverage and access. In most countries there are not enough fully-qualified midwives and others with midwifery competencies to manage the estimated number of pregnancies, the subsequent number of births, and the 15 percent of births that generally result in obstetric complications. WHO estimates that 38 countries have severe shortages. A few countries will need more than a 10-fold increase in the number of midwives, with most needing to either double, triple or quadruple their midwifery workforce to improve quality and coverage. Second, coverage of emergency obstetric and newborn care facilities is low; and existing facilities are often insufficiently staffed and poorly equipped. This is most acute in rural and/or remote communities. Third, access issues from women's perspectives are often not addressed.

The triad of education, regulation and association has insufficient focus on quality of care. First, although there are promising education developments in some countries to graduate additional midwives proficient to practise all the essential competencies, optimal standards are unmet. Curricula, faculty, educational resources and supervised exposure to clinical practice all need strengthening. Second, regulation and regulatory processes are currently insufficient to promote the professional autonomy of a midwife and to fulfil government obligations to protect the public. In almost every country, registration and licensing of the midwifery workforce, including criteria for renewing a licence to practise, require improve-

ment to advance the quality of care. Third, there is a positive trend across countries to establish and develop professional associations to represent midwives, but many are in their infancy and some are fragile. These associations warrant additional support and intra-professional collaboration from national, regional and international partners.

Policy coherence is disjointed and access to the necessary strategic intelligence or evidence for action weak. National policies addressing maternal and newborn health services too often do not address the centrality of the midwifery workforce nor the dire need to improve quality of care, in respect of patients' rights. Most countries do not currently have the capacity to accurately monitor and report the number of practising midwives in either the public or the private sector, or to assess the extent to which the midwifery workforce is able to provide quality interventions in response to population needs. This limits the availability of strategic intelligence to inform policy improvements. Similarly, while mechanisms to review quality of care are emerging, more needs to be done on its measurement and on evidence for action.

The State of the World's Midwifery 2011 sets out a number of essential actions by type of stakeholder group to maximize the impact of investments, improve mutual accountability and strengthen a country's midwifery workforce and services. All actions must be undertaken in the context of national health plans, focused on maternal and newborn health needs, integrated within the health systems, and based on country-specific evidence, experience and innovation.

The report urges **governments** to:

- recognize midwifery as a distinct profession, core to the provision of maternal and newborn health services, and promote it as a career with posts at the national policy level;
- ensure that midwifery and midwives are specified in costed maternal and newborn health plans, and aligned with human resources for health plans;
- ensure adequate availability and distribution of emergency obstetric and newborn care facilities, including midwife-led units of care; and
- invest in human resource management to develop and maintain competencies, manage entries and exits, and improve data on the practising midwifery workforce.

Regulatory bodies enable a focus on quality across the profession, education and care. They can:

- protect the professional title 'midwife' and establish its scope of practice;
- establish criteria for entry into the profession, educational standards and practice competencies;
- accredit schools and education curricula in both public and private sectors; and
- license and relicense midwives, maintain codes of ethics and codes of conduct, and manage sanctioning.

Birth is always an intense moment, both for women and for the maternal health team. It is our collective responsibility to ensure that the quality of care available protects and saves lives. *(Lynsey Addario; Afghanistan)*

Schools and training institutions have a role to play not only in educating more midwives, but also improving the skills and other competencies of graduates. The actions they need to consider include:

- reviewing curricula to ensure that graduates are proficient in all essential competencies as set by government and the regulatory body;
- using the International Confederation of Midwives standards and other education standards to improve quality and capacity, with due attention to theory-practice balance;
- recruiting teachers, trainers and tutors, and maintaining and upgrading their competencies in midwifery and transformative education; and
- promoting research and academic activities and supporting the development of midwifery leadership.

Professional midwifery associations can be catalysts for change in a number of ways, including by:

- raising midwives' profile and status in the national policy arena and strengthening their input into health plans and policy development;
- promoting standards for in-service training and knowledge updates and advocating better working conditions;
- collaborating with other health care professional associations, with regional and international federations, and with women and communities; and
- establishing solid governance of the association, strengthening its administrative capacity and improving its financial management.

And finally actions for **international organizations, global partnerships, donor agencies and civil society** include:

- supporting programmes at local, regional and international levels to scale up midwifery services and measure results, enabling country commitments to the Global Strategy;
- advocating stronger midwifery services that improve competencies and quality of care in respect of patients' rights and their inclusion in costed strategies and plans;
- providing financial and in-kind support to build capacity of midwifery associations, and facilitating exchanges of knowledge, good practices and innovation; and
- encouraging the establishment of a global agenda for midwifery research (for the MDGs and beyond) and supporting its implementation at country level.

The messages and recommendations in *The State of the World's Midwifery 2011* need to be at the forefront of national policy dialogue and action and incorporated within global health strategies, partnerships and commitments to strengthen mutual accountability and deliver better results for women's and children's health. 'Delivering health, saving lives' is our collective responsibility.

Of course, it is for individual countries to adopt and adapt the report's recommendations according to their context and level of practice. Decisions will depend on existing resources and capacities in both the health workforce and the national health system, on the priorities identified in the national health plans, and on the political will to turn policy into practice.

The report and additional information are available online at www.stateoftheworldsmidwifery.com

Introduction

Increasing women's access to high-quality midwifery services has become a focus of global efforts to realize the right of every woman to the best possible health care during pregnancy and childbirth.

In 2010 the health of women and children featured prominently at the World Health Assembly, the G8 Summit, the Pacific Health Summit, the African Union Summit and other high-level events. In September this global attention culminated in the Secretary-General of the United Nations launching the Global Strategy for Women's and Children's Health.[1] Welcomed by all 192 Member States, world leaders deemed this strategy important because more needs to be done to save the lives of women and newborns. While some countries have made progress, Millennium Development Goal 5 (MDG 5) to improve maternal health and MDG 4 to reduce child mortality continue to demonstrate dramatic differences across and within countries.[2, 3] Far too many women and newborns, mostly poor and marginalized in both rural and urban settings, are dying because they have no access to functioning health facilities or to qualified health professionals.

Every year approximately 350,000 women die while pregnant or giving birth – almost 1,000 a day. Of these women, 99 percent die in developing countries.[4] An estimated 8 million more suffer serious illnesses and lifelong disabilities as a result of complications at the time of childbirth.[5] Every year up to 2 million newborns die within the first 24 hours of life.[6] In addition, there are 2.6 million stillbirths,[7] of which approximately 45 percent occur during labour and birth.[8] Millions more newborns suffer birth traumas that impair their development and future productivity.

The figures confirm one of the world's most severe and enduring inequities. While estimates collated in 2008 identify a 34 percent reduction in maternal deaths since 1990, the needless loss of life continues to be a reminder of global injustice. The probability that a woman will die from a maternal cause is 1 in 31 in sub-Saharan Africa compared with 1 in 4,300 in developed regions.[9] The risk of stillbirth during labour for an African woman is 24 times higher than for a woman in a high-income country.[10]

Ensuring midwives are in the right place at the right time with the necessary infrastructure, drugs and equipment is a central pillar of the Global Strategy for Women's and Children's Health. *(WHO/Marie-Agnes Heine; Senegal)*

A proficient, motivated and supported midwifery workforce is a major key to success in tackling this heavy toll of death and disability. The evidence is unanimous and clear: midwives and other health workers with midwifery competencies are essential to saving the lives of women and newborns.[11, 12, 13, 14, 15]

The Global Strategy for Women's and Children's Health features a prominent call for "stronger health systems, with sufficient skilled health workers at their core." As part of stronger systems, the Global Strategy also calls for a comprehensive, integrated package of essential interventions and services that includes: family-planning information and services; antenatal, newborn and postnatal care; skilled care during childbirth at appropriate facilities; emergency obstetric and newborn care; safe abortion (where legal) and post-abortion (everywhere) services; and the

prevention of HIV and other sexually transmitted infections. It highlights a framework for coordinated action (Figure I).

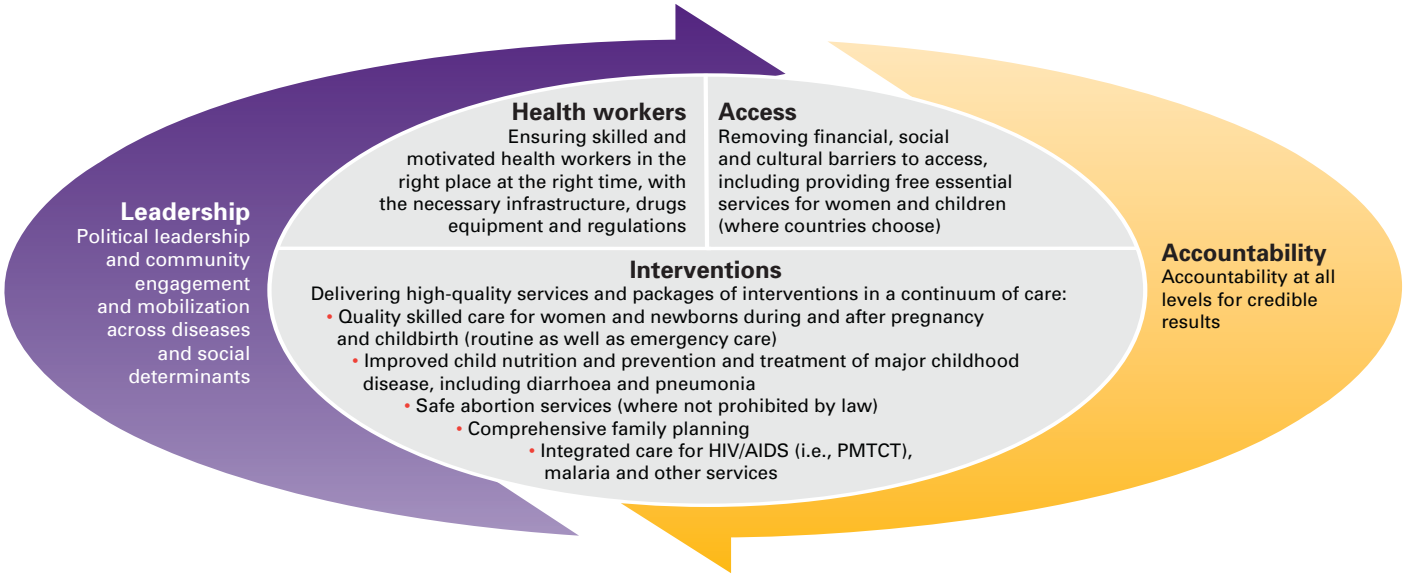
Many of the interventions recommended in the Global Strategy span the continuum of sexual and reproductive health services, highlighting the importance of the continuity of care from pregnancy through childbirth and postpartum for both mother and newborn.[16] The importance of a continuum of care from the household through the community to health care settings is also well recognized. Evidence shows that the health of a mother is an important basis for the health of her unborn baby, her newborn and her children under five.[17, 18]

Quality midwifery services that are coordinated and integrated within communities and within the health system ensure that care can be provided throughout pregnancy, birth and beyond. Midwifery services also facilitate referrals of mothers and newborns from the home or health centre to the hospital and to the care of obstetricians, paediatricians and other specialists when required.

Recognizing the central role of midwifery services in the successful implementation of the Global Strategy for Women's and Children's Health, new commitments to educate and deploy additional midwives and others with midwifery competencies were announced by many countries alongside, or following the launch (Box I). New resolutions supported at the World Health Assembly's Executive Board in January 2011 on strengthening nursing and midwifery (EB128.R11) and health workforce strengthening (EB128.R9)[19] further demonstrate the commitment to action across Member States. This continues a long history of engagement by the World Health Organization (WHO). During the past 20 years there have been seven resolutions calling for the strengthening of nursing and midwifery[20] as part of comprehensive human resource strategies (albeit with variable implementation at country level).

The State of the World's Midwifery 2011: Delivering Health, Saving Lives results from the work of multiple agencies, organizations and individuals. The report has been coordinated by the United Nations Population Fund (UNFPA) in line with the agreement between UN agencies to accelerate implementation of the maternal and newborn continuum of care.[21] It is devoted to documenting the current practice of midwifery and setting out what needs to be done to improve midwifery services. A similar undertaking was completed 45

FIGURE I **A framework for coordinated action to improve women's and children's health**



Source: The Global Strategy for Women's and Children's Health (adapted from the Global Consensus for Maternal, Newborn and Child Health – September 2009).

BOX I

COUNTRY COMMITMENTS TO STRENGTHEN MIDWIFERY SERVICES

1. **Afghanistan:** Increase the proportion of deliveries assisted by a skilled professional from 24 to 75 percent through strategies such as increasing the number of midwives from 2,400 to 4,556 and the proportion of women with access to EmONC to 80 percent.
2. **Bangladesh:** Double the percentage of births attended by a skilled health worker by 2015 (from the current level of 24.4 percent) through training an additional 3,000 midwives, staffing all 427 sub-district health centres to provide round-the-clock midwifery services, and upgrading all 59 district hospitals and 70 Mother and Child Welfare Centres to centres of excellence for EmONC services.
3. **Burkina Faso**: Construct one public school and one private school for educating midwives by 2015.
4. **Cambodia**: Improve reproductive health by increasing to 70 percent the proportion of deliveries assisted by a skilled birth attendant.
5. **Democratic Republic of the Congo**: Increase to 80 percent the proportion of deliveries assisted by a skilled birth attendant.
6. **Ethiopia**: Increase the number of midwives from 2,050 to 8,635; increase the proportion of births attended by a skilled health professional from 18 to 60 percent; and provide emergency obstetric care to all women at all health centres and hospitals.
7. **Indonesia**: Increase central Government funding for health in 2011 by US$ 556 million compared to 2010. This fund will be available to support professional health personnel and to achieve quality health care and services in 552 hospitals, 8,898 health centres and 52,000 village health posts throughout Indonesia.
8. **Kenya**: Recruit and deploy an additional 20,000 primary care health workers.
9. **Liberia**: Ensure that by 2015 double the number of midwives are trained and deployed than were in the health sector in 2006 and increase the proportion of health care clinics providing emergency obstetric care services from 33 to 50 percent.
10. **Malawi**: Strengthen human resources for health, including accelerating training and recruitment of health professionals to fill all available positions in the health sector and increase basic emergency obstetric care and neonatal coverage to reach WHO standards.
11. **Mozambique**: By 2015 will increase institutional deliveries from 49 to 66 percent.
12. **Nepal**: Recruit, train and deploy 10,000 additional skilled birth attendants; fund free maternal health services among hard-to-reach populations; and will ensure at least 70 percent of primary health care centres offer emergency obstetric care.
13. **Niger**: Train 1,000 providers to handle adolescent reproductive health issues and ensure that at least 60 percent of births are attended by a skilled professional.
14. **Nigeria**: Reinforce the 2,488 midwives recently deployed to local health facilities nationwide by introducing a policy to increase the number of core service providers including Community Health Extension Workers and midwives, with a focus on deploying more skilled health staff in rural areas.
15. **Rwanda**: Train five times more midwives (increasing the ratio from 1:100,000 to 1:20,000).
16. **United Republic of Tanzania**: Increase annual enrolment in health training institutions from 5,000 to 10,000, and the graduate output from health training institutions from 3,000 to 7,000; simultaneously improve recruitment, deployment and retention through new and innovative schemes for performance-related pay focusing on maternal and child health services.
17. **Yemen**: Increase by 20 percent the number of health facilities that provide emergency obstetric and newborn care services.

Source: Every Woman, Every Child
Available at: www.everywomaneverychild.org

years ago by the International Confederation of Midwives (ICM) and the International Federation of Gynecology and Obstetrics (FIGO).[22] It builds on high-level international collaboration including the 'Global Call to Action' issued at the Symposium on Strengthening Midwifery at Women Deliver in Washington, DC in June 2010;[23] and it is supportive of and aligned with the Global Strategy for Women's and Children's Health,[24] the recommendations of the Commission on Information and Accountability for Women's and Children's Health[25] and the H4+ Response Plan for MDGs 4 and 5, which is currently being formulated.[26]

This report aims to be a contemporary and valuable contribution to strengthening midwifery around the world and to the important planning that will be critical for the achievement of the health MDGs. This first edition focuses on 58 countries with high rates of maternal, foetal and newborn death (Figure II). These countries, most of which have been identified as suffering from a crisis in human resources for health,[27] are home to women giving birth to 81 million babies per year, making up 58 percent of the world's total births in 2009.[28] The inequitable 'state of the world' is most evident in the disproportionate number of deaths in these

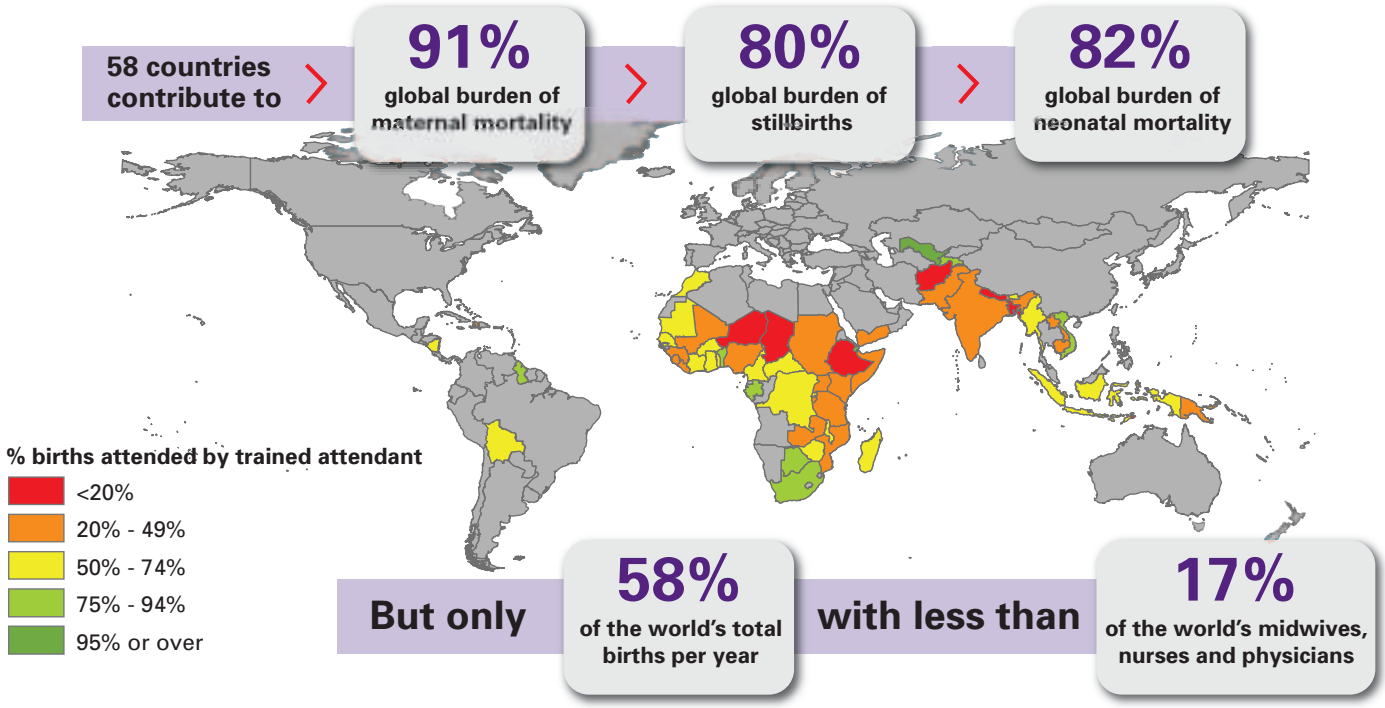
countries: 91 percent of the global burden of maternal mortality, 80 percent of stillbirths and 82 percent of neonatal mortality.[29] Less than 17 percent of the world's skilled birth attendants are available to care for women in these 58 countries.

In late 2010, a detailed survey was developed to collect new or updated data and information in six areas: the number and types of practising midwifery personnel, education, regulation, association, policies and external development assistance. Sixty-two countries were invited to respond, garnering 58 responses. More than 400 individuals, including staff from ministries of health and education, professional associations and universities collaborated with UNFPA country offices in collating country data. Thirty partners convened through an Advisory Group, Editorial Committee and technical working groups contributed to the review and synthesis of available data and wider evidence related to midwifery at the global, regional and national levels.

The State of the World's Midwifery 2011 is divided into four parts. Part 1 summarizes the development of the midwifery profession and the issues confronting midwifery services and the midwifery workforce. A review of the country data obtained from the 58 countries that participated in the survey and information from other sources is presented in Part 2. Opportunities to develop high-quality midwifery services that best respond to the needs of childbearing women and their newborns are presented in Part 3. Finally, in Part 4 the report presents two-page summaries of midwifery in the 58 countries. Relevant annexes are available at the end of the report.

The report and additional information are available online – www.stateoftheworldsmidwifery.com – and on an accompanying CD-ROM. Additional information includes more than 70 background papers prepared for the report on regional, national and technical themes (listed in the references and notes), and an annotated bibliography of reference materials.

FIGURE II **Proportion of births attended by a skilled health worker and the burden of maternal, foetal and newborn deaths in 58 selected countries**



Source: Adapted from WHO and *The Lancet's* Stillbirths Series.[29]

MIDWIFERY AROUND THE WORLD

The period of highest maternal, foetal and newborn mortality is during labour and delivery and the 24 hours thereafter. *The State of the World's Midwifery 2011* therefore focuses on the professional workforce present with women before, during and immediately after giving birth and on the services they provide.

In countries all over the world, retrospective studies[1, 2, 3] attest that quality midwifery services are a well-documented component of success in saving the lives of women and newborns as well as promoting their health. A strong midwifery workforce brings indirect benefits too, contributing to the advancement of gender equality and women's rights and empowering women to take care of themselves, their families, their communities and their nations (Box 1.1).

The first part of the report sets the scene and provides a broad description of the state of the world's midwifery services. It describes the midwifery workforce, the development of the profession and the competencies that define it. It considers how essential midwifery competencies are developed and supported through education, regulation and professional association. Workforce supply, approaches and models for service delivery, and the barriers to accessing midwifery services are also examined.

The midwifery workforce – a global view

Midwives and others with midwifery competencies form an important part of the health workforce in many countries. They work with women in their homes and communities, and in antenatal clinics, health centres, hospitals and maternities. They are at the front line of maternal health service provision, interacting with colleagues across primary, secondary and tertiary care services. Well-trained midwives and others who possess all the midwifery competencies are able to manage the health needs of women and newborns during pregnancy, birth and beyond. They are at hand to give routine care during uneventful deliveries, and they are able to identify and manage complications of childbirth before they become life threatening. In the event of a more serious complication or emergency, midwives and others with midwifery competencies will arrange for immediate referral for a caesarean section or other care that they are not authorized to provide.

Midwives provide woman-centred care that includes a listening ear and reassurance. *(WHO/ Marie-Agnes Heine; Uganda)*

BOX 1.1

MIDWIFERY AS WOMEN'S EMPOWERMENT IN AFGHANISTAN

The re-emergence of midwifery as a profession in Afghanistan has provided new opportunities for the country's women. In the design of the midwifery education programme in 2002, the Ministry of Public Health responded from a gender perspective when it ensured that the programme would be of adequate length and content to allow for the development of a professional health cadre for women. Furthermore, the early designers and implementers of the programme recognized the gender implications of residential education in a society where young women rarely live outside the home. The midwifery schools put stringent regulations in place not only to ensure the safety and security of students, but also to convince families and village elders that it was acceptable for these young women to live together in the provincial capitals, away from their families.

Despite these efforts, security concerns delayed the opening of one school in 2003 and interrupted instruction at another school in 2004. Yet with the first classes graduating in 2005 and the deployment of new midwives to health centres in their home villages, communities came to recognize the value of the midwifery education programme and the contributions the new midwives make to the health of their communities. Young midwives throughout rural and urban Afghanistan have taken up positions of influence and prominence in their communities. At the end of 2006 there were midwifery schools in 21 of Afghanistan's 34 provinces. By 2008, due to pressure from community leaders and provincial health authorities, the number of schools had expanded to reach 32 provinces, with opportunities for women from all 34 provinces.

Young Afghan women see midwifery as a desirable profession and families are so eager to send their daughters and wives to the midwifery programme that applications routinely exceed the number of spaces available. But more must be done. Because of the urgency of the need to address maternal health issues, which had been neglected for 10 years, most students have entered the midwifery education programme with only 8 to 12 years of primary school education. In order for midwives to continue to gain prominence and influence, university-level bachelor's degree programmes must be developed for new applicants, along with educational bridging programmes to strengthen the qualifications of current midwives. The programme must continue to evolve so that midwives may continue not only to serve other women, but to contribute economically to their families and advance women's empowerment against great odds in Afghanistan.

The development of midwifery as a health care profession

1-15

The original meaning of the word midwife is 'being with woman'. Over the centuries the midwifery profession has evolved alongside developments in scientific medicine. Midwifery schools in the Netherlands extend back to the 1600s, and in Sweden the first school opened in 1711 (Box 1.2). In France, midwives were recognized as part of the educated elite in the 18th and 19th Centuries and provided with houses and land. The first midwifery schools in Chile and Argentina were established in the 1800s, and in Chile midwives have been employed as policy makers within the Ministry of Health since that time. During the late 1800s, midwives in Europe campaigned for midwifery to be recognized as a regulated profession. In 1902, the Midwives Act was passed in British Parliament, acknowledging midwives as practitioners in their own right. In 1919, just after World War I, more than 1,000 midwives from across Europe met in Brussels, Belgium to discuss issues of standards and practice. During this meeting the ICM was established to support the ongoing development of the profession.

During the 20th Century, professional midwifery was introduced to various countries in Africa and Asia. French colonies across sub-Saharan Africa followed the French model of midwifery care and developed independent midwifery education programmes (direct-entry) and an autonomous profession. At the same time, British colonies in Africa, Asia and the Caribbean followed the British model, with a post-nursing midwifery education. A third pathway is combined nursing/midwifery. All three education pathways continue to operate in the present day. Nursing and midwifery acts were passed and councils of nursing were established. These provided registration for midwives, and in many instances separate licensure for midwifery practice, allowing midwives to be distinctly recognized and protected to practise. During the 1970s and 1980s, separate licensure was stopped

This icon refers to the background papers on regional, national and technical themes. The full list of over 70 contributions is available in the References and Notes. Each of the background papers is available on the accompanying CD-ROM and online.

in some of these countries. This has reduced the visibility of the midwifery profession and created difficulties in identifying practising midwives and tracking their competencies and deployment.

Historical and colonial influences have also helped determine the development of private-sector midwifery practice. A history of private practice has existed alongside state provision since 1826 in Peru and since 1912 in Indonesia.[4] There has been little research on private-sector practice and data and information contrasting private- and public-sector provision are generally lacking.[5] However, the private midwifery sector has an active role in many countries, including in the provision of services for vulnerable populations, and warrants due consideration.[6]

BOX 1.2

300 YEARS OF MIDWIFERY IN SWEDEN

Towards the end of the 17th Century, the Swedish population, especially women and children, suffered great poverty due to war and social injustice. Queen Ulrika Eleonora was concerned by high maternal mortality and believed that skilled midwifery attendance could save women's lives. This belief was based on her personal experience with her royal midwife, Catherine Wendt, who had been educated in what is now Germany. In 1685 the queen decided to start a midwifery school with both theoretical and practical training. Until then, midwifery education had been based on apprentice practice.

The assignment went to Dr. Johan von Hoorn, a medical doctor with a strong humanitarian commitment. He went to Paris for two years, learning from midwives and others the best knowledge and practice of the time. From these experiences he wrote the first textbook for midwifery students, but it was not until 1711 that the midwifery school was fully established in Stockholm. Students were formally trained and took an oath to perform according to an ethical code of conduct before they were granted the right to practise as midwives in the community. The code highlighted the importance of respect for women, the obligation to assist them whether they were 'high or low, rich or poor', and the need to protect women's rights to confidentiality.

Few midwives, however, were formally trained each year, nowhere near enough to serve the population, who were mostly living in remote, scarcely inhabited, rural villages. Lay midwives continued to assist women giving birth, but government policy prohibited them from practising professionally. Only trained midwives were allowed to charge a fee. The Office of the Registrar General was set up and in 1751 midwives and church clerks were told to start recording births and maternal deaths. The maternal mortality rate was approximately 900 deaths per 100,000 live births. Society did not deem this acceptable and efforts to scale up midwifery continued.

A royal decision in 1819 ordered each municipality to employ a trained midwife and slowly things changed. Midwives could reduce postpartum bleeding with the practice of aortic compression and compression of the uterus. They knew how to manually remove the placenta and could handle complicated breach presentations by turning and extracting the foetus. But these life-savings skills were not sufficient. After 1829 midwives were trained to and could legally use obstetric forceps and sharp instruments such as perforators, which were crucial in situations with prolonged and obstructed labour.

Finally, at the end of the 19th Century, a major reduction of the maternal mortality rate was recorded. By deploying midwives with life-saving skills to rural areas, the rate dropped from approximately 420 per 100,000 live births to just above 100 per 100,000 live births for the period 1861–1900. As antibiotics were not available, the dramatic decline in deaths from puerperal sepsis has been attributed to clean hands and other antiseptic techniques.

Today in Sweden midwives are women's first choice of caregiver during pregnancy and childbirth as well as for contraceptives and other reproductive and sexual health services. The health care system and legislation state that midwives are autonomous and that they are responsible and accountable for care given during normal pregnancies and deliveries. If complications occur, midwives work in teams with obstetricians and together they provide the care that gives the country one of the lowest maternal- and neonatal mortality rates in the world.

High-quality antenatal care can maximize health during pregnancy and includes early detection and treatment or referral of selected complications.
(Ellen Krijgh; Viet Nam)

Skilled birth attendants 16

The global health discourse has increasingly referred to professional cadres under the collective description of 'skilled birth attendants' (SBAs). This was partly influenced by the health MDGs and the need to distinguish from traditional birth attendants (TBAs), who have no formal education. In 2004, WHO together with ICM and FIGO jointly agreed to define a skilled birth attendant as "an accredited health professional — such as a midwife, doctor or nurse — who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns".[7]

During the first 10 years of this century, in an effort to revitalize primary health care, many countries trained new cadres of health workers variously identified as auxiliary nurses, community midwives, health extension workers and community birth attendants. These cadres were trained in varying midwifery skill sets with differing curricula and lengths of training. Many of these cadres, however, may be inadvertently identified and reported as skilled birth attendants, without having fulfilled the WHO definition. Few of these health cadres have been trained to the full competencies of a midwife, and there has been no standardized education or regulation/licensure process across countries. As a result, there is increasing confusion regarding who is a skilled birth attendant.

Competencies: the foundation of practice 17

Being 'skilled' is only one element of a more complex reality. Recent and emerging evidence indicate that there is often a significant difference between the number of health workers designated as skilled birth attendants and those with midwifery competencies meeting evidence-based standards.[8, 9, 10] Counting all individuals within professional health cadres to determine the supply of skilled birth attendants may therefore be misleading. The correlation between the proportion of births that are attended by a so-called 'skilled attendant' and a country's maternal mortality ratio may be weak because quality of attendance is simply not taken into account.[11] As a result, the focus has shifted to competencies[12] — the combination of knowledge, skills, attitude, and professional behaviour that quality midwifery care requires.[13] Recent guidance (2011) from WHO on 'Sexual and Reproductive Health Core Competencies in Primary Care'[14] and the continuing investigation into the optimization of competencies to deliver essential maternal and newborn services is evidence of this shift.[15, 16]

Matching competencies to essential packages of care is the logical extension for human resource management. WHO's recommendations on 'Packages of Interventions for Family Planning, Safe Abortion Care, Maternal, Newborn and Child Health'[17] set out the essential services across the continuum of care. This organizes effective interventions through pre-pregnancy (family planning and safe abortion care), pregnancy, childbirth, postpartum, newborn care and care of the child. The packages are defined for community and/or facility levels and provide guidance on the essential components needed to assure adequacy and quality of care.

ICM's 2010 guidance on the 'Essential Competencies for Basic Midwifery Practice'[18] provides a detailed overview of midwifery competencies, updating the 2002 edition.[19] It enables countries to match competencies to essential packages to improve service outputs and health outcomes. As evident in Figure 1.1, educating midwives in all the competencies enables the delivery of WHO's

recommended interventions across the continuum of maternal and newborn care.

Enabling policies and environment

18-19

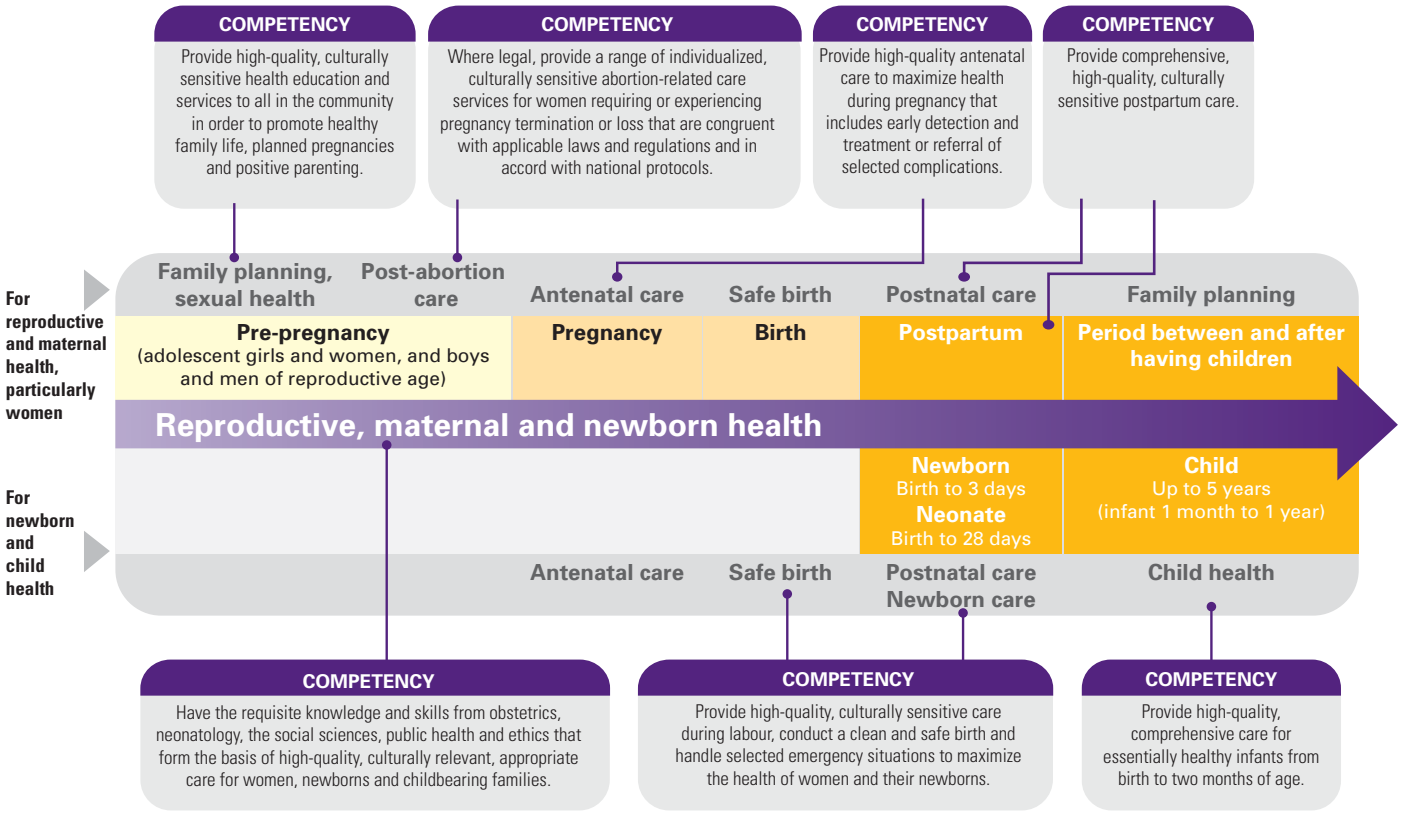
All health providers are empowered or constrained by the national context in which they operate, including socio-economic, cultural and gender dimensions. The way that health systems are designed and operated is a crucial factor in developing and maintaining an effective and efficient midwifery workforce.

The midwifery workforce — as with other health care personnel — requires an enabling environment to maximize their contribution to health.[20] The enabling environment required goes beyond having the necessary drugs and supplies available at the right moment and in the right place (e.g. in the labour ward). The maternal health care team also needs adequate infrastructure, communication tools and functioning referral systems. Regular and emergency services need to be provided night and day, throughout the year. The midwifery workforce also needs supervision, professional collaboration, appropriate remuneration and a policy framework that allows them to perform life-saving interventions.

These elements of a health system go a long way to maintaining a motivated midwifery workforce and ultimately saving the lives of mothers and newborns, even more so where improving women's and children's health is a national priority supported by political leadership at the highest level. It is also important that the policy framework be consistent across the multiple sectors and instruments within a national context.

A recent analysis by WHO and the Partnership for Maternal, Newborn and Child Health (PMNCH)

FIGURE 1.1 **WHO's essential care packages and the role of midwifery competencies across the continuum of care**



Source: Adapted from WHO (2010) recommended 'Packages of Interventions for Family Planning, Safe Abortion Care, Maternal, Newborn and Child Health' and ICM (2010) Essential competencies for basic midwifery practice.

suggests this is not always the case.[21] In an assessment of 24 countries, the review identified a lack of policy coherence between poverty reduction, health and maternal health plans. Although achieving MDGs 4 and 5 was indicated to be a high priority in national health and development plans (including Poverty Reduction Strategy Plans), this was not always supported by operational plans and the appropriate financial and human resources to convert policy into practice. In other words, the priorities did not result in development and implementation of evidence-based interventions, such as scaling up midwifery services.

Learning with models enables student midwives to attain proficiency in the essential competencies. *(Liba Taylor for ICM; India)*

Three pillars of a quality workforce

In addition to the health system design and operation, midwifery education programmes, regulatory frameworks and association development are three critical pillars for creating a high-quality midwifery workforce. They should be regarded as a package (education, regulation and association) as well as a continuum for midwifery workforce development.

Education

20-29

There are many pathways that prepare (pre-service) and maintain (in-service) a well-educated midwifery workforce. Education programmes designed to prepare midwives, either through direct entry, in combination with nursing or post-nursing education, vary widely within and between countries. Variation is evident in entry requirements, length of training, curricula, faculty capacity and quality, tutor/student ratios and time spent in clinical practice. Many existing programmes may therefore be graduating health workers who do not meet the ICM competencies.

In 2009, WHO published global standards for the initial education of nurses and midwives.[22] 'Initial education' refers to the programme of education required for a person to qualify as a professional nurse or midwife. These global standards, developed with inputs from ICM and the International Council of Nurses (ICN), seek to develop competency-based outcomes and ensure the future health workforce meets population health needs. More recently, ICM has developed global standards that are specific to midwifery education (2010),[23] where a fully qualified midwife has a formal education based on ICM essential competencies. The standards include:

- entry level of students is completion of secondary education;
- minimum length of a direct-entry midwifery education programme is three years;
- minimum length of a post-nursing/ health care provider programme is eighteen months;
- midwifery curriculum includes both theory and practise elements with a minimum of 40% theory and a minimum of 50% practise.

The standards also provide specific guidance for schools, educators and regulators to promote quality education needed to achieve the essential midwifery competencies.[24] These can be adapted to reflect country-specific needs for curriculum content and cultural appropriateness.

Acquiring professional competence demands theoretical knowledge as well as regular, tailored, supervised, hands-on practice in a variety of clinical settings. Training in a clinical setting helps to close the gap between the theoretical teaching and the clinical reality and prepares midwives and others with midwifery competencies for

team-work and health care provision along the full continuum of care. One of the reasons this is often difficult is due to the lack of clinical training opportunities with supervision by experienced practitioners.

Increasing the number of teachers, trainers, tutors and the quality of their training is therefore integral, especially for practical training in maternities where each student must be given as many hands-on opportunities as possible. Tutor to student ratios during clinical practice may vary according to multiple factors (e.g. the level of the learner, the competencies to be learned, volume of clinical experiences available, and the teaching competency of the tutor) but a benchmark of one tutor for two students is good practice in the delivery environment.

Maintaining the competencies of the midwifery workforce through continuing education and in-service training is equally important and increasingly available through information and communication technologies. Continuing education is essential for public safety and is a professional responsibility. It underpins certification, regulation and other professional validation mechanisms. It is also a path to career opportunities for those who want to become educators, supervisors and researchers.

Regulation

30-31

The purpose of regulation and the process of regulating combine first and foremost to serve and protect the public. Regulation is a way to oversee whether health professionals are competent to practise. It is an essential accountability function for a government to fulfil its responsibility to protect its citizens and ensure their right to health, including the obligation to grant special care and attention to women during a reasonable period before and after childbirth.[25] Conversely, a health care system that relies on midwives or other cadres who are less than competent to provide care throughout their professional careers is dangerous to women, newborns, families and communities.[26]

The mechanisms used to regulate the health professions differ from country to country, but in general a regulatory authority oversees a recognized health profession or group of professions. These bodies usually function at national or state level. They license and register individuals (including those educated overseas) and address the practice of those practitioners who fall short of the required competence standards. In addition, they play a lead role in setting and maintaining standards of education programmes. ICM's recently developed 'Global Standards for Midwifery Regulation',[27] propose that a regulatory authority for midwives has six main functions:

- setting the scope of midwifery practice;
- setting the requirements for preregistration midwifery education;
- registering and licensing midwives;
- relicensing and ensuring the continuing competence of midwives;
- handling complaints and disciplining midwives; and
- setting codes of conduct and ethics for midwives.

In both developed and developing countries, midwifery is often regulated by a council (be it a midwifery, nursing or a nursing and midwifery variant) that is independent from the government. This is consistent with the dual regulation of other professions, such as medical and dental councils. In countries where midwifery is not established as an autonomous profession and various other cadres provide midwifery services, there will be challenges in establishing standards and competencies for midwifery professionals to ensure public protection.

A health care system that relies on midwives or other cadres who are less than competent to provide care throughout their professional careers is dangerous to women, newborns, families and communities.

Association

32-34

A strong professional association, supported by its members and recognized by the government,

regulatory authority and education programmes, is the third pillar to promote a high-quality midwifery workforce. This may either be an independent midwives association or a nursing association that includes midwives in its membership and acts in their particular interests.

Association development involves creating viable organizations with well-documented policies and procedures guiding association activities and governance. Organizational development moves associations beyond promoting midwives, nurse-midwives and midwifery to contributing to leadership in policy- and decision-making for maternal and child health services at all levels of the health system.

Midwives play an essential role in detecting HIV in pregnant women and in preventing mother-to-child transmission of HIV.

Associations that represent midwives have several roles and responsibilities, including:

- advancing professional practice by promoting professional standards and quality of care;
- providing input into the development and support of national educational programmes;
- partnering with regulatory authorities to ensure development of in-service training requirements and standards;
- working with other health care professional associations and the Ministry of Health and district health authorities to develop reproductive health, maternal and newborn care policies and standards;
- promoting professional networking and interdisciplinary practice;
- negotiating appropriate compensation and salaries with the government and enabling positive working environments; and
- partnering with women's groups and other advocates to promote women's reproductive health and newborn and child health.

To fulfil these roles and responsibilities, these associations need to have appropriate capacity — effective governance, competent technical expertise and adequate administrative and financial management procedures. They also need to be recognized as an authority within the national, regional and district health systems so that they can take part in policy development and implementation and be appropriately resourced. This is not currently the case in all countries. The multidisciplinary, multi-country health care professional association workshops held by PMNCH[28] in 2008 indicated that public authorities might often attach low importance to these associations or exclude them from the national health policy and planning dialogue. This relates to perceived weaknesses in associations due to lack of financial resources and capacity.

How are midwifery services organized and delivered?

Supply, competencies and coverage

35-39

The organization of quality midwifery services is heavily dependent on the supply, competencies and coverage of its workforce. Worldwide, there is a health workforce crisis and an estimated additional 3.5 million health care workers are needed in the forty-nine poorest countries.[29] The critical gap in midwifery staff is a large proportion of the shortfall in professional cadres and undermines efforts to enhance services and quality.

Few countries experiencing a workforce crisis have a robust human resource information system,[30] even where it is a recognized priority.[31] This is despite numerous calls for action in World Health Assembly resolutions in 2004, 2006 and 2010.[32, 33, 34] Some examples of good practice are emerging,[35, 36] but overall it is difficult to be precise about the number of midwives currently employed in the public/state and non-state sectors. Even less information is available about whether they are practising in maternity units or assigned to other tasks, their availability to provide 24-hour coverage, the quality of care they provide, and what competencies and coverage gaps exist. This lack of information means that there is little evidence to inform the decision-making processes, and makes it difficult to review the organization, capacity, quality and performance of midwifery services.

One indicator to review supply capacity is the proportion of women who are attended by a health professional during labour and birth. It is estimated that 60 million women give birth outside health facilities and 52 million births occur without a skilled birth attendant (midwife, nurse or physician) every year.[37] While coverage of skilled birth attendance is approaching 100 percent in most industrialized countries, it remains less than 50 percent for most countries in South Asia and sub-Saharan Africa.[38] Given their current rate of less than 0.5 percent increase in skilled birth attendance per year, fewer than half the births in these regions will be attended by a skilled birth attendant by 2015.[39]

In countries that have critical midwifery workforce gaps, this is further compounded by distribution inequities between urban and rural areas. Indeed, where data are available, the median density of health workers is four times higher in urban areas than in rural areas.[40] Approximately one half of the global population lives in rural areas, but only 38 percent of the total midwifery/nursing workforce and less than one quarter of the total physician workforce serve these areas.[41] Rural populations, often with higher fertility rates, are hence disadvantaged in terms of access to midwifery services.[42]

Working in teams

40-42

The number and distribution of midwifery professionals is critical, but so too is the quality of the services they deliver. Health professionals working together, with complementary skills and competencies, are crucial to ensuring that every pregnancy and birth is safe. All midwifery professionals are required to provide a package of maternity care and integrated services to mothers and newborns. Ideally, providers deliver this package through collaborative practice,[43] operating as a coordinated maternity care team. All autonomous health care professionals (i.e. midwives, nurses and physicians who set and maintain their own professional standards) should work to ensure these interdependent and collaborative relationships.

Not all women are able to access a midwife while pregnant or during labour and birth. For some it entails a long and arduous journey by whatever means possible. *(Claire Escoffier; Somalia)*

Such a multidisciplinary, collaborative approach is at the heart of WHO's recently published list of the competencies required for the effective provision of high-quality sexual and reproductive health services at the primary health care level.[44] These 13 competencies relate to essential sexual and reproductive health services, not to specific professions. Individual cadres need to be clear about what they are expected to provide and to know the internal referral mechanisms within the team. In order to ensure that people receive comprehensive and continuous care, all primary health care staff should be aware of the competencies available at the next referral level, and vice versa, and know how to use the referral system.

Working in communities

43-48

In many countries qualified midwives are a scarce resource and are not deployed in sufficient numbers to deliver a full range of health services through community-based models. Demographic and health surveys confirm that family members, neighbours, community health workers (CHWs) and TBAs regularly provide assistance during delivery.

Midwives are able to provide health education and services to all in the community, promoting planned pregnancies and positive parenting. *(Ahmed Al-Adboei; Yemen)*

Given the realities at country level, community midwifery services need to be aware of prevailing supply and demand characteristics and consider interim and longer-term strategies to address the quality of care[45] and humanization of childbirth. Many of the countries that are the focus of this report have invested in CHWs to provide some of the primary care services. Often trained in a period of months, CHWs do have a role to play in strengthening maternal and newborn services by performing some of the essential outreach tasks in the continuum of care. They can, among other things, keep records, promote family planning, urge pregnant women to give birth in a health facility, encourage exclusive breastfeeding and newborn care during home visits, and encourage birth registration. Where outreach services in the community are supervised by and connected to the primary health care centre there is evidence of increased referrals to health facilities and reduced illness and deaths in newborns.[46, 47]

TBAs are a heterogeneous group of not formally trained community members who are independent of public health services and provide care during pregnancy, childbirth and the postnatal period.[48] In the 1970s and 1980s, tens of thousands of TBAs were trained, principally in Asia and Latin America, but also in Africa.[49] Countries were actively encouraged to do so[50] in the hope that this would improve the survival of women where professional midwives were a rare resource. There is evidence that, in particular circumstances, training TBAs can improve knowledge and attitude, and be associated with small but significant decreases in perinatal mortality. There is no evidence, however, to demonstrate that this training is cost-effective or has any impact on lowering the number of women dying in pregnancy or childbirth. After more than three decades of well-meant attempts and disappointing experiences, the TBA training strategy is now increasingly being questioned or seeing a shift in focus.[51] TBAs can, however, play a role in supporting pregnant women. A number of programmes are emerging to promote refocusing the role of TBAs based on the knowledge that TBAs generally hold a position of respect and influence within their communities.[52] Because TBAs are culturally close to women, they are uniquely equipped to motivate and assist women and their families in planning for birth with a skilled provider. If TBA roles and responsibilities are clear, and if they have a positive relationship with midwifery staff, good results can be expected.

What remains clear is the importance of skilled delivery and facility-based services in tandem with outreach services. Task-sharing may be a feasible option to scale up some community interventions, but task-shifting the essential midwifery competencies for intrapartum care and referral is not. The challenge is to ensure that the range of competencies required for the full continuum of care is available to the community from midwives, nurse-midwives and the appropriate cadres of providers working in the community. Identifying midwifery students willing to work in the communities they come from is one mechanism to support this.

Working in facilities

49-52

Expert technical consensus recommends that all births, whether normal or not, should ideally take

place in a health facility offering Basic Emergency Obstetric and Newborn Care (BEmONC).[53, 54] In these instances a normal birth experience can be provided to the vast majority of women. At the same time, the midwifery workforce has the capacity to immediately deal with the 15 percent of births that, on average, result in obstetric complications (Table 1.1). As the occurrence of individual complications is often unpredictable, this would mitigate the risk for women who would otherwise begin labour in primary health care facilities or homes assisted by TBAs, auxiliaries or multipurpose health workers who are not able to provide life-saving interventions. If women are being cared for in a facility equipped to offer BEmONC, only those with complications requiring surgery or blood transfusions need to be transferred to a facility offering Comprehensive EmONC (CEmONC).[55]

Normative guidance from the UN agencies recommends that in a typical district with a population of 500,000 there should be at least five BEmONC facilities, one of which is also a CEmONC facility.[56] Assessments in more than 50 countries[57] have revealed that this balance is not present in most countries, mainly due to a deficit in BEmONC facilities. In contrast, most countries have, at least theoretically, an adequate number of CEmONC facilities, but they are not distributed within easy reach of all the women and newborns who need them. This highlights the challenges of concentrating staff, equipment, drugs and supplies in a health facility that is open 24 hours a day, 7 days a week, while also addressing the need to provide emergency obstetric care close to where women live.

Midwife-led care, where midwives take primary professional responsibility for services,[58] is increasingly being implemented in countries where midwives are authorized to deliver life-saving interventions. This overcomes some of the resource-management challenges and provides a midwifery service focused on low-risk births. A systematic review of the available evidence in high-income countries[59] identified positive outcomes for childbearing women when

TABLE 1.1

EXPECTED OBSTETRIC AND NEWBORN COMPLICATIONS PER DAY

(WHOLE COUNTRY AND RURAL AREAS) 2010

Country	per day	per day/rural
Afghanistan	478	320
Angola	328	134
Bangladesh	1,415	1,005
Benin	161	90
Bhutan	7	5
Bolivia (Plurinational State of)	115	38
Botswana	22	9
Burkina Faso	306	227
Burundi	140	124
Cambodia	160	128
Cameroon	304	131
Central African Republic	75	45
Chad	217	157
Comoros	9	7
Côte d'Ivoire	335	164
Democratic Republic of the Congo	1,313	854
Djibouti	14	3
Eritrea	79	62
Ethiopia	1,397	1,146
Gabon	18	4
Gambia	28	13
Ghana	306	150
Guinea	182	109
Guinea Bissau	28	20
Guyana	8	5
Haiti	113	54
India	10,976	7,683
Indonesia	2,028	1,136
Iraq	414	141
Kenya	608	426
Lao People's Democratic Republic	75	49
Liberia	72	38
Madagascar	304	210
Malawi	278	223
Mali	287	184
Mauritania	48	28
Morocco	280	117
Mozambique	385	238
Myanmar	457	302
Nepal	345	280
Nicaragua	57	24
Niger	340	272
Nigeria	2,727	1,364
Pakistan	2,281	1,368
Papua New Guinea	87	75
Peru	255	61
Rwanda	180	144
Senegal	200	110
Sierra Leone	100	62
Somalia	178	130
South Africa	452	172
Sudan	586	352
Tajikistan	84	62
Timor-Leste	19	13
Togo	95	54
Uganda	653	555
United Republic of Tanzania	758	531
Uzbekistan	265	169
Viet Nam	658	461
Yemen	399	272
Zambia	246	157
Zimbabwe	166	103

Source: UNFPA 2011.

BOX 1.3

OUT-OF-HOSPITAL MIDWIFE OBSTETRIC UNITS IN THE CAPE PENINSULA, SOUTH AFRICA

The Peninsula Maternal and Neonatal Service (PMNS) has an integrated three-tiered referral system in the public health system, serving the majority of the pregnant and newborn population of Cape Town. Due to the good reputation of this service, many people from other provinces migrate to the area during pregnancy.

In the late 1970s it was decided to move lower-risk maternity care closer to the people who required it, and to have this run by registered midwives. By the mid-1990s, three midwife obstetric units had been established in the Cape Peninsula. There are currently seven such units associated with the University of Cape Town Faculty of Health Sciences (described below) and two associated with the University of Stellenbosch Faculty of Medicine. A few others are operating elsewhere in South Africa, but this is not yet a nationwide model.

Four assumptions underpin this initiative:

- normal or low-risk pregnancies are well managed by suitably qualified midwives;
- a tertiary-level hospital focused on the needs of ill patients is not the most appropriate setting for a normal low-risk pregnancy, and is an inappropriate use of expensive resources and infrastructure;
- health services should be accessible, acceptable and appropriate to the population, at a cost that is sustainable for the community; and
- no poor options for poor people.

Midwife units create a space for midwives to practise to their fullest potential. In total, 17,606 women were seen and managed at the seven midwife units in 2009. This constituted 44 percent of the total PMNS, and an increase of 30 percent from 2002. For example, in 2008 Mitchell's Plain had 10,403 visits, 4,193 deliveries and 1,701 transfers to hospital.

All midwife units function as primary-level maternal and neonatal facilities in the health system and are funded from the provincial health budget. One model started as a private-public partnership (not-for-profit arrangement) to offer women the opportunity for midwife-led care, which at the time was not available in the private sector. This partnership has had positive spin-offs for the public-sector patients who use this facility.

In the context of increased numbers of women and babies being cared for in these facilities, the increased challenges due to HIV and AIDS, and staff reductions, this system has continued to produce results that are the envy of the country. From 2005 to 2007 only three maternal deaths occurred in the midwife units. For all infants born weighing more than 1 kg, their perinatal mortality rate was 9.8 per 1,000 compared with the PMNS rate of 19.3 per 1,000. The midwife units have 15 percent of the bed capacity of the PMNS, yet account for 50 percent of all deliveries. This frees up higher levels of service to those requiring it.

compared with other models of care (obstetrician-led, family doctor-led and shared models of care). A 2011 policy assessment in the United Kingdom[60] notes the potential for saving costs and recommends its expansion. Similar experience of the benefits of midwife-led care is emerging from low- and middle-income countries, including Botswana, Burkina Faso and South Africa (Box 1.3). These positive results confirm the feasibility, value and effectiveness of this approach and its potential to reduce inequities in access to care.[61]

Managing the midwifery workforce

53-61

In recent years, a number of health workforce management guidelines and tools have been developed that are relevant to managing midwives and others with midwifery competencies. For example, *The World Health Report 2006 – Working Together for Health* devoted separate chapters to the three aspects of human resource management: entry (recruitment) into the workforce, retention, and exit from the workforce.

It has been shown that coherent human resource management programmes can make a difference. When backed by the right policies and resources and supported by all stakeholders – especially the national government – they can help to attract, recruit and deploy newly qualified and unemployed midwives to areas where their skills can make a difference in delivering health and saving lives.[62] Some countries have policies specifically aimed at attracting qualified midwives who are working in a different profession, or retired midwives who are still productive.

Motivation is an important factor for midwife performance and preventing exits from the workforce. Evidence points to poor working conditions, low salaries, lack of supervision and lack of opportunities for career advancement as the main demotivating factors. Peer support and professional networks can improve both retention and quality of care. Often midwives working at the community level encounter problems and complications that they did not experience in their initial training. Providing continuous quality

control using collaborative audits and reviews and responsive continuing education is essential to motivate and retain midwives.

Supportive supervision has been neglected until recently and good-practice models are scarce. Working in teams in either facilities or in the community requires coordination and cooperation among (rather than authority over) all cadres and across all levels of care. This is an essential part of supervision to ensure effective consultation, co-management and referral according to the health needs of women and newborns. It is important that supervision is conducted in a way that builds capacity, fosters team spirit, and empowers midwives and others with midwifery competencies.[63] It should also ensure that other cadres of health professionals respect the autonomous scope of practice of midwives that exists in many countries.

Because there are so few midwives in rural areas, WHO's 2010 global policy recommendations on *Increasing access to health workers in remote and rural areas through improved retention*[64] have particular relevance to managing the midwifery workforce. Recommendations are made in the areas of education, regulation, financial incentives, and professional and personal support (Box 1.4).

In general, this is a neglected area of research. Most of the research that has been published is from high-income countries and relates to physicians and, to a lesser extent, nurses. There is little rigorous evidence about how best to attract and retain midwives or nurse-midwives who work extensively in midwifery services, especially in low-income countries. More focused, good quality research on interventions targeting recruitment and retention of midwives in remote and rural areas is needed.

BOX 1.4

INCREASING ACCESS TO HEALTH WORKERS THROUGH IMPROVED RETENTION

Category of intervention	Examples
A. Education	**A1** Students from rural backgrounds
	A2 Health professional schools outside of major cities
	A3 Clinical rotations in rural areas during studies
	A4 Curricula that reflect rural health issues
	A5 Continuous professional development for rural health workers
B. Regulatory	**B1** Enhanced scope of practice
	B2 Different types of health workers
	B3 Compulsory service
	B4 Subsidized education for return of service
C. Financial incentives	**C1** Appropriate financial incentives
D. Professional and personal support	**D1** Better living conditions
	D2 Safe and supportive working environment
	D3 Outreach support
	D4 Career development programmes
	D5 Professional networks
	D6 Public recognition measures

Source: WHO (2010).[64]

Accessing midwifery care

In many parts of the world, women are switching from the use of lay people and TBAs to midwives and others with midwifery competencies (Figure 1.2). Projections show predicted progress in the professionalization of care at childbirth everywhere except in sub-Saharan Africa.

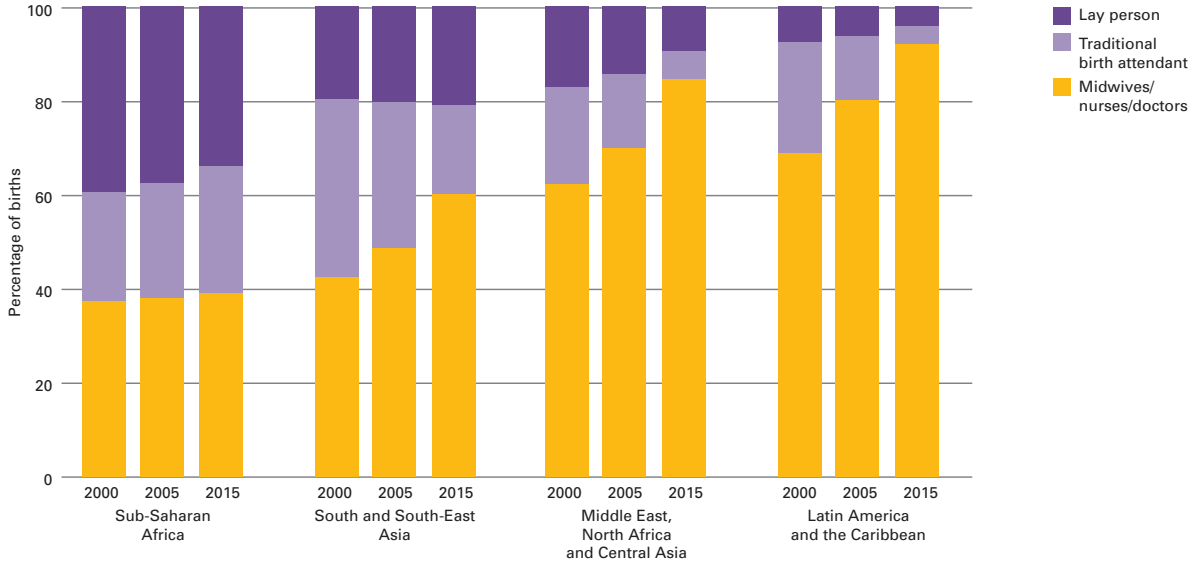
Despite the overall growth in the use of midwifery services at birth, there are still large proportions of women who cannot, or do not, access care. In some settings midwifery services are non-existent because there are no facilities nor professional cadres available; in other cases services are poor because midwifery staff does not have access to the necessary drugs, equipment, supplies and commodities. In some countries, basic life-saving drugs for women and children are not on the national essential drugs list, are not available at the right place at the right time, or are not available due to stock outs. But ensuring an adequate supply of midwifery services does not guarantee their use by women. Even where services do exist, women often find them hard to access, culturally inappropriate or they encounter financial barriers in the form of user-fees and co-payments at the facility level. Increasingly, countries are considering services being free at the point of or supported by other financing schemes (for example, vouchers and conditional cash transfers) to remove these barriers.

Making the decision to seek midwifery care 62-63

The first step in making contact with a midwifery provider is to make the decision to seek care. However, this is highly influenced by sociocultural issues and gender. In many instances, an adolescent girl's or a woman's ability to make choices about the health services and care she accesses depend on her control of immediate resources, her autonomy, her status in the family and the importance given to her health, especially when resources are scarce.[65, 66, 67, 68]

Studies show that women with strong decision-making power are more than twice as likely to give birth at a facility compared with women with little decision-making power.[69] In all countries, poverty is strongly associated with less access and use of health care, including less use of skilled midwifery care at birth.[70] Poor demand for services is inextricably linked to poverty,

FIGURE 1.2 **The professionalization of birthing care: percentage of births assisted by professional and other carers in selected areas, 2000 and 2005 with projections to 2015**



Source: Adapted from WHO (2005)[11]

Midwives provide high-quality, culturally sensitive care during labour as one of their core competencies. *(William Daniel; Tajikistan)*

especially in the presence of geographical barriers (transportation costs), socio-economic barriers and gender discrimination.

Barriers that stop women from accessing care, even when it is available, may include the lack of female service providers or someone who speaks the local language and appreciates local cultural norms.[71] Anthropological studies in every culture demonstrate the need to orientate midwifery students to local and sub-local cultures,[72] and also wherever possible, to facilitate recruitment of future midwives from among ethnic groups.

Health care providers need to speak a language that women and their families understand, show empathy, broach fears and beliefs with respect and adapt to cultural and individual beliefs if there is no medical contra-indication. This includes considering women's values, beliefs, and feelings and respecting their dignity and autonomy during the birthing process so as to humanize childbirth.[73, 74] A 2007 Cochrane review[75] concluded that women who had continuous support in childbirth were likely to have a slightly shorter labour, were more likely to have a spontaneous vaginal birth and less likely to report dissatisfaction with their childbirth experiences. In Latin America, several projects have recorded positive results in the reduction of dissatisfaction both from women giving birth and providers, an increase in institutional deliveries and a reduction in maternal death.[76] The main facilitators for these results include women's own cultural values and beliefs in a natural birth as well as institutional strategies designed to prevent unnecessary medical interventions.

It has long been recognized that women in particular are subject to poor quality of care in reproductive health services across the developing world.[77] Negative attitudes from health care professionals, or community perceptions thereof, can discourage women from seeking care.[78, 79] A recent analysis identifies disrespect and abuse in

facility-based childbirth as a major barrier to the utilization of skilled care that can sometimes be much stronger than the commonly recognized geographical or financial barriers.[80] Physical abuse, non-consented, non-confidential and non-dignified care, discrimination, abandonment and retention in facilities were all reported in the analysis.

As one component of a comprehensive package of essential obstetric services, maternity waiting homes are being used successfully in many countries, for example Mozambique and Nicaragua, as a low-cost way to bring women closer to obstetric care. It has been shown that maternity waiting homes can help to 'bridge the geographical gap' in obstetric care between rural areas with poor access to equipped facilities, and urban areas, where the services are available.[81] However, maternity waiting homes are not meant for childbirth and should be set up within walking distance of fully equipped maternities.

Every year, 10-15 million

women suffer severe or long-lasting illnesses or disabilities caused by complications during pregnancy or childbirth.

The role of communities

64

If communities, including fathers, husbands, village heads and religious leaders, are mobilized to support women in pregnancy and childbirth, many of the entrenched barriers to care can be broken down. Mobilization efforts led by women can empower women in poor and excluded communities.[82]

Some countries have attempted massive scaling up of community mobilization including Bangladesh, Bolivia, Cuba, Peru and Sri Lanka. Researchers have noted that capacity and commitment to scaling up in the poorest countries is weak, and there is a risk that it may not benefit the most vulnerable populations.[83] One argument is that because community and family interventions are not perceived as part of the health system, they have tended not to be integrated into care packages nor scaled up.[84]

Summary

This chapter has provided a framework to understand what is known about the fundamental components of effective midwifery and summarized the guidance, information and evidence that are available to help national policy makers determine their future actions. Strengthening midwifery services benefits all members of society in far-reaching ways and is an investment in a country's human and economic development as well as a responsibility of governments and their political leaders.

Of course, each country is different and the competencies, global standards and benchmarks set out above are for individual countries to adopt and adapt according to the context and level of practice in their respective countries. Decisions will depend on existing resources and capacities in both the health workforce and the national health system, on the priorities identified in the national health plans and the political will to turn policy into practice. Clearly, substantial investments in the consistent implementation of national health system policies, the education-regulation-association triad, and increased community access to quality midwifery services will reap great rewards for countries where maternal, newborn and child mortality and morbidity are still high.

THE STATE OF MIDWIFERY TODAY

This chapter presents an overview of midwifery in 58 developing countries with a high burden of maternal and newborn mortality. The findings draw on national data and a survey administered by UNFPA from January to March 2011, completed and verified by expert country representatives[1]. Midwifery profiles for each country are available in Part 4. Although many different cadres of health workers assist at births, the survey focussed on midwives who are prepared through recognized educational pathways.

On the front line: The midwifery workforce

65-71

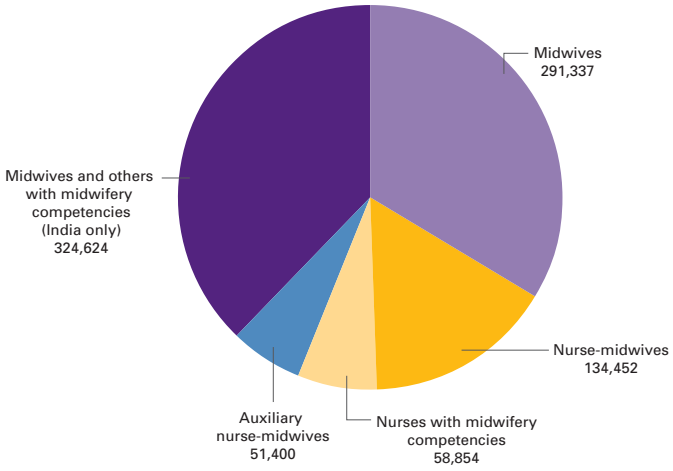
Inadequate numbers – inequitable coverage

Approximately 536,000 health workers with some or all of the essential midwifery competencies are reported to be practising in 57 of the 58 countries who responded to the survey. When data for India are added, this number increases to 860,000. These numbers do not include general practice doctors, many of whom have midwifery competencies, who also assist at births in numerous countries and make a significant contribution to maternal and newborn health.

A country-by-country assessment, led by WHO and engaging their regional and country staff in verification of the available data, was made in order to estimate the midwifery workforce total, including the proportion of nurses who regularly attend births.[2] Figure 2.1 provides an overview. India's workforce of midwives and registered auxiliary nurse-midwives is shown separately to highlight their significant proportion (38%) of the total across the 58 countries. In the remaining 57 countries the key cadres in the midwifery workforce consist mainly of midwives (54%) and nurse-midwives (25%). Smaller but important parts of the midwifery workforce are nurses with midwifery competencies (11%) and auxiliary midwives (10%).

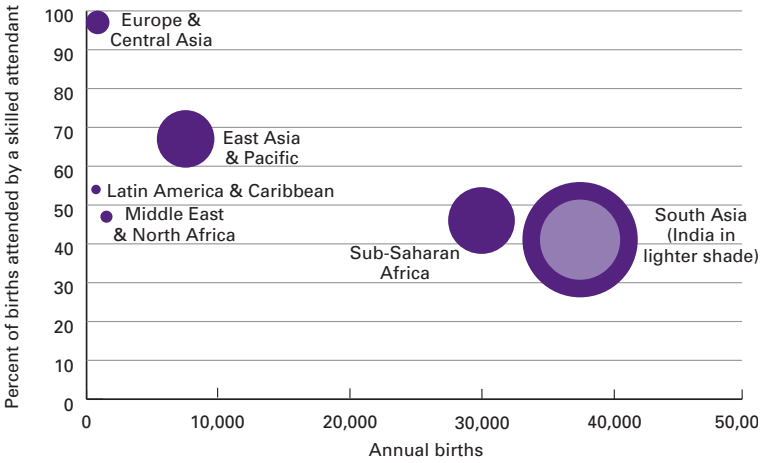
Figure 2.2 shows that the size of the midwifery workforce does not necessarily result in a higher coverage of skilled birth attendance or relate to the number of births per year. How many workers with midwifery competencies are needed to tackle the rising tide of births in the 58 countries? One benchmark sometimes used to plan midwifery workforce supply is that, on average, one midwife attends 175 births during one year.[3] This benchmark may be more easily conceptualized as six midwives required to provide care at 1,000 births in one year. While this level of service provi-

FIGURE 2.1 **Number of workers with midwifery competencies**



Source: Estimates based on national data from WHO's Global Atlas of the Health Workforce and SoWMy Survey in 58 countries.

FIGURE 2.2 **Regional distribution of the midwifery workforce**



Source: Estimates based on national data from WHO's Global Atlas of the Health Workforce and SoWMy Survey in 58 countries.

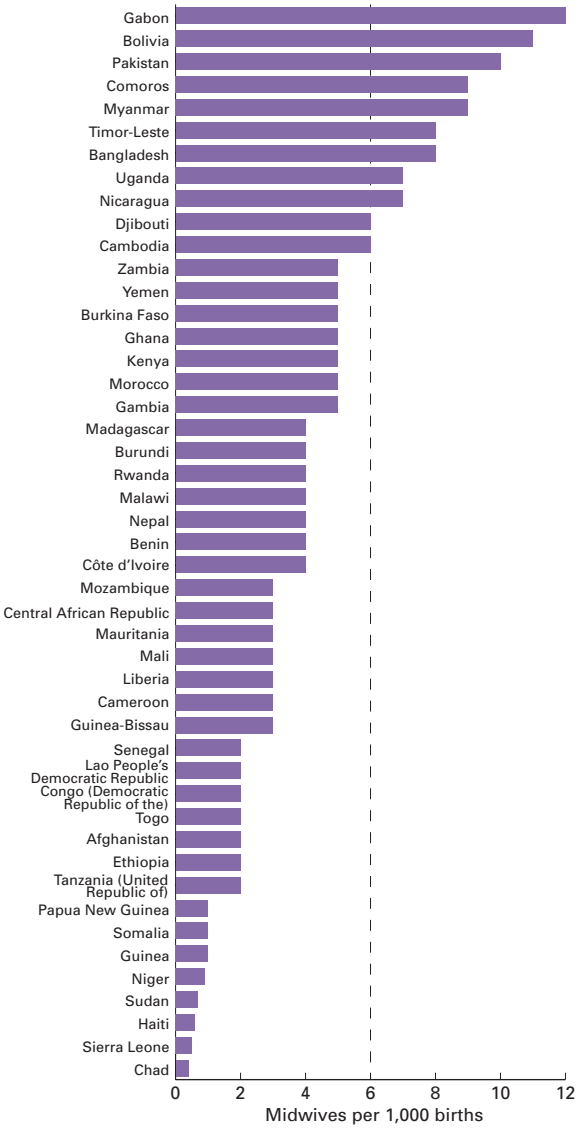
sion may be higher than what can be realistically achieved in all circumstances, especially in rural areas, it nonetheless is a useful tool for workforce planning. In the majority of countries midwife-to-birth ratios are either lower than this benchmark or very close to it (Figure 2.3), suggesting that human resources are straining to cope with the volume of births. Most countries are acutely aware that the situation is unacceptable and are striving to address heavy workloads, improve retention and stem outmigration.

Exacerbating the widely acknowledged shortfall in midwifery staff is the lack of deployment in the neediest areas. The unequal distribution of providers is a problem linked with difficulties in recruitment and retention in remote towns and villages. For many workers there are simply too few incentives to practise in villages or towns with few services. Geographical maldistribution of staff — not only between rural and urban areas, but from district to district — is a key barrier to access for millions of pregnant women. In the 58 countries included in this report, the result is that the available workforce of SBAs reaches less than half of women at childbirth (Figure II, Introduction).

Falling short: Focus on quality

Despite a survey question specifically asking about quality of care for pregnant women and

FIGURE 2.3 **Midwives per 1,000 births per year**



Note: Excludes countries where data on the proportion of nurse-midwives who regularly attend births are unavailable.

Source: Estimates based on national data from WHO's Global Atlas of the Health Workforce and SoWMy Survey against birth estimates from United Nations, Department of Economic and Social Affairs, Population Division (2009).

their babies, country respondents emphasized inadequate numbers of staff over quality of care. Only a handful of countries explicitly mentioned 'quality' as an issue to address. These few countries mentioned the lack of partogram use, deficient skills in monitoring and recording, and the need for supervision and support as well as a lack of clearly articulated standards of care to follow. In countries where policies aimed at

rapidly increasing coverage have been launched with some success, such as the introduction of free care in Ghana and Sierra Leone[4] and the use of incentives in India[5], the issue of quality has become a key concern. Meaningful indicators of care quality are difficult to construct and there is no clear consensus on a global standard[6]. But the urgent need to track quality, especially during labour and birth, has stimulated work in this area and some new indicators have recently been put forward for consideration as measures of quality of care[7].

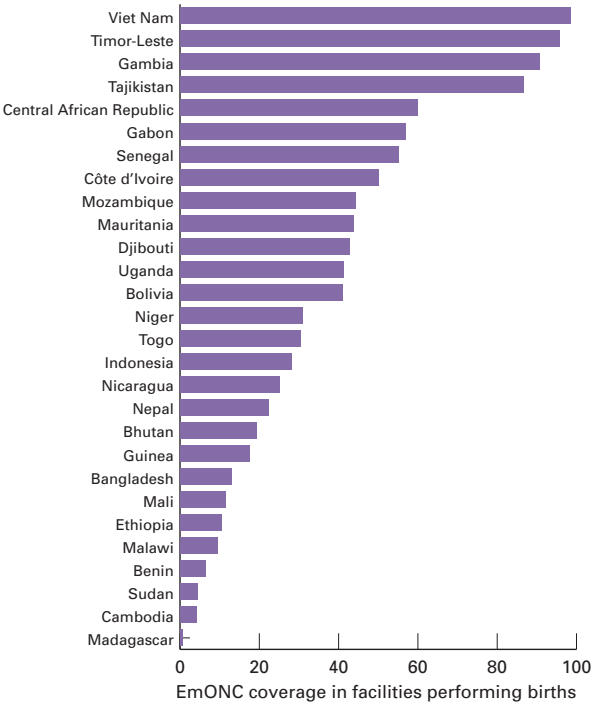
One aspect of poor quality of care is a lack of health facility back-up for midwifery staff to rely on in case of complications. Less than 1 in 3 of the 28 countries that reported on this cited more than 50 percent of their maternity facilities providing any level of EmONC (Figure 2.4). Ineffectiveness of referral processes was commonly noted to be due to difficulties with long travel times, transportation constraints and barriers to communication.

Addressing the gap between current levels of care and near universal coverage in 2015 requires dual approaches. The competency levels of existing staff often fall short of recommended levels, so adding workers is not enough. Using country data and the survey responses, WHO estimates show that there is a critical competency gap that demands urgent attention (Box 2.1).

Working together – midwifery staff and other key health workers

Although the majority of countries reported good relationships between midwives and doctors in hospital settings, this is far from universal. In some countries, a lack of consideration and trust in midwives, hierarchical care provision and friction affects the collaboration between midwives and doctors, especially in urban areas. This leads to rivalry, a limited scope of midwifery practice and no recognition or respect for midwifery as an autonomous profession. In provincial hospitals and in communities, where there are often fewer obstetricians, midwives have more autonomy and midwifery-led care is the norm.

FIGURE 2.4 **Percentage of maternity facilities providing Emergency Obstetric and Newborn Care**



Note: Includes basic and comprehensive EmONC

Source: SoWMy Survey.

A story of diversity: Midwifery education around the world

The need to improve midwifery education programmes is a central policy challenge for the achievement of MDGs 5 and 4 – in terms of the numbers trained, the level of the education provided and the quality of midwifery teachers. Guinea Bissau, Rwanda and Tanzania all reported major shortcomings in midwifery education. But progress can be made: increased enrolment has even been seen in midwifery schools where minimum entry criteria were raised to completion of secondary education.[8] Inspiration can be drawn from midwifery workers in post-conflict countries, where particularly strong commitment to training in very difficult conditions is often demonstrated.

Pathways in midwifery education

The different natures of the educational pathways underpin many of the issues surrounding the quality of the midwifery workforce as well as the naming of cadres with midwifery competencies.

BOX 2.1

THE DUAL GAP: QUALITY AND QUANTITY

MDG 5 is aimed at improving maternal health. One of the targets of MDG 5 is to ensure that by 2015, 95 percent of all births are assisted by a skilled birth attendant (SBA). To estimate the number of additional midwives needed to achieve this target, the survey collected data on the number of practising midwives and health workers with midwifery competencies among 58 countries.

The estimated number of midwives and nurses practising midwifery reported for the 58 countries is 860,000.

To achieve the target of 95 percent coverage of all births with an SBA, an additional 112,000 midwives are needed among the 38 countries (of the 58 surveyed) facing the most severe midwifery workforce shortage. These can be grouped by the scale of the increase required.

The midwifery workforce gap in Group 1 represents about 43 percent of the total midwifery workforce shortage.

Additionally, across all of these 38 countries it is estimated that at least 90,000 health workers from other workforce categories are assisting women during childbirth, most likely without the necessary competencies and support. The probability that the SBA assisting a woman during childbirth is actually a midwife in countries such as Chad, Ethiopia, Guinea, Haiti, Niger, Sierra Leone, Somalia or Sudan is estimated to be 1 in 10.

A number of strategies are needed to fill such a large workforce gap. While training more midwives should be a priority, it is also necessary to improve the skills of existing midwifery personnel and other categories of health workers, and to develop highly efficient models of care that address both equity and the quality of care.

The remaining 20 countries surveyed appear to be better staffed in midwifery workers. If this reported workforce is active, it could play an important role in enabling these countries to reach the 95 percent SBA coverage by 2015. Despite compelling midwifery numbers, countries including Bangladesh, India, Kenya, Nigeria and Pakistan have SBA coverage of less than 50 percent. It is likely that issues related to workforce distribution and utilization, combined with issues related to access and quality of services may be undermining potential success. These and other countries in similar conditions must address issues related to models of care, identify barriers to access and utilization of the midwifery workforce, and analyse issues related to equity and distribution of midwifery workforce and services. They need to assess and address gaps in midwifery competencies that may undermine quality of care and consequently become a significant barrier to service utilization and scaling up effective SBA coverage.

Source: Maliqi B, Siyam A, Guarenti L, et al. Analysis of the midwifery workforce reported by SoWMy survey. Background paper for *The State of the World's Midwifery* report. Unpublished. April 2011.

COUNTRIES FACING SEVERE MIDWIFERY WORKFORCE SHORTAGE

Group 1:
Nine countries need to increase their midwifery workforce by 6 to 15 times –
Cameroon, Chad, Ethiopia, Guinea, Haiti, Niger, Sierra Leone, Somalia and Sudan.

Group 2:
Seven countries need to triple or quadruple their midwifery workforce –
Afghanistan, Congo, Lao People's Democratic Republic, Papua New Guinea, Senegal, Togo and United Republic of Tanzania.

Group 3:
Twenty-two countries need to double their midwifery workforce
Benin, Burkina Faso, Burundi, Cambodia, Central African Republic, Côte d'Ivoire, Djibouti, Gambia, Ghana, Liberia, Madagascar, Malawi, Mali, Mauritania, Morocco, Mozambique, Myanmar, Nepal, Rwanda, Uganda, Yemen and Zambia.

The term used to refer to midwives — whether they are diploma, certificate, technical or other types of midwives — is often linked to the standard or type of education that they have undertaken. Confusion is often caused by the creation of a range of names for health workers who perform some of the tasks of a midwife without the nationally prescribed educational foundation or full competency set.

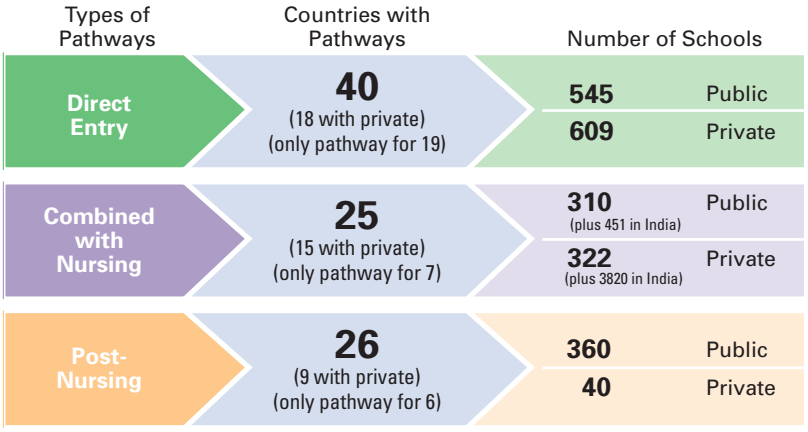
There are three ways to become a midwife in the 58 countries that were surveyed (Figure 2.5). Nearly one third of countries operate two of these pathways alongside each other and a few countries operate all three. The most available route (almost 70 percent of countries) is through a 'direct-entry' midwifery education programme. Direct-entry programmes prepare individuals to become midwives directly based on general education prerequisites. The other two major pathways involve a mix of nursing and midwifery education either by combining nursing and midwifery (43 percent) or by an additional period of midwifery education (45 percent) for those who have already graduated from a basic nursing programme (post-nursing).

Most pathways in the private sector are direct entry with small cohorts, while most of the combined pathways exist in public education systems.

There are several prerequisites for prospective students who wish to enrol into midwifery education. Minimum age requirements are commonly included, but are not explicitly stated in all the countries surveyed. In Malawi the youngest age allowed to start studying is 16. Some countries reported maximum age restrictions. Papua New Guinea restricts enrolment past age 45, as does Sudan with an age limit of 35. Age restrictions placed on entry into practice limit the available pool of potential providers, such as experienced nurses who want to study midwifery.

Consistent with international recommendations, a secondary school diploma is a basic requirement for entry into most programmes. Some countries, however, reported the existence of technical or

FIGURE 2.5 **Public and private pathways in midwifery education**



Note: Based on all 58 countries with the exception of number of schools, which includes data from 57 countries.

Source: SoWMy Survey.

community midwifery programmes aimed at applicants with less than full secondary education. However, these programmes do not meet the ICM education standards for entry criteria. Various other criteria are in force and are sometimes difficult to understand, for example height and weight requirements for trainee midwives in Indonesia.

Duration and content of midwifery education

Duration of education programmes vary widely. Countries reported midwifery education programmes ranging from 6 months to 5 years duration. Variation is evident across and within pathways and between the public and private sectors. This raises questions on the scope of the curriculum and whether this meets all or only some of the ICM standard on essential competencies.

Among the educational pathways reported in the survey there are seven direct-entry programmes[9] and seven post-nursing programmes[10] that do not meet the ICM minimum standard of three years for direct-entry and 18 months for a post-nursing programme[11]. In some instances this is due to decisions to educate students in all the essential competencies but in a condensed period that does not follow the traditional 'academic year'. In other cases it is notable that some variation of the

TABLE 2.1

VARIATION IN MIDWIFERY SCHOOL SIZE AND CAPACITY

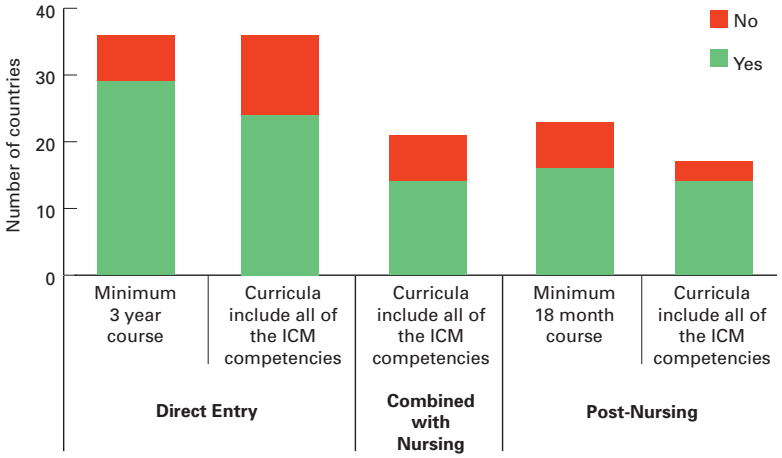
	Direct Entry	Combined with Nursing	Post-Nursing	Total
Total number of schools (including India)	1,154	4,903	401	6,458
Total number of schools (excluding India)	1,154	632	401	2,187
Number of student places available (1)	23 - 5,052	8 - 7,710 (157,573 for India)	11 - 4,500	
% capacity filled (2)	11% - 100% (3)	50% - 100% (3)	51% - 100% (3)	

Source: SoWMY Survey.
Notes: (1) Based on responses from 58 countries; (2) Based on 55 out of the 91 pathways; (3) Average of 111% across 36 pathways where complete data for capacity and stock were reported.

title 'midwife' is assigned to the graduate. Figure 2.6 shows that the proportion of countries whose curricula include all of the ICM competencies and where duration of training meets ICM's recommended minimums is far from 100 percent across the pathways.

More than one in four programmes across all three educational pathways and all funding streams do not meet ICM education standards, according to country respondents. Many countries are calling for curricula revision linked to the ICM essential competencies or the inclusion of WHO sexual and reproductive health competencies. Some country respondents refer to EmONC and Integrated Management of Childhood Illnesses (IMCI) elements rather than to standardized midwifery competencies.

FIGURE 2.6 **Number of countries where midwifery education meets the ICM standards**



Note: Data for the public sector are used where there are differences between public/private education.

Source: SoWMy Survey.

ICM states that a minimum of 40 percent of any midwifery education programme should be theory-related. Of the 43 countries that provided a response, only nine countries do not meet the criterion at all, some of these by a small margin. Seventy-seven percent of countries with direct-entry pathways meet this criterion. Several country respondents indicated that either less or more theory time was built into the programmes, dependent upon which pathway and the type of credential offered to the graduate. Similarly, countries supplied some information on the proportion of time spent in supervised practical experience. However, it is not possible to draw conclusions on whether countries meet the ICM minimum standard of 50 percent.

The situation in midwifery schools

Midwifery education is frequently publically funded and free to students. Table 2.1 shows the breakdown of the different educational pathways

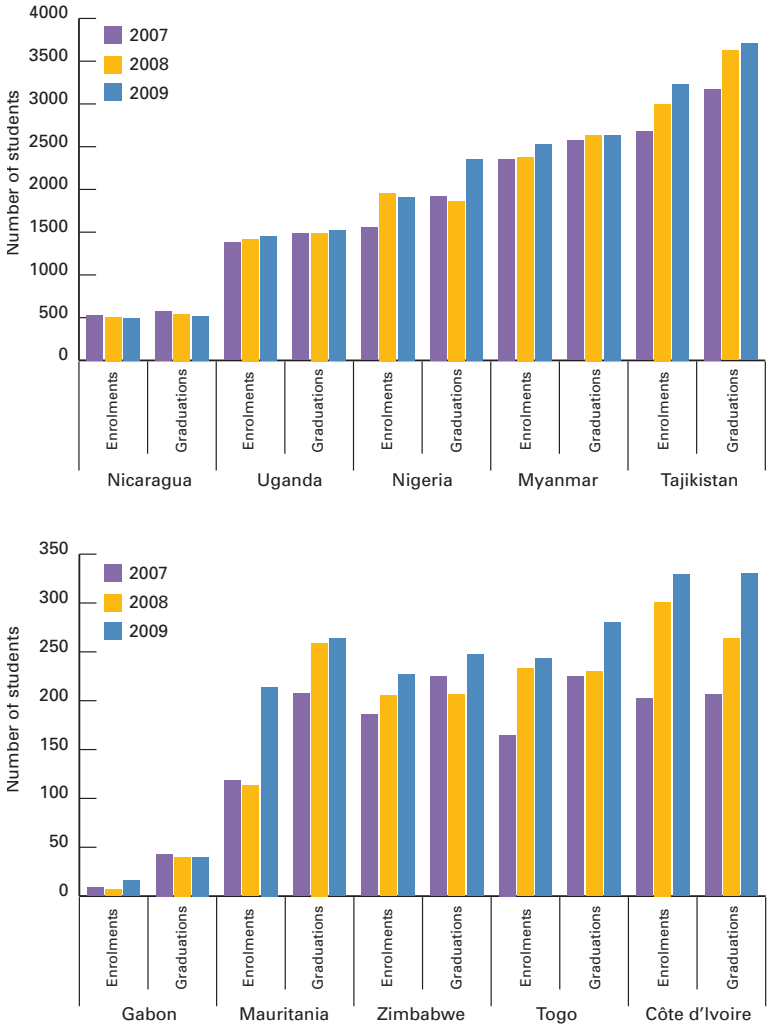
and students in the 6,458 schools of midwifery (including India, which has 4,271 schools), as reported by survey respondents.

Where data exist there is evidence to suggest that enrolments and graduations are increasing in many countries, despite exceptions where numbers of students either diminish every year (Nicaragua) or stagnate (Uganda) (Figure 2.7). This is true for countries with large enrolment programmes as well as those with fewer enrolments. Regional and sub-regional differences are also apparent. For example, graduate numbers in some of the anglophone countries of Africa are increasing faster than in some of the francophone countries. However, in many countries the production of midwives is not commensurate with the projected rises in number of births.

Respondents reported that there are an increasing number of private sector schools. However, these generally have smaller cohorts of students, thereby reducing their contribution to the absolute number of midwives graduating. While figures vary with different types of education programmes, the public sector remains the largest educator overall (excluding data for India), with approximately two thirds of all midwifery students.

Repeated statements concerning the inadequacy of care provision were included in country responses for both public and private settings, including "not enough teachers", "lack of teacher training", "numbers of qualified teachers not adequate", "no midwifery teachers" and "teaching staff insufficient". Teacher-to-student ratios range from 1:10 to 1:60. Some countries do report smaller ratios of 1:6 to 1:12 for third-year students, clinical supervision and practical sessions. However, the statements call into question whether the ratios meet the ICM education standards and the ability of teachers to sufficiently assess development and competency attainment. Theoretical instruction of midwives is doctor-led in at least six countries, conflicting with current ICM educational standards, which state that midwifery teachers should include predominantly midwives who work with experts from other disciplines as needed. The exception to this is interprofessional education — now being considered favourably — when teaching subjects that are not purely midwifery.

FIGURE 2.7 **Trends in enrolment and graduation**



Note: For selected countries with available data (grouped by <500 and >500 enrolments per year). Enrolments and graduations in the same year are not comparable.

Source: SoWMy Survey.

Outlook for new midwives

The survey shows a time lag between education supply and employment. While few countries provided precise data there is an underlying pattern of graduates being lost in the period from qualification to licensing and deployment. Post-graduation employment is dependent on

TABLE 2.2

COST OF INPUTS RELATED TO MIDWIFERY EDUCATION

Country	Duration of training	Scope of costing	Cost of each student per year (US$)
Afghanistan	2 years	All expenses including housing, food, training materials etc.	8,000-9,000
Burundi	4 years	Tuition, transportation, accommodation and living fees, registration fees, internet fees, library charges	3,250
Ethiopia	4 years	School fees (classroom learning and clinical experience in the field)	1,630
Ghana	3 years	Tuition, transportation, living fees, books, educational visits	1,502
Kenya	—	Recurrent expenditures	1,800
Malawi	3 years	Tuition, boarding facility fees	1,504
Sudan[1]	3 years	Scholarship, full board, books, and transportation fees	11,800
Tanzania	—	Recurrent expenditures	3,236
Yemen	2 years	Tuition fees	1,250

Note: [1]Data from Southern Sudan.

Source: Friedman H et al. Background paper for *The State of the World's Midwifery report*. Unpublished. April 2011.

agreements made with governments prior to enrolment, positions available, location of postings and financing. Of the 57 countries providing a response in the survey, only 60 percent propose an assigned and paid post to graduated students. Even for those who do make the transition, there can be as much as a two-year period between graduation and assignment to a midwifery post. Deterioration of essential knowledge and skills during this window is a distinct possibility. Although recruitment of individuals with a commitment to their communities is known to enhance retention, geographical requirements for graduating midwives were not addressed by any country respondent. Where conditions are placed on guaranteed postings, they are based on the type of educational pathway. For example, auxiliary midwives in Cambodia or Liberia are guaranteed postings, but those are only available in rural areas.

While the training costs to educate a midwife vary by country and by the scope of costs included (Table 2.2), the survey confirms that there are considerable opportunities within many countries to improve the linkages between education, health and labour ministries to ensure the investment in graduating midwives is realized in the workforce.

In need of strengthening: Regulation of the midwifery workforce

Protecting the designation of midwife

In 20 countries (from 50 country responses) national legislation exists that recognizes midwifery as an autonomous regulated profession with a reference to the Midwifery Act, although the definition of autonomy is sometimes unclear or inconsistent between countries. Most countries also reported that a government regulatory body already exists or is currently being developed. However, in only

three of the responding countries is the body distinct for midwifery practice; in most cases nursing and midwifery regulation are largely intertwined in the structure of their regulatory bodies.

Part of the regulatory remit is to protect the designation of midwife. When asked to provide their definition of the term 'midwife', a number of countries cited the ICM definition, or provided comparable language. Others used educational criteria and legal recognition of practice. More than 75 percent of countries indicated that protection for the title 'midwife' exists, although country responses to this question often discussed nursing and midwifery together.

In the countries where private midwifery education is available, regulations are equivalent to those for the public sector. According to 96 percent of the countries, there is a mechanism for midwives educated in other countries to obtain authorization to practise in the respondent country, either following an approval process of examination or probationary period, or based on certificates of training from their country of education.

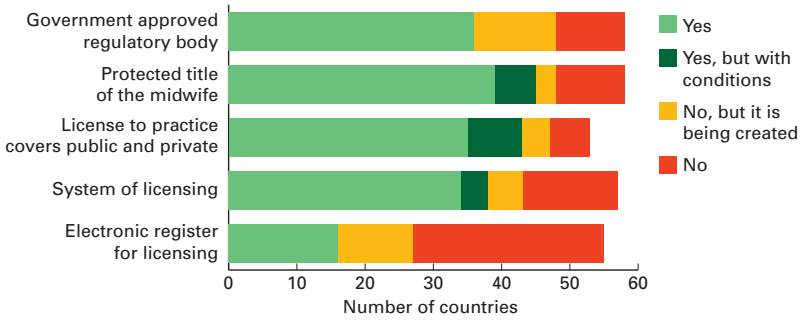
Ensuring educational quality through accreditation of education

Accreditation of midwifery education programmes by government or an authorized regulatory body is essential to ensuring educational standards are met. The majority of direct-entry, combined and post-nursing midwifery training programmes are indeed accredited by the government of the countries in which they operate (Figure 2.8). Patterns of accreditation for private midwifery education are similar to the public sector. While countries reported the existence of accreditation, the midwifery and nursing councils responsible often lack resources to meet their mandate, at times resulting in accreditation not being implemented.

Licensure, registration and the law

More than 80 percent of the countries indicated that the rules governing authorization to practise extend to both the public and the private sectors. Conditions are attached in some countries. For example, permission for private practice is often applicable only to midwives residing in remote locations. Additionally, some countries reported that 'community midwives' must serve in the public rather than the private sector.

FIGURE 2.8 **Regulation and licensing of midwives**



Note: Based on responses from 53-58 countries depending on the indicator. Electronic register for licensing is counted as 'Yes' if the register is updated at least once per year.

Source: SoWMy Survey.

The majority of countries have implemented some system for the compulsory licensing of midwifery professionals upon entry into practice. But in at least 16 countries there is no requirement for midwives to renew their licences. In the remaining countries renewal periods range from one to five years. Some countries reported relicensing by examination, but most countries did not give criteria for renewal, nor details on the potential need to retest, demonstrate clinical activity or accrue a certain number of credits in order to regain licensure.

Most countries described some form of quality assurance, including details of supervision systems, annual performance evaluations, presence of practice protocols, development of continuing education systems, clinical audits, and 'near miss' reviews. A few countries made explicit mention of standards-based management.[12]

Paper-based registration and licensure systems are common, although 16 countries reported the use of electronic databases to maintain the register, with a further 11 either planning to or currently developing this. Those that are paper-based appear to be updated less frequently than

BOX 2.2

PROFESSIONAL ASSOCIATIONS: PARTNERS IN PROGRESS

- In Uganda, the Private Midwives Association is providing support to the development of strategic plans to ensure that midwifery is appropriately represented in future plans for health service delivery.
- The Somaliland Nursing and Midwifery Association is promoting the training of more midwives, and encouraging the government to develop incentives to encourage deployment in rural areas.
- The Ethiopian Midwives Association is working with the ICM/UNFPA Country Midwifery Advisor programme to build capacity. They are working to improve the quality of midwifery education, develop an effective regulatory body and ensure midwives are represented at ministry level.

electronic databases, and in most countries there is no distinct time pattern or supporting administrative system for revising entries.

Midwives' authority to use life-saving skills and prescribe life-saving drugs

Three quarters of countries indicated that midwives are in principle allowed to practise all of the essential ICM competencies. However, it is clear that midwives in some countries are not allowed by law to implement the full scope of practice. Where midwives are ostensibly permitted to practise essential ICM competencies, these include all aspects of normal birth including assisted vaginal deliveries, as well as aspects of EmONC. However, a lack of resources or resistance by doctors sometimes places limitations on the ability of midwives to practise within their authorized scope. This can limit the realization of the full potential of midwifery.

In all but eight of the responding countries, midwives can prescribe antibiotics, anticonvulsants and uterotonic drugs.[13] However, in some cases restrictions are applied, such as midwives only being able to prescribe in emergency situations where there is no doctor available, or in remote areas. Many in the midwifery workforce also carry out other responsibilities, such as provision of family-planning services, including for example, insertion and removal of implants, treating malaria during pregnancy and prevention of mother-to-child transmission of HIV.

Support for front-line workers: Professional associations

Nearly all countries have or are developing professional associations for midwives and other health workers with midwifery competencies. Approximately half of these associations are open to midwives only.

The majority of these associations have been developed within the past few decades; well over half since 1990. Membership varies widely, from more than 3,000 in Tanzania to just 20 in Chad. More than half of the professional associations are members of ICM. Several are members of ICN and/or of both ICM and ICN.

Many respondents reported that their associations were not sufficiently resourced and lacked a voice in national policy development for maternal and newborn health services. The reported lack of opportunities for career development in midwifery is also restricting the opportunity to promote senior representation of the midwifery profession in policy development — an area of work that traditionally engages professional associations.

Frameworks for action: Policy directions

Midwifery as a profession

Plans for the development of the midwifery workforce are needed to overcome the challenges articulated by country respondents. In many settings a lack of prestige is associated with the job and midwifery is not acknowledged as a profession in its own right. The logical consequence of this is low salaries, which are widespread and often less than the salary of a general nurse. Low salaries, in turn, result in a lack of new recruits. In Liberia, for example, midwives are among the lowest paid health workers in the country and, not surprisingly, the number of midwives there has reduced significantly in recent years.

Compounding these problems is the lack of opportunity for professional career development — a demotivating factor for existing midwives. Many countries identified this as an issue. Regional approaches to career development do provide some options. For example, a post-graduate midwifery programme hosted in Burkina Faso for candidates from seven French-speaking countries. However, even in this example demand far exceeds the ten available places per year. In the absence of opportunities for career development, there is an increased likelihood that midwives will consider leaving the profession. This contributes to the low status of midwifery and leads to a lack of voice in policy development. Countries reported that almost all the influential policy-making posts in maternal and newborn health are occupied by doctors, most of whom do not have a background in midwifery or in providing routine services to pregnant women. Increasing the number of midwives prepared to assume senior policy-making positions will require investment in advocacy and leadership management training for senior midwives.

Despite these problems, there are diverse opinions about whether or not midwifery is attractive as a profession (Figure 2.9). Country respondents voiced their opinion of midwifery as a noble and important profession, while identifying that there are difficulties in attracting people into the profession. In some settings midwives find that their profession lacks opportunities for advancement to higher education.

Incentivizing the midwifery workforce

Nearly one third of the countries surveyed reported some kind of incentive scheme for midwives or health workers with midwifery competencies. Incentives mentioned include:

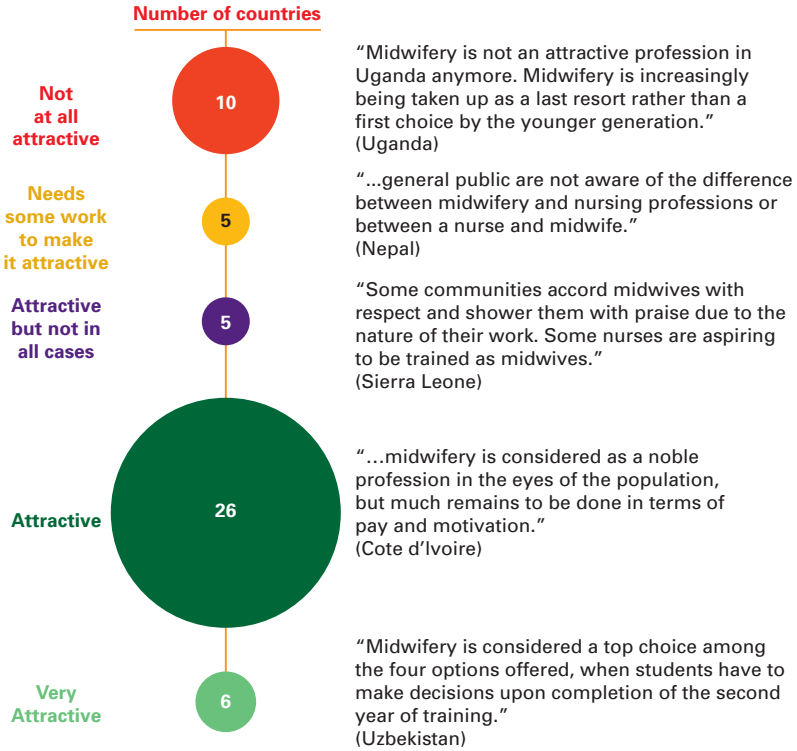
- housing and/or transportation allowance for hard-to-reach areas (Liberia, Malawi, Mozambique, Uganda);
- health insurance and free capacity building (Nigeria);
- monetary incentives (Mozambique, Uganda) for retention in rural areas;
- provision of midwifery kits (Sudan);
- performance-based incentives (Rwanda, Tanzania);
- retention schemes for nurse/midwifery tutors (Zambia).

To track the success of incentive schemes, it is important to monitor and evaluate the effectiveness of incentives where they are offered. For example, which incentives work best and for whom, and in what conditions. Various countries have initiated retention schemes, especially for work in remote areas. Monitoring and evaluation of these initiatives is urgently needed.

Free care, incentivizing service users and other financing models

Countries finance maternal and newborn health services in different ways (Figure 2.10). Forty-four countries indicated that free maternal and newborn health services are available,

FIGURE 2.9 **Attractiveness of midwifery**



Note: Based on responses from 52 countries.

Source: SoWMy Survey.

Pregnant women require access to midwifery care at all hours and in all circumstances, including in humanitarian disasters. *(William A. Ryan; Pakistan)*

sometimes in the context of all primary health care services being free of charge. Thirty-six countries mentioned a cost-recovery mechanism, fully or partially implemented. Cost recovery often relates to specific services such as medication, laboratory work, etc.

When countries referred to free maternal and newborn health services, this does not mean all these services are free, but that certain services have been selected to be free, or that maternal and newborn health services are free in parts of the country, or provided for free by NGOs. Agreements on which services are free vary widely between countries. For instance:

- in Afghanistan and Bhutan all public services are free, including maternal and newborn health services;
- Côte d'Ivoire provides free childbirth kits in rural areas, malaria prevention and the prevention of mother-to-child transmission of HIV;
- Indonesia and Lao People's Democratic Republic provide all maternal and newborn health services free to all poor people.

The number of countries explicitly indicating that they have no cost recovery, social security or insurance, conditional cash transfer or incentive schemes for institutional births is relatively high, as can be seen in Figure 2.10. Forty countries refer to various out-of-pocket payments being required to obtain services. In the majority of examples these payments relate to utilization of all health services at facility level, but 10 countries highlighted unofficial payments. While no conclusion can be drawn on the pervasiveness of unofficial payments, this demonstrates a lack of accountability at facility level. At the same time it can have an impact on how women perceive midwifery care and hinder access to services.

All of the above have implications directly related to midwifery services, often resulting in low maternal and newborn health services coverage and increased barriers to access for women, especially the poorest. On the other hand, insufficient and unregulated financing undermines the availability of supplies needed for safe childbirth and could reduce midwives' motivation and performance.

Registration of births, maternal deaths and maternal death reviews

Implementation of policies related to maternal survival, such as registration of maternal deaths and maternal death reviews, are directly linked to the work of midwives and midwifery workforce, as well as to improvements in maternal and newborn survival. Maternal death reviews are the basis for analysing what could be done differently to improve the quality of maternal care. Midwives and health workers with midwifery competencies must be able to conduct and use the results of reviews and trends in registered death rates in order to recommend improvements and changes in the scope of practice and support required, and ultimately in the midwifery model of care.

The majority of the 58 countries surveyed have compulsory maternal death notification and compulsory birth notification. These systems, however, are only fully implemented in half of the countries

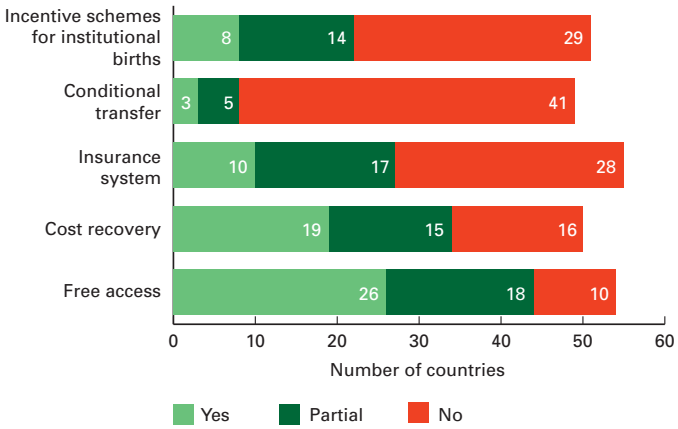
(Figure 2.11). Fully implemented audit and review policies and confidential enquiry policies are less common. In some of the countries, this is because people do not fulfil their duties and implementation is not enforced; in other countries the system has not been introduced to all parts of the country. However, the data do not show whether these audits/reviews are implemented in a way that enhances discussion on quality and accessibility, nor if the results have been used to improve access to care. It is also not possible to determine whether midwives are part of these audits and enquiries, as no questions were asked about their involvement. This is important as these audits/reviews are potentially powerful instruments for quality improvement when they are conducted collaboratively and without threat to individual assessment of performance. Moreover, properly implemented they are likely to make teams feel responsible for their own care provision, contributing to motivation and job satisfaction.

Midwifery – in need of more policy focus

In almost all of the countries surveyed, national health policies addressing maternal and newborn health or specific maternal and newborn health policies were confirmed, but a smaller number reported that plans are costed.

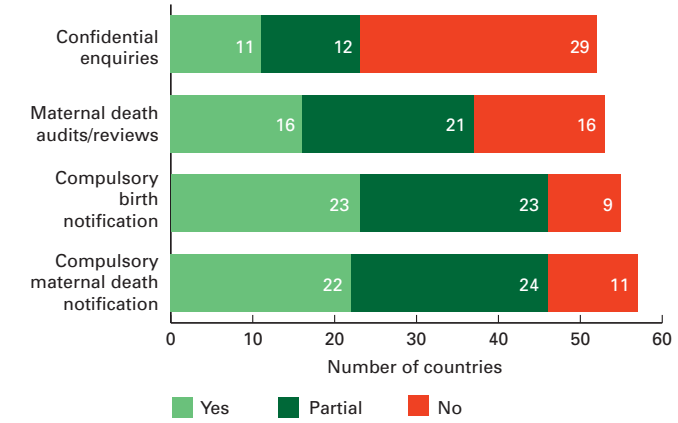
The alignment of human resource for health plans shows a similar reduction (Figure 2.12). Only 43 percent of the countries that address maternal and newborn health cadres in their overall health workforce plans have defined indicators to measure progress on implementation of the maternal and newborn health component, and only one third of the countries mentioned inclusion of indicators to measure progress on implementation of the maternal and newborn health component in their financial plan. However, it remains unclear whether policies and plans are converted into actual interventions, for instance the development of new or expansion of existing training institutions, increased uptake of students, and improved monitoring and strengthening of supervision. The lack of monitoring and evaluation on maternal and newborn health workers is partly to

FIGURE 2.10 **Access to care: Financing models**



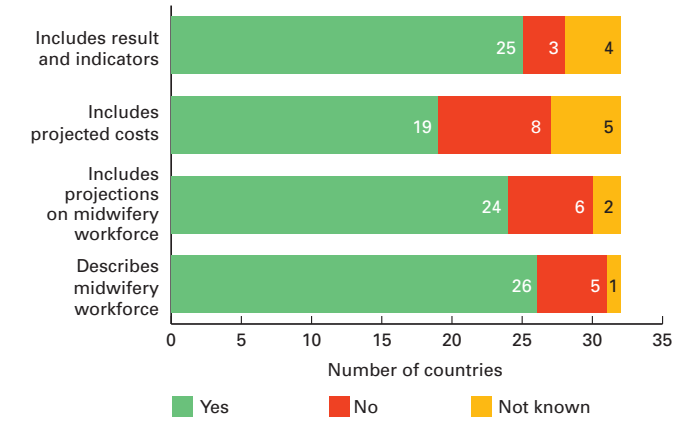
Note: Based on responses from 49-54 countries depending on the indicator.
Source: SoWMy Survey.

FIGURE 2.11 **Evidence for action: Country progress**



Note: Based on responses from 52-57 countries depending on the indicator.
Source: SoWMy Survey.

FIGURE 2.12 **Human resources for health plans**



Note: Based on responses from 32 countries with human resource for health plans that specifically address maternal and newborn health services.

Source: SoWMy Survey.

blame; tracking policy progress would galvanize action.

Summary and key messages

The analysis presented above gives an overview of the status of the profession and the many challenges and barriers that affect the midwifery workforce, its development and its effectiveness. The emerging messages, including the 'triple gap' in competencies, coverage and access, are summarized below.

The practising midwifery workforce is not readily identifiable by existing country data. While a few countries have improved their ability to monitor the number of practising health workers in the public sector, there remain glaring gaps and inconsistencies in the required systems and strategic intelligence to accurately map and efficiently monitor a midwifery workforce to provide quality interventions in response to population needs.

There are deficits in both the numbers and competencies of the midwifery workforce. The available information confirms a shortage of midwives and others with midwifery competencies to manage the estimated number of pregnancies, the subsequent number of births and the 15 percent of births that generally result in obstetric complications. In addition, many in the practising midwifery workforce have not yet mastered the full range of essential midwifery competencies.

Coverage of births by a competent workforce and quality of care are limited. The workforce deficits (both numbers and competencies) and hierarchical dynamics of intra-professional collaboration in many countries limit the capacity of the health system to efficiently staff and operate the minimum coverage of BEmONC and CEmONC facilities. This is most acute in rural and/or remote communities, precisely where the majority of women give birth. In addition, access issues from women's perspectives are often not addressed, which combined with lack of health systems functionality can seriously undermine the quality of work of midwives.

Educational pathways and capacity require strengthening. Although there are promising developments in some countries to graduate additional midwives proficient to practise all the essential competencies, optimal standards are unmet. Curricula, faculty, educational resources and supervised exposure to clinical practice need strengthening to meet recognized international guidelines.

Regulation and regulatory processes are insufficient to promote the professional autonomy of a midwife and to fulfil government obligations to protect the public. Registration of the practising midwifery workforce, their professional autonomy, current licensure and criteria for renewal require improvement to advance the quality of care in almost every country.

Professional associations are relatively new and in some instances are fragile. There is a positive trend across countries to establish and develop professional associations to represent midwives, but many are in their infancy and organizations warrant additional support and intra-professional collaboration from national, regional and international partners. Many associations are combined with associations representing nurses, which can imply that midwives' special concerns cannot be met as effectively through the association's actions.

Policy coherence and adherence is disjointed. Almost all countries have an active policy architecture addressing the supply and demand for maternal and newborn health services, but few have a coherent and integrated approach to resource and improve the capacities of the midwifery workforce and the quality of care provided. There is a clear need to align domestic and external resources for implementation of maternal and newborn health policies and plans.

MOVING FORWARD

"I found ...that wherever a city, a county, a region, or a nation had developed a system of maternal care which was firmly based on a body of trained, licensed, regulated, and respected midwives (especially when the midwives worked in close and cordial co-operation with doctors) the standard of maternal care was at its highest and maternal mortality was at its lowest. I cannot think of an exception to that rule..."

Irvine Loudon, 1992[1]

Parts 1 and 2 of *The State of the World's Midwifery 2011* present a body of knowledge to inform and accelerate the availability and quality of midwifery care for women and newborns. The diversity of responses across and within the 58 countries participating in our survey confirms that there are significant gaps in data and strategic intelligence. However, a number of strong messages have emerged from a synthesis of the available evidence. These messages need to be at the forefront of national policy dialogue and action and incorporated within global health strategies, partnerships and commitments to strengthen mutual accountability and deliver results for women's and children's health.

The focus in Part 3 is on the impact of investing in the midwifery workforce, integrated within functioning health systems and based on country-specific evidence, experience and innovation. Part 3 sets out a number of recommendations to maximize the impact of these investments.

Midwives are an investment in the health of mothers, their newborns, the community and a nation. *(Helen de Pinho; Malawi)*

Specific actions are linked to the relevant stakeholder. The recommendations and actions are consistent with World Health Assembly resolutions on strengthening nursing and midwifery and build on the available guidelines from WHO, ICM, ICN and the 'Global Call to Action' of the Symposium on Strengthening Midwifery (June 2010) described in Part 1.

Investing in results

The evidence is clear: investing in midwifery saves lives. A return on investment calculation has shown that across the 58 countries as many as 3.6 million maternal, foetal and newborn deaths per year could be averted if all women had access to the full package of reproductive, maternal and newborn care (Box 3.1). Midwives and the midwifery workforce are important in the provision of all these services.

As many as
3.6 million
maternal, foetal and newborn deaths could be saved each year.

Achieving these potential gains in lives saved demands a renewed focus on the quality of midwifery services across the continuum of care. Accelerated investments are needed both in competency-based education programmes for the existing and future midwifery workforce and in a service environment meeting recognized standards in quality of care. This requires additional emphasis in three areas: 1) workforce; 2) education, regulation and association; and 3) policy. Corresponding investments from domestic and external resources, with enhanced mechanisms for reporting and accountability (aligned with the recommendations of the Secretary-General's Commission[4]) are essential to support this emphasis. Given the country-specific sensitivities in relation to the competency gaps identified, the scale of investment will require calculation on a country-by-country basis.

The midwifery workforce

A competency-led approach

Collaborative working practices need to ensure quality midwifery services across the continuum of care, including outreach and maternity teams, are part of a functioning health system. The aim is to promote the availability of and access to competencies in urban and rural communities, engaging professional health cadres, auxiliaries and CHWs. This must optimize and harness the collective capacity of the workforce and reject solutions that rely on an 'either/or' approach. Enhanced optimization will apply (as relevant in each country) to all, or components of, the following scenarios:

- graduate additional midwives to rapidly scale up workforce supply;
- competency-led continuing education of existing midwifery personnel, including auxiliary cadres, to be proficient in the essential midwifery competencies and improve quality of care;
- interim measures to attract, retrain and deploy individuals with midwifery competencies who, for various reasons, may no longer be practising in the midwifery workforce.

The midwife-led maternity unit, as described in Part 1, is a further opportunity to connect competencies and capacity. This service model links the community and primary health care facilities with effective referral pathways, when needed. Within such a midwifery-led unit, a team of midwives can integrate the skills of CHWs and help them gain acceptance in the community. Midwives can promote uptake of and access to sexual, reproductive, maternal and newborn health services and oversee the work of auxiliary cadres with limited midwifery competencies. Most importantly, the team of midwives provides essential health care at a BEmONC facility, including managing complications and referring women and newborns to the next level of service (CEmONC), as appropriate.

Human resource management

As with every workforce, the midwifery workforce needs efficient management to bring about the best results. This includes supportive supervision, in-service training, career development opportunities, and attention to security and gender issues, especially in rural areas. It is important, however, to recognize the pervasive lack of a supportive environment to practise midwifery.

BOX 3.1

THE IMPACT OF SCALING-UP MIDWIVES: MODELED ESTIMATES OF LIVES SAVED IN 2015

Based on country data collated through the SoWMy Survey, staff from Johns Hopkins Bloomberg School of Public Health undertook a computer-modeled analysis to estimate the potential impact of scaling up the number of midwives in the 58 countries. The analysis was conducted using the "Lives Saved Tool" (LiST) methodology.

The model was projected to 2015 to relate to the attainment of the Millennium Development Goals. Two main assumptions were made to estimate the impact of midwives on lives saved. First, the number of practising midwives who regularly attend births can be estimated through the reported BEMoNC coverage, as staffing levels are implicit in the availability and provision of specific midwifery services (signal functions). Second, interventions covered in LiST, and their impact, can be matched and aligned with the International Confederation of Midwives (ICM) essential competencies for midwifery, that include all aspects of reproductive health care to women, including pre-pregnancy, antenatal, post-partum and essential newborn care.

Using the LiST methodology, the potential impact of scaling up the number and competencies of midwives has been estimated as follows:

Doubling the estimated current number of midwives providing obstetric care and all aspects of reproductive health care in the 58 countries highlighted in this report would, on average, allow a reduction of 21 percent of maternal, foetal (late stillbirths) and newborn deaths, combined. To be more precise, it would avert 20 percent of maternal deaths, 18 percent of stillbirths and 23 percent of newborn deaths. These estimates assume that all midwives are fully competent and empowered to provide the above services.

Similarly, if all women delivered with a midwife in a fully functioning BEmONC facility, in addition to all other aspects of reproductive care that midwives deliver, one could expect a reduction of 56% of maternal, foetal and newborn deaths. This total estimate includes reductions of 61% of maternal deaths, 49% of foetal deaths, and 60% of newborn deaths, which equates to as many as 3.6 million lives saved in 2015.

These estimates assume that each life saving intervention will be delivered at levels of quality sufficient to produce effects on mortality, that the distribution of midwives would be equitable across any country, and that women will access this care – three assumptions addressing the 'triple gap' of competencies, coverage and access. The diversity in quality and availability of midwifery care across and within countries will undoubtedly affect the achievement of these potential gains in lives saved.

Further details are available in Annex 4. A technical paper, expanding on this summary and with a full description of the methodology will be available in late 2011.

Source: Bartlett L, Sikder S, Friberg I et al. The impact of scaling up midwifery on maternal, foetal (late stillbirths) and newborn lives. Background paper for *The State of the World's Midwifery 2011*. Unpublished. April 2011.

These issues require proactive human resource management to attract and retain staff and to manage their exits. Many management issues in midwifery are generic and similar to other cadres. However, particularly important are:

- preventing isolation by encouraging and facilitating teamwork;
- ensuring career opportunities, including teaching and tutoring positions;
- addressing gender issues and providing workplace safety and security;
- providing financial and non-financial incentives;
- supporting stress- and workload management;
- providing supportive supervision, including in rural areas; and
- developing retention or rotation schemes, especially in rural areas.

Strategic intelligence

All policy makers recognize the value of strategic intelligence to inform actions. Most important is the ability to understand who is practising in the midwifery workforce, especially those attending births, and the quality of care they provide. Competency and coverage assessments that review contributions to results and outcomes are vital parts of this intelligence.

Administrative records and payroll systems in most countries generally provide an overview of the total number of midwifery workers engaged in the public sector, with some disaggregation by title, age, gender and location. However, effective management of the midwifery workforce is not achievable with these limited data. A comprehensive understanding requires the consolidation of data from education pipelines, state and non-state sectors, regulatory bodies and professional associations, among others. Titles, roles and categorization of the midwifery workforce, coded to international standard classification of occupations, must relate to education, licensing and scope of practice. Entry and exits from education and employment must be routinely captured and reported. It is important to verify that the allocation and occupation of a post reflects the individual's role, availability and competencies to practise midwifery services.

Strategic Intelligence

on the practising midwifery workforce, especially those attending births, and the quality of intrapartum care, is vital to reduce mortality and morbidity.

The quality of midwifery care must be improved, and measures of quality can be captured through collaborative and interdisciplinary engagement in maternal death audits, confidential enquiry, and the collection and analysis of facility-level indicators sensitive to intrapartum outcomes and near-miss incidents. Such 'evidence to action' mechanisms generate much needed insight and intelligence to inform and improve the quality of care and services and increase the survival rates of women and their newborns.

Education, regulation and association

Within the triad of education, regulation and association, developing and maintaining competencies of the midwifery workforce is key to quality of care and health system outputs.

Midwifery education – developing and maintaining competencies

Pre-service education that includes a large component of hands-on, supervised practical training is required. ICM's Essential Competencies for Midwifery and Global Standards for Education enable countries to review curricula and ensure graduates acquire proficiency in all competencies.

Increased capacity and better distribution of professional midwifery programmes throughout the country can generate higher retention rates. Students who are sourced locally and education programmes that take local language and culture into account help graduates tailor their services to community needs and characteristics and can increase retention rates in remote and rural areas.

At least 50 percent of midwifery education should be practise-based, and provide experience in clinical and community settings, in direct contact with women and other members of the maternal health team. In support of practical training, students require access to skills labs with appropriate anatomic models and equipment. It is equally important to increase both the quantity and quality of faculty by strengthening the organizational capacity of training institutes. Midwifery educators need improved capacity to develop and maintain curriculum, facilitate and assess student learning, and manage precious educational resources. Career opportunities in education could be thoughtfully promoted so as not to detract from the already limited midwifery workforce.

A national health professional education system that facilitates collaboration in the education of midwives, nurses, doctors and other health care professionals can form the basis for teamwork in the future maternal health team and across referral levels.

Education quality evaluation and assurance is done through accreditation of schools and centralized curricula by education boards or regulatory bodies, thus promoting and rewarding adherence to standards. Additionally, accreditation allows for the recognition of the professional autonomy of midwives through licensing or registration and ensures competency maintenance through continuing education. Validation of midwifery competency through registration or licensing ensures that midwives are authorized to prescribe and deliver life-saving interventions.

In countries with very high maternal and newborn mortality, interim strategies to increase the production of midwives who meet international competencies include:

- increasing the number and size of existing post-basic nursing programmes;
- developing post-basic programmes for other health care providers who already possess some midwifery competencies or have a strong foundation for their development; and
- designing distance learning models that allow for increased dispersion of midwifery students within the community.

Regulation – protecting public and professionals

Regulation can make the difference between an existing workforce and a proficient and effective workforce. It remains core to ensuring quality care and reducing maternal and newborn mortality. Regulating the midwifery profession involves licensing and relicensing on the basis of maintaining competencies and providing quality of care in the respect of patients' rights. The regulatory processes must address midwifery as an autonomous profession, including setting specific codes of conduct, licensure criteria, continuing education requirements consistent with international midwifery competencies, and ensuring that midwives are primarily responsible for handling complaints and disciplining registered/licensed midwives.

Midwifery is often regulated under a dual nursing and midwifery council. This practice, that can be essential for governments with limited resources, must ensure that education, registration and authorization to practice are consistent with international midwifery competencies and standards. This includes ensuring that midwives are authorized to perform BEmONC interventions and have the level of autonomy needed to perform life-saving interventions and prescribe life-saving drugs. Regulation procedures for midwifery practice can benefit from an independent process within the dual councils or in a separate midwifery council to develop a body of knowledge and legislature specific to its autonomous nature.

Administrative and information systems need to be strengthened to generate live registers of the practising workforce, which will inform workforce management policies, support regulatory processes and relicensing, and generate the strategic intelligence required to effectively steward the health system.

Professional associations — giving midwives a voice

Professional associations are the voice of the midwifery workforce. Integrated into the national health care landscape, they work in collaboration with government and other professions to contribute to the policy dialogue on maternal and newborn health. This enriches the policy dialogue with specific insights and buy-in from the profession, and also strengthens implementation processes.

Associations have a responsibility to promulgate the agreed health system policies that affect their profession and stimulate their implementation. Strengths of an association include the negotiation and endorsement of (increased) access to higher and continuing education, development of career opportunities and the improvement of working conditions and terms of service.

Many associations in low-income countries are subject to financial constraints that impact their

administrative mechanisms and representative responsibilities in national, regional and international forums. Though fundraising capacity is often limited, external financial support and twinning mechanisms have proven effective in assisting association development. In order to take best advantage of a professional association, financial and in-kind support should be provided at the national level so the association's expertise can benefit the national, regional and global maternal and newborn health dialogue.

In some countries, midwives and nurses are represented in united associations. This may benefit both professions through increased voice and shared cost. In these cases, it is strongly recommended that midwives share association leadership and that professional midwifery issues, when necessary and appropriate, are addressed separately from those of professional nursing.

Policy coherence

Midwifery is not a vertical intervention but a service that should be integrated into all levels of the health system. To achieve this, a review of national health plans, human resources for health strategies, and maternal and newborn health plans is required to improve coherence. Once aligned, plans and strategies must be costed to facilitate decisions on resource allocation (domestic and external), fully implemented, and monitored and evaluated.

Bold action can realize the right of every woman to the best possible health care before and during pregnancy, at birth and immediately after. *(Mandy La Fleur, UNFPA; Guyana)*

These revised national policies and plans can be implemented through interim strategies that will rapidly address the triple gap of competencies, coverage and access. However, long-term strategies, such as investing in three-year midwifery education, establishing midwife-led maternity units, and investing in BEmONC, are the ultimate goal. Though long-term strategies may initially cost more and postpone outputs, economic analyses show their advantages and their stronger return on investment.

Essential actions

In the foreword to this report the United Nations Secretary-General has called for "bold steps" to ensure that "every woman and her newborn have access to quality midwifery services". Box 3.2 draws together all of the report's recommendations and outlines the essential actions by stakeholder group.

Conclusion

While each country is different, with specific conditions that need to be individually addressed, common features of the 58 countries included in *The State of the World's Midwifery 2011* are the persistence of high maternal and newborn mortality and the lack of access to quality midwifery services. These are often exacerbated by population growth, unmet need for family planning, low education levels of girls in particular and of women, weak economic conditions, and a small proportion of births being attended by a health worker with the competencies, autonomy and authority to save lives.

In recent years, many reports, conferences and resolutions have been attracting the attention of policy makers to the importance of investing in human resources for health. However, until now, none has specifically addressed the role of midwives and others with midwifery competencies, nor highlighted the impact this cadre of

BOLD STEPS

BOX 3.2

The State of the World's Midwifery 2011, in support of the Global Strategy for Women's and Children's Health, calls on all partners to maximize the impact of investments, improve mutual accountability and strengthen midwifery services.

By goverments

- Recognize midwifery as a distinct profession, core to the provision of maternal and newborn health (MNH) services.
- Promote midwifery as a career with appropriate terms of service.
- Enable national regulatory bodies to follow the ICM Essential Competencies and market midwifery education programmes.
- Include midwifery and midwives in costed MNH plans, and align human resources for health plans.
- Increase the availability and distribution of EmONC facilities and invest in midwife-led units, referral and communication.
- Assure management competencies, tools and procedures for appropriate human resource management.
- Invest in active data collection and monitoring of the practising midwifery/MNH workforce.
- Create senior midwifery positions at national policy level and engage midwives in relevant policy decisions, programme planning, implementation, and monitoring and evaluation.

By regulatory bodies

- Protect the professional title 'midwife'.
- Establish criteria for entry into the profession.
- Establish educational standards and practice competencies.
- Accredit schools and education curricula in both public and private education systems.
- Establish a scope of practice for midwives.
- License and relicense midwives.
- Maintain codes of ethic/conduct.
- Enact processes for removing incompetent midwives from the workforce.

By schools and training institutions

- Review curricula to ensure that graduates are proficient in all essential competencies set by government and the regulatory body.
- Use the ICM and other education standards to improve quality and capacity.
- Ensure the theory-practice balance and install skills labs.
- Recruit teachers, trainers and tutors
- Improve and maintain competencies in midwifery and transformative education.
- Partner with maternity units in communities and hospitals for practical training.
- Promote research and academic activities.
- Support development of midwifery leadership.

By professional associations

- Raise midwives' profile and status.
- Advocate and lobby for better working conditions.
- Promote standards for in-service training and knowledge updates.
- Ensure respect of patients' rights in service delivery.
- Develop the voice and contributions of the midwifery workforce in the national policy arena.
- Collaborate with other health care professional associations to strengthen input into health plans and policy development.
- Identify champions and work with women and communities.
- Establish solid governance, strengthen administrative capacity and improve financial management.
- Liaise with regional and international federations.

By international organizations, global partnerships , donor agencies, and civil society

- Support programmes at local, regional and international levels to scale up midwifery services, enabling country commitments to the Global Strategy.
- Monitor and measure quality and results, promoting strategic intelligence and mutual accountability.
- Advocate for and support stronger midwifery services in respect of patient's rights.
- Urge ministries to establish costed strategies and plans for a fully functional MNH workforce and to implement them.
- Promote the recognition of midwifery.
- Provide financial and in-kind support to build capacity of midwifery associations.
- Encourage international forums and facilitate exchanges of knowledge, good practices and innovation.
- Encourage the establishment of a global agenda for midwifery research (for the MDGs and beyond) and support its implementation at country level.

health workers has on the survival and health of mothers and newborns. Developing quality midwifery services should be an essential component of all strategies aimed at improving maternal and newborn health.

In light of this report, it is hoped that policy makers will review the role of midwives in their respective countries and modify their policies and strategies, invest as required in a stronger midwifery workforce that is enabled to perform, monitor that performance and its results, and make rapid progress in the quality of reproductive, maternal and newborn health care. Alongside these actions, greater attention must be given to creating and collating new evidence to inform country actions and provide an evolving body of knowledge. While limited by available data, the number of countries included and the pressure of time, the first edition of *The State of the World's Midwifery* provides a foundation for future editions to refer to, measure progress and improve upon.

We urge national and subnational governments, communities, civil society and development partners to take stock and respond by implementing the above actions. When implemented, we believe the resulting enhancements in family planning, antenatal, intrapartum, postnatal and HIV-related care will improve population health outcomes and stimulate wider socio-economic development. 'Delivering health, saving lives' is our collective responsibility.

COUNTRY PROFILES

The State of the World's Midwifery 2011 provides data and indicators that show gaps, progress and challenges related to maternal and newborn health and the midwifery workforce in the 58 countries included in this report. The indicators provide an overview of the national data available through internationally agreed databases, including progress towards attaining the Millennium Development Goals. These profiles also feature, for the first time, data on midwifery at country level as reported through the SoWMy Survey. While all efforts have been made to verify reported data against multiple sources, some data for the indicators should be viewed as the best available estimates, which may be subject to change.

Afghanistan

Afghanistan's health status is among the poorest in the world. Maternal mortality continues to be among the highest. Cultural and geographic factors continue to pose barriers for women to access health services. A National Reproductive Health Commodity Security Action Plan is now in place, and a National Human Resource Development Plan for Reproductive Health with a focus on the Safe Motherhood Initiative for 2008-2020 has been launched. A major pre-service midwifery education initiative has been launched by the Ministry of Public Health to train and graduate new midwives. This includes strengthening existing programmes for the placement of graduates in provincial, regional and national hospitals, and establishing Community Midwifery Education programmes for community-based providers. Substantial increases in the number of practising midwives across urban and rural areas, coupled with increases in skilled attendance at birth, attest to the success of these programmes. A new Demographic and Health Survey is due to report in 2011.

COUNTRY INDICATORS*

Total population (000); % urban	29,117; 23
Adolescent population (15-19 yrs) (000); % of total	3,208; 11
Number of women of reproductive age (age 15-49) (000); % of total	6,380; 22
Total fertility rate (children per woman)	6.6
Crude birth rate (per 1,000 population)	47
Births per year (000)	1,250
% of all births registered	6
Number of maternal deaths	18,000
Neonatal mortality rate (per 1,000 live births)	53
Stillbirth rate (per 1,000 births)	29
Number of pregnant women tested for HIV	–
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.7
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	3,983
Gross secondary school enrolment (male; female) %	41; 15
Literacy rate (age 15 and over) (male; female) %	–; –

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	1,400
Proportion of births attended by skilled health personnel (%)	14
Contraceptive prevalence rate (modern methods) (%)	19
Adolescent birth rate (births per 1,000 women age 15-19)	151
Antenatal care coverage (at least one visit; at least four visits) (%)	16; –
Unmet need for family planning (%)	–
Under-5 mortality rate (per 1,000 live births)	201

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	2,331
Other health professionals with some midwifery competencies[3]	254
General practitioners with some midwifery competencies	–
Obstetricians	*Unavailable*
Community health workers with some midwifery training	*Unavailable*
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	39; 5
Duration of midwifery education programmes (in months)	24
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**2**
Birth complications per day; rural	**478**; 320
Lifetime risk of maternal death	**1 in 11**
Intrapartum stillbirth rate (per 1,000 births)	**17**
Neonatal mortality as % of under-5 mortality	**27**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	1,600
Association(s) affiliated with ICM; ICN	Yes; No

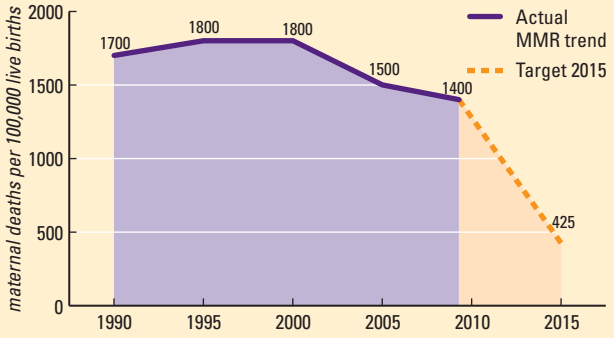
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	–
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Partial

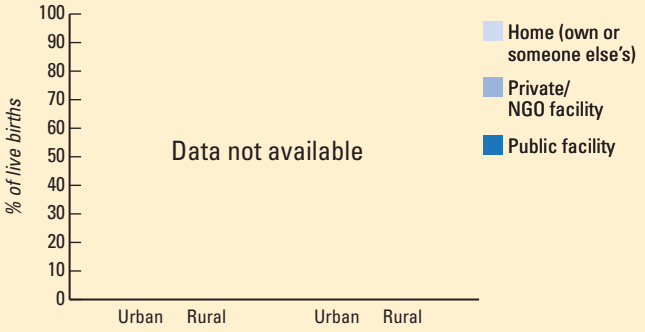
SERVICES

Number of facilities providing essential childbirth care	–
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	1,152
Number of Comprehensive EmONC facilities	90
Facilities per 1,000 births	–

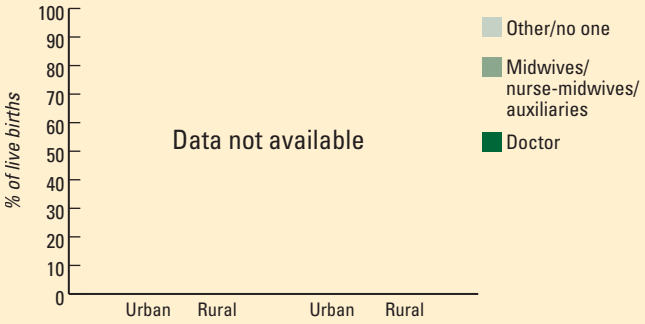
Trends in maternal mortality: 1990–2015



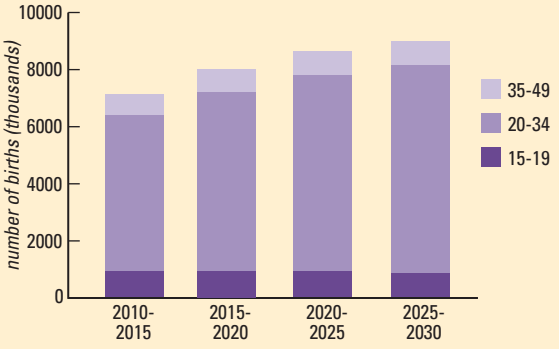
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Bangladesh

The largest and most densely populated of the least developed countries, one third of the Bangladesh population is below age 15. The increase in female education and the deployment of family planning services have brought advances in women's health. Maternal mortality has been reduced by 61 percent since 1990. Cultural and socio-economic factors remain barriers to births in facilities, compounded by quality of care, particularly in rural areas. The Poverty Reduction Strategy Paper and the Health, Nutrition and Population Sector Program have set MDGs 5 and 4 as priorities. The government has committed to increase the proportion of institutional deliveries to 50 percent and to graduate an additional 3,000 midwives, for which the Minister of Health has recently approved a three-year direct-entry education programme. This will include particular focus on candidates from rural areas.

COUNTRY INDICATORS*

Total population (000); % urban	164,425; 28
Adolescent population (15-19 yrs) (000); % of total	16,733; 10
Number of women of reproductive age (age 15-49) (000); % of total	45,388; 28
Total fertility rate (children per woman)	2.3
Crude birth rate (per 1,000 population)	21
Births per year (000)	3,428
% of all births registered	10
Number of maternal deaths	12,000
Neonatal mortality rate (per 1,000 live births)	30
Stillbirth rate (per 1,000 births)	37
Number of pregnant women tested for HIV	91
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	0.6
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	9,360
Gross secondary school enrolment (male; female) %	43; 45
Literacy rate (age 15 and over) (male; female) %	60; 50

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	340
Proportion of births attended by skilled health personnel (%)	18
Contraceptive prevalence rate (modern methods) (%)	56
Adolescent birth rate (births per 1,000 women age 15-19)	133
Antenatal care coverage (at least one visit; at least four visits) (%)	51; 21
Unmet need for family planning (%)	17
Under-5 mortality rate (per 1,000 live births)	55

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	26,899
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	*Unavailable*
Obstetricians	1,250
Community health workers with some midwifery training	6,167
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; Yes; Yes
Number of midwifery education institutions (total); number of private	74; 24
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	7710
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	No
A licence is required to practise midwifery	No
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**8**
Birth complications per day; rural	**1,415**; 1,005
Lifetime risk of maternal death	**1 in 110**
Intrapartum stillbirth rate (per 1,000 births)	**21**
Neonatal mortality as % of under-5 mortality	**57**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	84
Association(s) affiliated with ICM; ICN	No; No

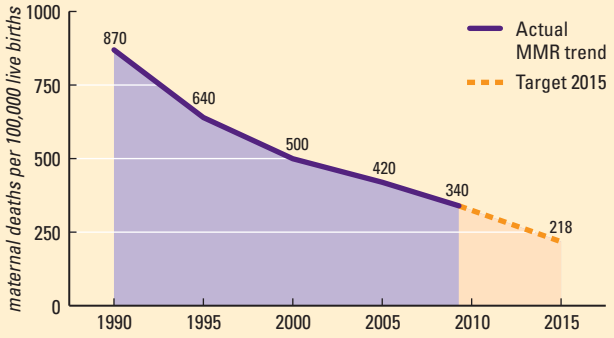
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	–
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

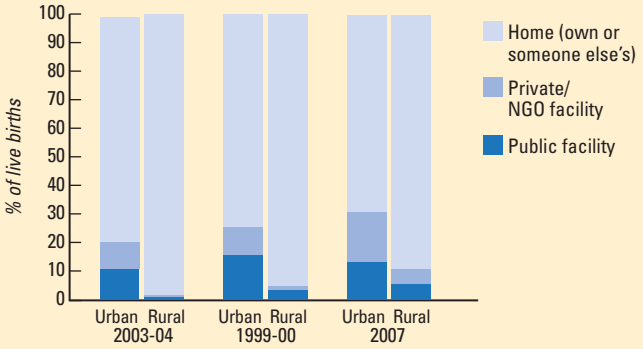
SERVICES

Number of facilities providing essential childbirth care	4,276
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	419
Number of Comprehensive EmONC facilities	132
Facilities per 1,000 births	1

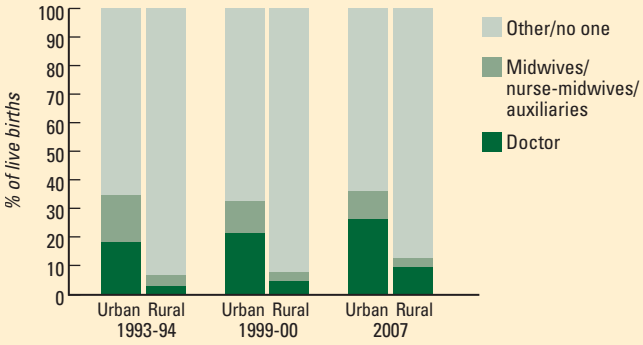
Trends in maternal mortality: 1990–2015



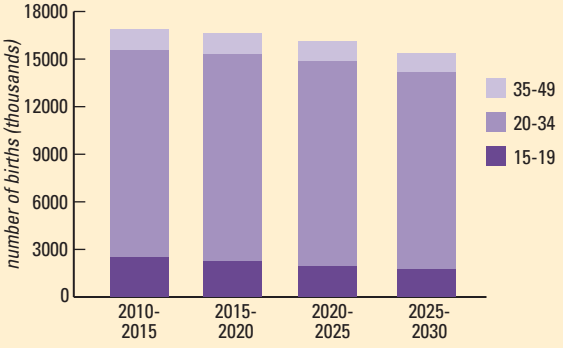
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Benin

With an increasing population size, Benin registers high fertility and adolescent birth rates. Policies to encourage girls' education are in place. Maternal mortality has been reduced by 50 percent since 1990, but standards and coverage of reproductive health services remain low. The Government has launched the National Strategy for Reducing Maternal and Neonatal Mortality (2006-2015), which addresses human resources. A policy of free maternal health services is in place (including caesarean sections), and the capacity of midwives and maternity nurses to deliver a package of sexual and reproductive health interventions (including clean and safe delivery, family planning and post-abortion care) has been strengthened. A three-year, direct-entry midwifery programme has recently been re-activated. Initiatives are currently underway to improve the quality of education and professional standards. They include the revision of the curriculum according to the essential ICM competencies, hence contributing to addressing the quality and availability of the midwifery workforce.

COUNTRY INDICATORS*

Total population (000); % urban	9,212; 42
Adolescent population (15-19 yrs) (000); % of total	974; 11
Number of women of reproductive age (age 15-49) (000); % of total	2,119; 23
Total fertility rate (children per woman)	5.4
Crude birth rate (per 1,000 population)	39
Births per year (000)	338
% of all births registered	60
Number of maternal deaths	1,400
Neonatal mortality rate (per 1,000 live births)	32
Stillbirth rate (per 1,000 births)	24
Number of pregnant women tested for HIV	171,532
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	0.8
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	390
Gross secondary school enrolment (male; female) %	46; 26
Literacy rate (age 15 and over) (male; female) %	54; 28

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	410
Proportion of births attended by skilled health personnel (%)	74
Contraceptive prevalence rate (modern methods) (%)	17
Adolescent birth rate (births per 1,000 women age 15-19)	114
Antenatal care coverage (at least one visit; at least four visits) (%)	84; 61
Unmet need for family planning (%)	30
Under-5 mortality rate (per 1,000 live births)	121

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	1,288
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	*Unavailable*
Obstetricians	50
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	1; 0
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	40
Number of graduates (2009)	113
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**4**
Birth complications per day; rural	**161**; 90
Lifetime risk of maternal death	**1 in 43**
Intrapartum stillbirth rate (per 1,000 births)	**11**
Neonatal mortality as % of under-5 mortality	**27**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	43
Association(s) affiliated with ICM; ICN	Yes; No

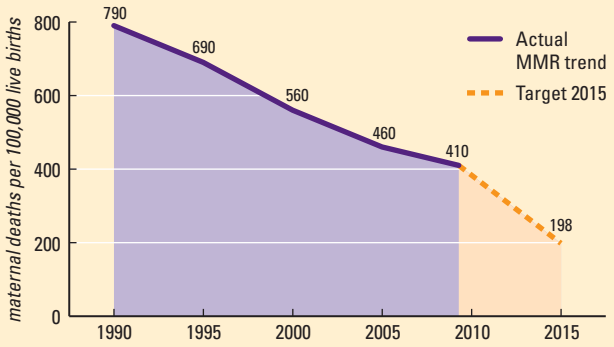
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Partial

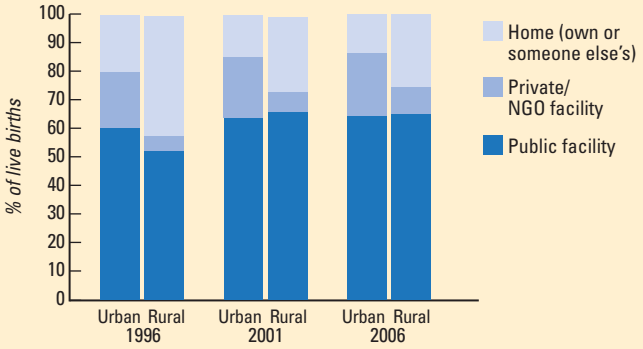
SERVICES

Number of facilities providing essential childbirth care	444
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	7
Number of Comprehensive EmONC facilities	22
Facilities per 1,000 births	1

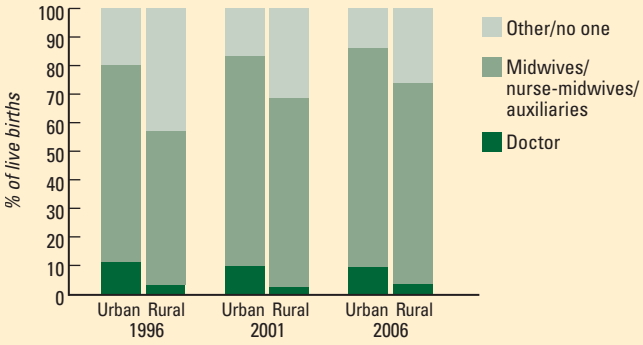
Trends in maternal mortality: 1990–2015



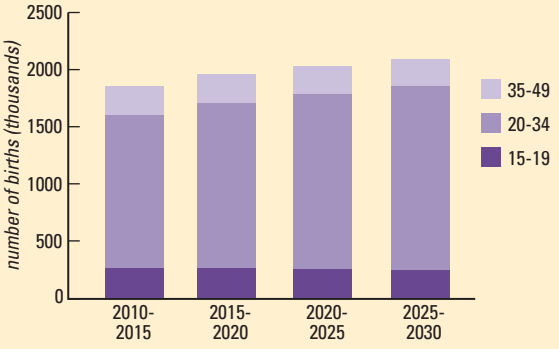
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Bhutan

Bhutan has made progress in the past decades to develop its health sector. Reductions in population growth and improved HIV prevention have contributed to improving health status. Maternal mortality has been significantly reduced. A policy is in place to provide free maternal healthcare and a human resources for health master plan has been developed. Midwives receive free education under a nationally accredited scheme, and are offered employment upon graduation. The curriculum has been updated recently. Despite an increase in midwifery enrolment there is only one modern educational institution in the country. Lack of specialist care (anaesthetists and obstetricians) to manage complications affects the efficiency of the available services. Nurses are being trained to provide anaesthesia and 'task shifting' is promoted to give educated midwives the capacity and autonomy to manage emergencies rather than resorting to non-specialist doctors.

COUNTRY INDICATORS*

Total population (000); % urban	708; 35
Adolescent population (15-19 yrs) (000); % of total	78; 11
Number of women of reproductive age (age 15-49) (000); % of total	184; 26
Total fertility rate (children per woman)	2.6
Crude birth rate (per 1,000 population)	21
Births per year (000)	15
% of all births registered	–
Number of maternal deaths	30
Neonatal mortality rate (per 1,000 live births)	34
Stillbirth rate (per 1,000 births)	24
Number of pregnant women tested for HIV	–
Midwives are authorized to administer a core set of life-saving interventions	–
Density of midwives, nurses and doctors per 1,000 population	0.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	22
Gross secondary school enrolment (male; female) %	62; 61
Literacy rate (age 15 and over) (male; female) %	65; 39

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	200
Proportion of births attended by skilled health personnel (%)	71
Contraceptive prevalence rate (modern methods) (%)	31
Adolescent birth rate (births per 1,000 women age 15-19)	46
Antenatal care coverage (at least one visit; at least four visits) (%)	88; –
Unmet need for family planning (%)	–
Under-5 mortality rate (per 1,000 live births)	81

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	212
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	3
Obstetricians	–
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; Yes
Number of midwifery education institutions (total); number of private	3; 0
Duration of midwifery education programmes (in months)	9
Number of student admissions (first year)	–
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	400
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER	
Midwives per 1,000 live births	15
Birth complications per day; rural	7; 5
Lifetime risk of maternal death	1 in 170
Intrapartum stillbirth rate (per 1,000 births)	14
Neonatal mortality as % of under-5 mortality	43

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	–; –

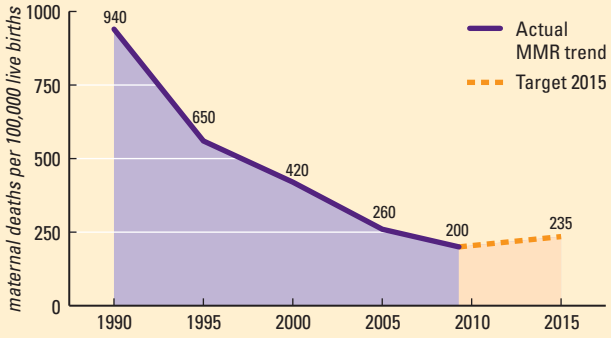
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

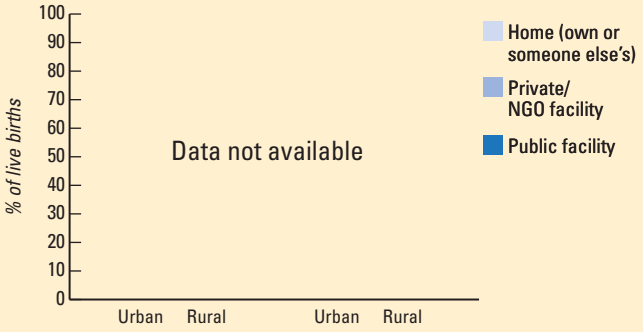
SERVICES

Number of facilities providing essential childbirth care	218
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	35
Number of Comprehensive EmONC facilities	7
Facilities per 1,000 births	15

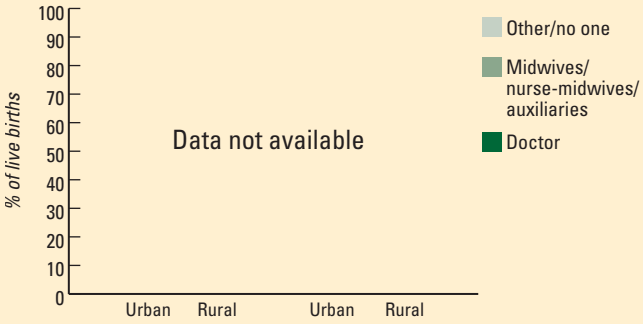
Trends in maternal mortality: 1990–2015



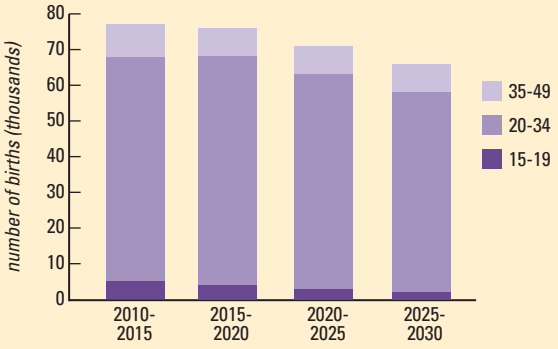
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Bolivia (Plurinational State of)

One of the poorest countries in South America, Bolivia is experiencing heavy rural to urban migration, and indigenous and rural women are less likely to access health services. Free health care is offered to pregnant women and children under the age of five. A 2008 conditional cash transfer programme aims at increasing antenatal care and reducing malnutrition. There is a shortage of qualified human resources for maternal health, particularly in rural areas and among indigenous populations. A new initiative to develop capacity and graduate a new cadre of obstetric nurses was implemented in 2008 in three universities. New faculty have been trained, student enrolment from rural areas encouraged, and a first intake of students commenced in 2010. Official recognition and the incorporation of the new cadre of obstetric nurses into the national health system is the key next step. Continuing education and adequate supply of commodities and equipment will be essential to allow midwives to operate in an enabling environment.

COUNTRY INDICATORS*

Total population (000); % urban	10,031; 67
Adolescent population (15-19 yrs) (000); % of total	1,077; 11
Number of women of reproductive age (age 15-49) (000); % of total	2,529; 25
Total fertility rate (children per woman)	3.5
Crude birth rate (per 1,000 population)	27
Births per year (000)	263
% of all births registered	74
Number of maternal deaths	470
Neonatal mortality rate (per 1,000 live births)	22
Stillbirth rate (per 1,000 births)	16
Number of pregnant women tested for HIV	73,369
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	3.4
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	256
Gross secondary school enrolment (male; female) %	83; 81
Literacy rate (age 15 and over) (male; female) %	96; 86

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	180
Proportion of births attended by skilled health personnel (%)	66
Contraceptive prevalence rate (modern methods) (%)	61
Adolescent birth rate (births per 1,000 women age 15-19)	89
Antenatal care coverage (at least one visit; at least four visits) (%)	77; 58
Unmet need for family planning (%)	20
Under-5 mortality rate (per 1,000 live births)	54

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	2,995
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	7,172
Obstetricians	1270
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; Yes; No
Number of midwifery education institutions (total); number of private	3; 0
Duration of midwifery education programmes (in months)	60
Number of student admissions (first year)	–
Student admissions per total available student places (%)	56
Number of students enrolled in all years (2009)	250
Number of graduates (2009)	–
Midwifery education programmes are accredited	No

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**11**
Birth complications per day; rural	**115**; 38
Lifetime risk of maternal death	**1 in 150**
Intrapartum stillbirth rate (per 1,000 births)	**4**
Neonatal mortality as % of under-5 mortality	**43**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	No; Yes

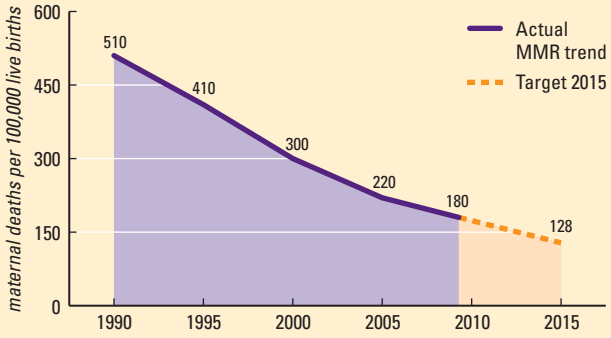
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

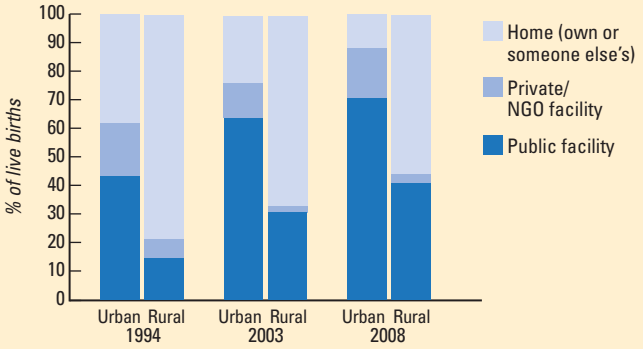
SERVICES

Number of facilities providing essential childbirth care	2,440
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	900
Number of Comprehensive EmONC facilities	100
Facilities per 1,000 births	9

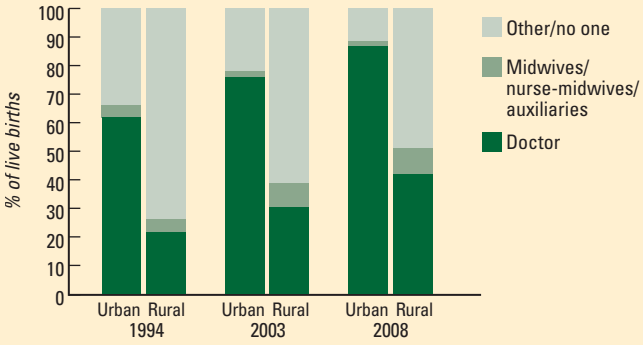
Trends in maternal mortality: 1990–2015



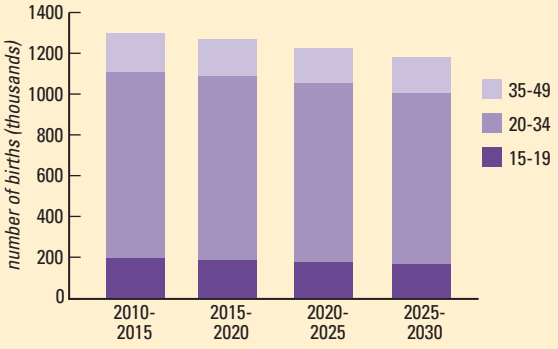
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Botswana

HIV is associated with almost 80 percent of maternal deaths and a decreased life expectancy at birth, and it remains the dominant development challenge for Botswana. Maternal mortality remains high. The government has developed a comprehensive national sexual and reproductive health plan. Maternal health and family planning services are free of charge. A well-functioning prevention of mother-to-child transmission programme is in place. Most health facilities have staff shortages, both in numbers and competencies. The midwifery profession faces attrition. Quality of midwifery education is constrained by the lack of experienced clinical faculty, and poor infrastructure and educational systems. A review of the programme is needed. Registered midwives hold a protected title, and an electronic database to register licensed midwives is being created. Pre-service education and strengthening the statistical capacity are areas for further development.

COUNTRY INDICATORS*

Total population (000); % urban	1,978; 61
Adolescent population (15-19 yrs) (000); % of total	217; 11
Number of women of reproductive age (age 15-49) (000); % of total	528; 27
Total fertility rate (children per woman)	2.9
Crude birth rate (per 1,000 population)	25
Births per year (000)	47
% of all births registered	58
Number of maternal deaths	91
Neonatal mortality rate (per 1,000 live births)	22
Stillbirth rate (per 1,000 births)	16
Number of pregnant women tested for HIV	44,386
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	3.2
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	–
Gross secondary school enrolment (male; female) %	78; 82
Literacy rate (age 15 and over) (male; female) %	83; 84

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	190
Proportion of births attended by skilled health personnel (%)	94
Contraceptive prevalence rate (modern methods) (%)	44
Adolescent birth rate (births per 1,000 women age 15-19)	51
Antenatal care coverage (at least one visit; at least four visits) (%)	97; –
Unmet need for family planning (%)	–
Under-5 mortality rate (per 1,000 live births)	59

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	5006
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	595
Obstetricians	*Unavailable*
Community health workers with some midwifery training	*Unavailable*
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; No; Yes
Number of midwifery education institutions (total); number of private	9; 0
Duration of midwifery education programmes (in months)	18 to 36
Number of student admissions (first year)	265
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	202
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	–
Birth complications per day; rural	**22**; 9
Lifetime risk of maternal death	**1 in 180**
Intrapartum stillbirth rate (per 1,000 births)	**7**
Neonatal mortality as % of under-5 mortality	**38**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	No; Yes

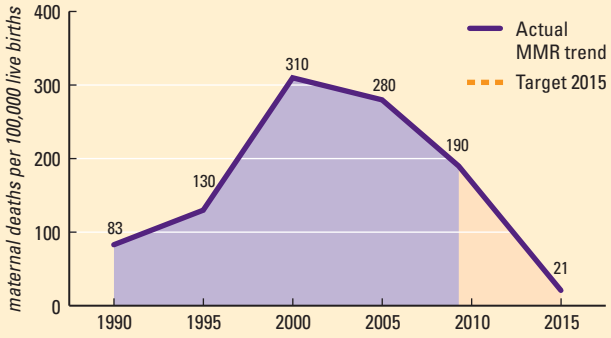
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

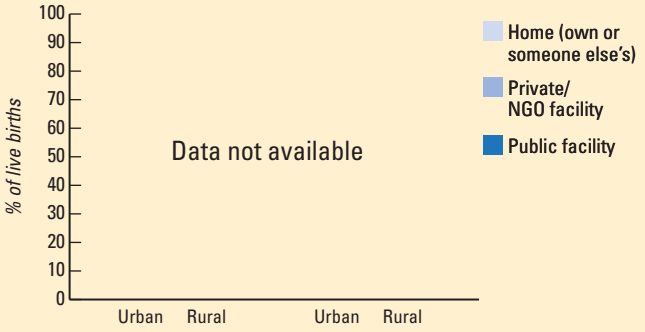
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	*Unavailable*
Number of Comprehensive EmONC facilities	*Unavailable*
Facilities per 1,000 births	–

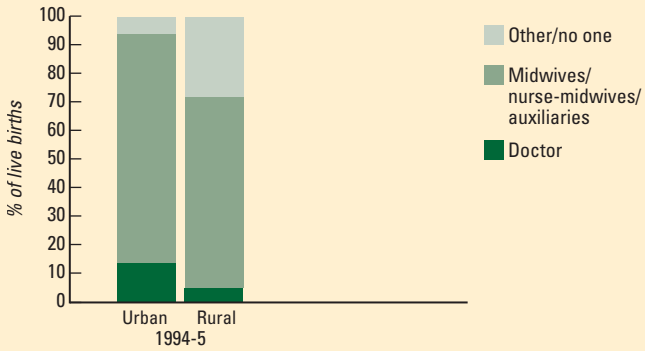
Trends in maternal mortality: 1990–2015



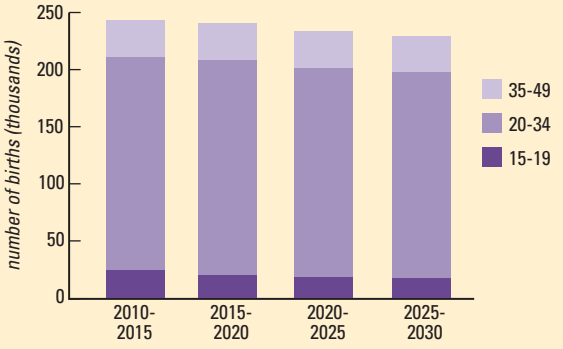
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Burkina Faso

Burkina Faso has a young population structure (60 percent under the age of 20). Contraceptive use is low and fertility rates remain high. School enrolment is very low, especially for girls. HIV prevalence appears to be declining. Maternal mortality has been reduced but remains high. The 2006 road map for the reduction of maternal mortality includes a free package of maternal health services, including delivery and emergency obstetric care. Most health facilities have staff shortages, both in numbers and competencies. A three-year direct-entry programme was implemented in 2007. Upon graduation, midwives are assigned a work placement in the public health system, although rural deployment remains problematic. A pilot model of midwife-led maternity units has shown success and could be replicated in rural areas. Future approaches to train and retain midwives may benefit from greater attention to ensuring graduates have all essential competencies and identifying candidates from rural areas.

COUNTRY INDICATORS*

Total population (000); % urban	16,287; 26
Adolescent population (15-19 yrs) (000); % of total	1,726; 11
Number of women of reproductive age (age 15-49) (000); % of total	3,752; 23
Total fertility rate (children per woman)	5.9
Crude birth rate (per 1,000 population)	47
Births per year (000)	718
% of all births registered	64
Number of maternal deaths	4,000
Neonatal mortality rate (per 1,000 live births)	37
Stillbirth rate (per 1,000 births)	26
Number of pregnant women tested for HIV	310,583
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.8
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	773
Gross secondary school enrolment (male; female) %	23; 17
Literacy rate (age 15 and over) (male; female) %	37; 22

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	560
Proportion of births attended by skilled health personnel (%)	54
Contraceptive prevalence rate (modern methods) (%)	17
Adolescent birth rate (births per 1,000 women age 15-19)	131
Antenatal care coverage (at least one visit; at least four visits) (%)	85; 18
Unmet need for family planning (%)	29
Under-5 mortality rate (per 1,000 live births)	169

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	3,648
Other health professionals with some midwifery competencies[3]	2,649
General practitioners with some midwifery competencies	572
Obstetricians	51
Community health workers with some midwifery training	*Unavailable*
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; No
Number of midwifery education institutions (total); number of private	6; 2
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	>100
Number of students enrolled in all years (2009)	1752
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**5**
Birth complications per day; rural	**306**; 227
Lifetime risk of maternal death	**1 in 28**
Intrapartum stillbirth rate (per 1,000 births)	**12**
Neonatal mortality as % of under-5 mortality	**22**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	Yes; No

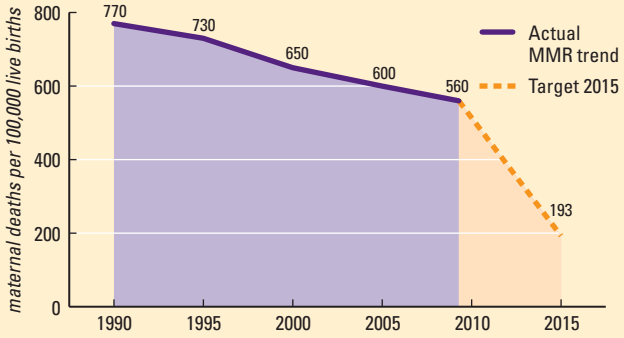
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Partial

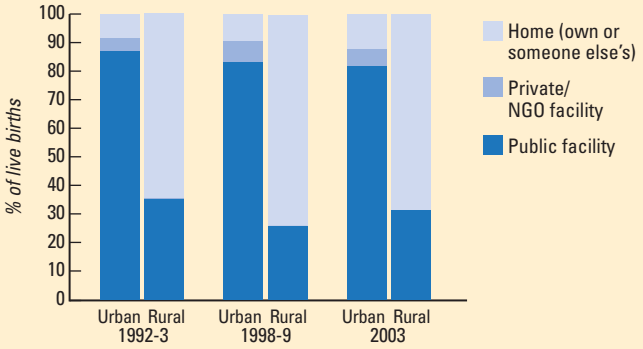
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	–
Number of Comprehensive EmONC facilities	*Unavailable*
Facilities per 1,000 births	–

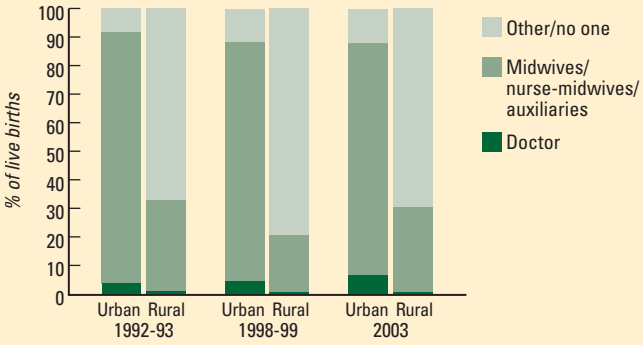
Trends in maternal mortality: 1990–2015



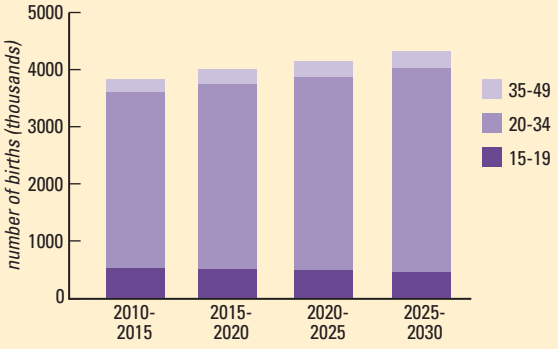
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Burundi

Burundi has faced considerable turmoil in the past decades, with population displacement and refugees. More than three quarters of its population lives in poverty. HIV continues to be a priority concern. Contraceptive use is low and maternal mortality remains very high. A 2005 road map aims at increasing the availability and accessibility of maternal health services and to increase skilled attendance at birth. A four-year direct-entry midwifery education programme was revived in 2007 and the curriculum has been updated. Midwives are granted a post upon graduation. A lack of faculty compromises the quality of the programme. A midwives association has recently been established and is working closely with the Ministry of Health. The number of graduate midwives is growing annually but attention needs to be given to increasing the number of admissions while improving the quality of education programmes. Deployment, continuing education and retention of the midwifery workforce in the public health system are key policy areas.

COUNTRY INDICATORS*

Total population (000); % urban	8,519; 11
Adolescent population (15-19 yrs) (000); % of total	975; 11
Number of women of reproductive age (age 15-49) (000); % of total	2,247; 26
Total fertility rate (children per woman)	4.6
Crude birth rate (per 1,000 population)	34
Births per year (000)	275
% of all births registered	60
Number of maternal deaths	2,700
Neonatal mortality rate (per 1,000 live births)	43
Stillbirth rate (per 1,000 births)	28
Number of pregnant women tested for HIV	113,053
Midwives are authorized to administer a core set of life-saving interventions	No
Density of midwives, nurses and doctors per 1,000 population	0.2
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	994
Gross secondary school enrolment (male; female) %	21; 15
Literacy rate (age 15 and over) (male; female) %	72; 60

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	970
Proportion of births attended by skilled health personnel (%)	34
Contraceptive prevalence rate (modern methods) (%)	9
Adolescent birth rate (births per 1,000 women age 15-19)	30
Antenatal care coverage (at least one visit; at least four visits) (%)	92; –
Unmet need for family planning (%)	29
Under-5 mortality rate (per 1,000 live births)	168

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	1,159
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	48
Obstetricians	8
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	1; 0
Duration of midwifery education programmes (in months)	48
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	78
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**4**
Birth complications per day; rural	**140**; 124
Lifetime risk of maternal death	**1 in 25**
Intrapartum stillbirth rate (per 1,000 births)	**13**
Neonatal mortality as % of under-5 mortality	**26**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	23
Association(s) affiliated with ICM; ICN	No; No

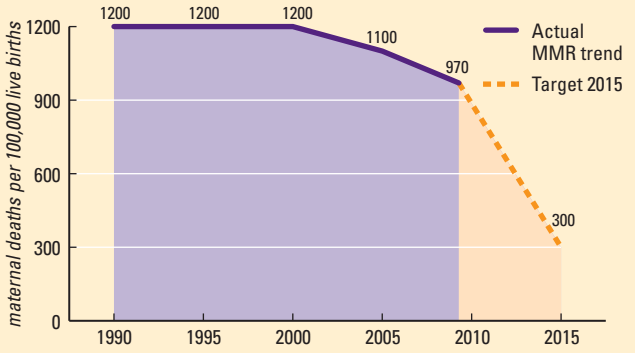
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	–
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

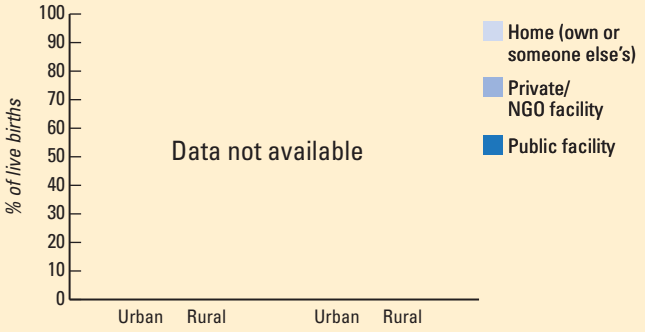
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	12
Number of Comprehensive EmONC facilities	48
Facilities per 1,000 births	–

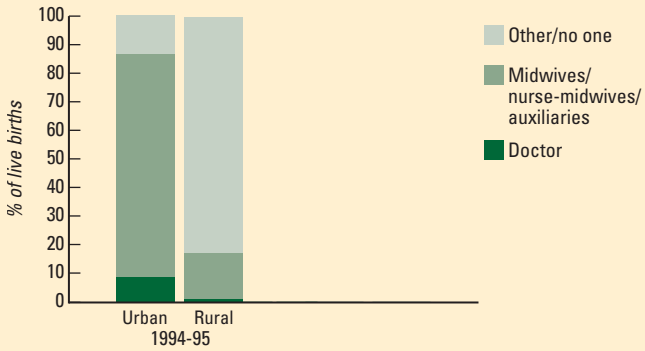
Trends in maternal mortality: 1990–2015



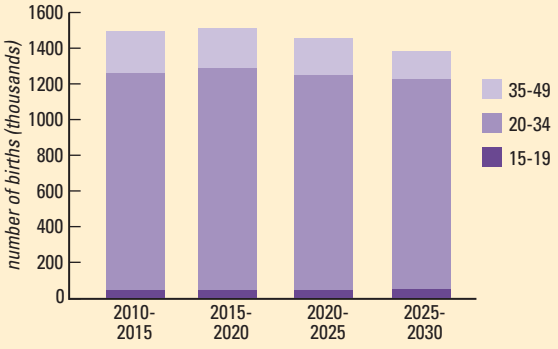
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Cambodia

With 80 percent of its population living in rural areas, Cambodia has made remarkable progress in reducing poverty and improving people's health in the past decades. Maternal mortality has decreased 58 percent since 1990, but sociocultural and economic factors still prevent women from accessing public health services. A policy of free access to care for low-income groups is being tested and progressively extended. The 2008 Health Strategic Plan prioritized maternal health. The country has an acute shortage of health professionals and not enough cadres are being graduated. A Midwifery Council was established in 2006. A three-year direct-entry midwifery programme was introduced in 2008, and the curriculum for a four-year bachelor's degree is being developed. While these initiatives are underway, several in-service training programmes have been implemented. Strengthening the competencies and numbers of midwifery faculty, and the educational materials, equipment and infrastructure is important to address the current shortage of midwives.

COUNTRY INDICATORS*

Total population (000); % urban	15,053; 20
Adolescent population (15-19 yrs) (000); % of total	1,846; 12
Number of women of reproductive age (age 15-49) (000); % of total	4,177; 28
Total fertility rate (children per woman)	2.9
Crude birth rate (per 1,000 population)	25
Births per year (000)	360
% of all births registered	66
Number of maternal deaths	1100
Neonatal mortality rate (per 1,000 live births)	30
Stillbirth rate (per 1,000 births)	19
Number of pregnant women tested for HIV	153,884
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	1.0
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	736
Gross secondary school enrolment (male; female) %	44; 36
Literacy rate (age 15 and over) (male; female) %	85; 71

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	290
Proportion of births attended by skilled health personnel (%)	44
Contraceptive prevalence rate (modern methods) (%)	40
Adolescent birth rate (births per 1,000 women age 15-19)	52
Antenatal care coverage (at least one visit; at least four visits) (%)	69; 27
Unmet need for family planning (%)	25
Under-5 mortality rate (per 1,000 live births)	90

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	2,014
Other health professionals with some midwifery competencies[3]	1,815
General practitioners with some midwifery competencies	*Unavailable*
Obstetricians	*Unavailable*
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; Yes
Number of midwifery education institutions (total); number of private	16; 5
Duration of midwifery education programmes (in months)	36 to 48
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	No
A licence is required to practise midwifery	No
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**6**
Birth complications per day; rural	**160**; 128
Lifetime risk of maternal death	**1 in 110**
Intrapartum stillbirth rate (per 1,000 births)	**6**
Neonatal mortality as % of under-5 mortality	**34**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	1,915
Association(s) affiliated with ICM; ICN	Yes; No

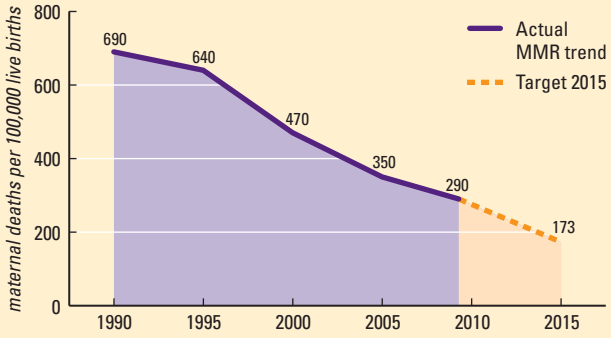
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	No

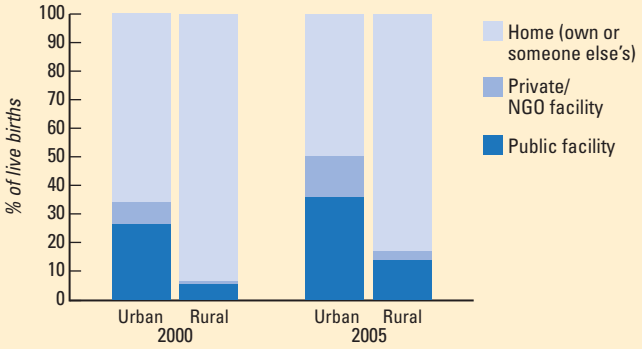
SERVICES

Number of facilities providing essential childbirth care	1,087
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	19
Number of Comprehensive EmONC facilities	25
Facilities per 1,000 births	3

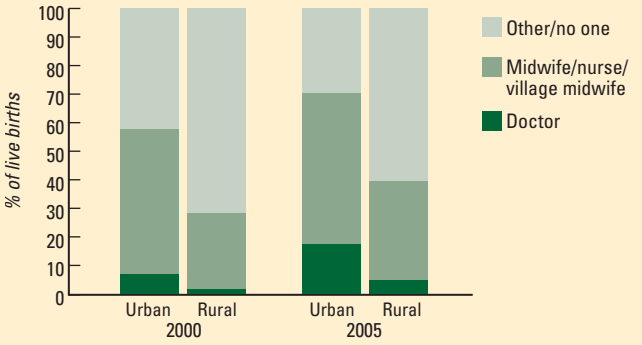
Trends in maternal mortality: 1990–2015



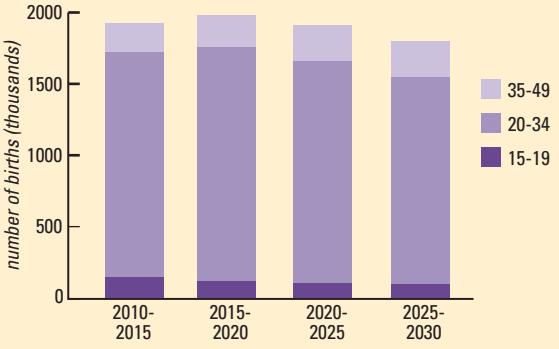
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Cameroon

More than half of the population in Cameroon lives in urban areas, and the country has received large numbers of displaced people. Maternal mortality remains very high, and has not significantly decreased since 1990. Measures to reduce financial barriers to maternal care have started to be implemented. A plan is being developed to strengthen human resources development and management, with a special focus on midwifery training, including incentive packages for rural retention, educating general practitioners on comprehensive emergency obstetric care, and training nurse-anaesthetists. Midwifery education is available as a post-nursing programme and entry criteria includes at least two years experience as a nurse. Assessment of the curriculum with regard to essential ICM competencies is yet to be completed. The country has no direct-entry programme for midwifery, but plans are underway to revise midwifery education and scale up numbers. To that end, a midwifery school affiliated with the Faculty of Medicine and Biomedical Sciences will be established.

COUNTRY INDICATORS*

Total population (000); % urban	19,958; 58
Adolescent population (15-19 yrs) (000); % of total	2,188; 11
Number of women of reproductive age (age 15-49) (000); % of total	4,817; 24
Total fertility rate (children per woman)	4.6
Crude birth rate (per 1,000 population)	37
Births per year (000)	701
% of all births registered	70
Number of maternal deaths	4,200
Neonatal mortality rate (per 1,000 live births)	37
Stillbirth rate (per 1,000 births)	26
Number of pregnant women tested for HIV	291,473
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	1.8
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	639
Gross secondary school enrolment (male; female) %	41; 33
Literacy rate (age 15 and over) (male; female) %	84; 68

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	600
Proportion of births attended by skilled health personnel (%)	63
Contraceptive prevalence rate (modern methods) (%)	29
Adolescent birth rate (births per 1,000 women age 15-19)	141
Antenatal care coverage (at least one visit; at least four visits) (%)	82; 60
Unmet need for family planning (%)	20
Under-5 mortality rate (per 1,000 live births)	155

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	122
Other health professionals with some midwifery competencies[3]	245
General practitioners with some midwifery competencies	1,452
Obstetricians	102
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; No; Yes
Number of midwifery education institutions (total); number of private	4; 2
Duration of midwifery education programmes (in months)	24
Number of student admissions (first year)	–
Student admissions per total available student places (%)	65
Number of students enrolled in all years (2009)	73
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**0.2**
Birth complications per day; rural	**304**; 131
Lifetime risk of maternal death	**1 in 35**
Intrapartum stillbirth rate (per 1,000 births)	**12**
Neonatal mortality as % of under-5 mortality	**24**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	Yes; No

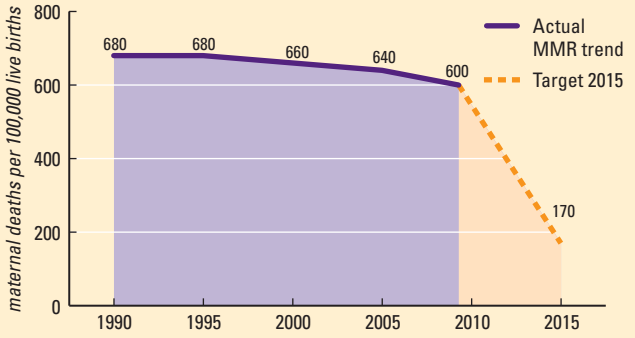
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	No
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	No

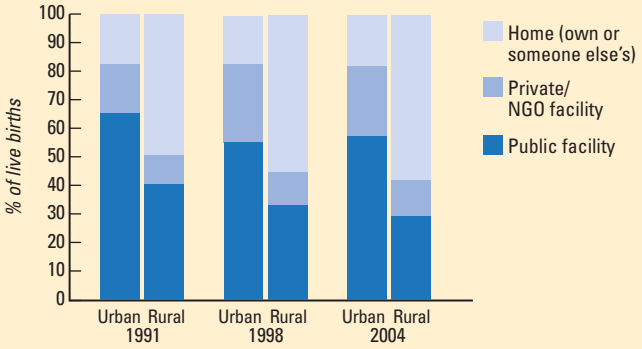
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	*Unavailable*
Number of Comprehensive EmONC facilities	*Unavailable*
Facilities per 1,000 births	–

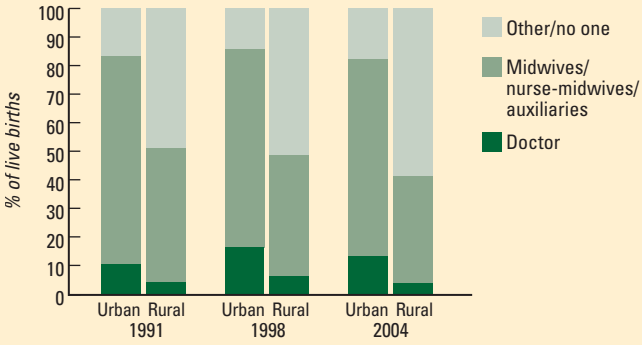
Trends in maternal mortality: 1990–2015



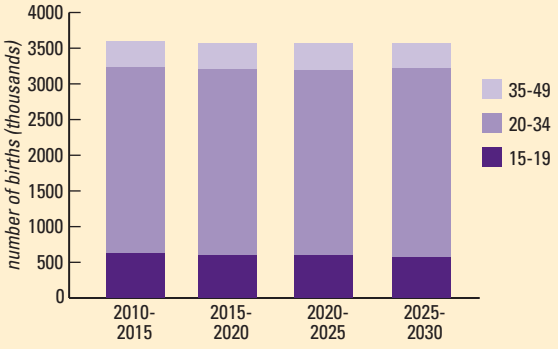
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Central African Republic

The Central African Republic is ethnically diverse and has a low population density. The country is emerging from instability due to internal armed conflicts, which aggravated the already weak economic situation and the limited access to basic social services, including health care. Total fertility, and the adolescent birth rate in particular, are high, and contraceptive use remains low. Maternal mortality remains very high, and has not decreased since 1990, partly due to a high prevalence of HIV. Maternal and child health are a priority in the national health plan. A direct entry programme for midwifery education is in place, but graduates may not always secure employment in the public sector. Regulation and licensing procedures for midwifery have yet to be developed. Continuing education programmes are in place, but are mostly concentrated in urban areas. The national association of midwives and nurse-midwives is an active advocate for professional development.

COUNTRY INDICATORS*

Total population (000); % urban	4,506; 39
Adolescent population (15-19 yrs) (000); % of total	483; 11
Number of women of reproductive age (age 15-49) (000); % of total	1,098; 24
Total fertility rate (children per woman)	4.8
Crude birth rate (per 1,000 population)	35
Births per year (000)	153
% of all births registered	49
Number of maternal deaths	1,300
Neonatal mortality rate (per 1,000 live births)	45
Stillbirth rate (per 1,000 births)	28
Number of pregnant women tested for HIV	43,775
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.5
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	162
Gross secondary school enrolment (male; female) %	18; 10
Literacy rate (age 15 and over) (male; female) %	69; 41

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	850
Proportion of births attended by skilled health personnel (%)	53
Contraceptive prevalence rate (modern methods) (%)	19
Adolescent birth rate (births per 1,000 women age 15-19)	133
Antenatal care coverage (at least one visit; at least four visits) (%)	69; –
Unmet need for family planning (%)	–
Under-5 mortality rate (per 1,000 live births)	172

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	511
Other health professionals with some midwifery competencies[3]	273
General practitioners with some midwifery competencies	143
Obstetricians	8
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	1; 0
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	100
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	–
A licence is required to practise midwifery	–
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**3**
Birth complications per day; rural	**75**; 45
Lifetime risk of maternal death	**1 in 27**
Intrapartum stillbirth rate (per 1,000 births)	**13**
Neonatal mortality as % of under-5 mortality	**26**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	100
Association(s) affiliated with ICM; ICN	No; No

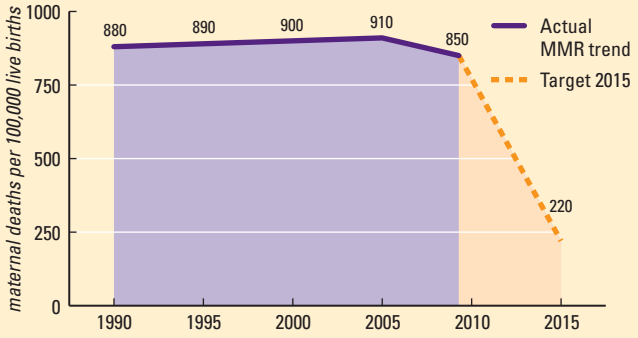
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	–
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	No

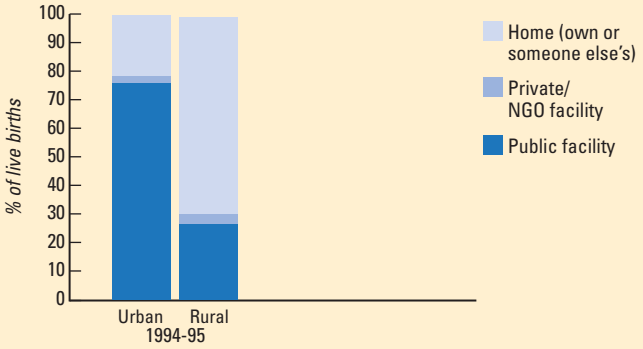
SERVICES

Number of facilities providing essential childbirth care	316
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	127
Number of Comprehensive EmONC facilities	62
Facilities per 1,000 births	2

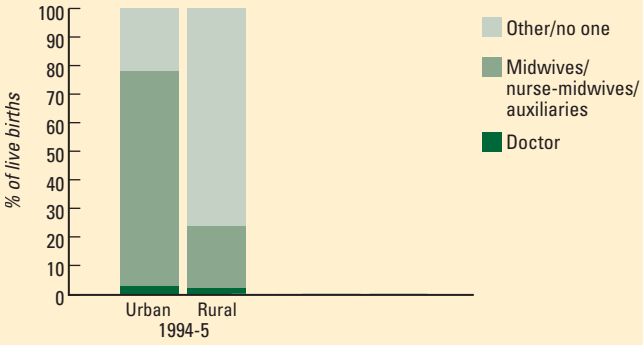
Trends in maternal mortality: 1990–2015



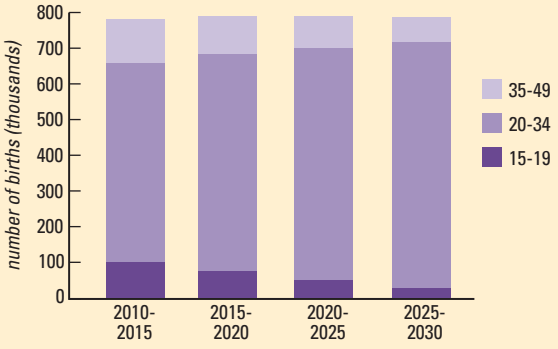
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Chad

Internal conflict and insecurity continues to affect the population. The total fertility rate is very high and contraceptive use remains very low. Maternal mortality has decreased by 5 percent since 1990 but remains one of the highest in the world. The road map for the reduction of maternal, newborn and neonatal mortality recognizes midwives as a crucial workforce. A presidential decree in 2007 introduced free access to emergency obstetric care. Chad has a network of 11 district-based schools that educate midwives and others with midwifery competencies. The number of midwives has increased moderately since 1998, but with more than half of the graduates based in the capital city, the government is exploring the use of additional incentives to attract and deploy midwives in rural areas. The midwifery workforce needs to increase dramatically to meet the country's current and future needs. Strengthening and scaling up educational programmes is key, in order to ensure an adequate supply of qualified midwives.

COUNTRY INDICATORS*

Total population (000); % urban	11,506; 28
Adolescent population (15-19 yrs) (000); % of total	1,236; 11
Number of women of reproductive age (age 15-49) (000); % of total	2,598; 23
Total fertility rate (children per woman)	6.2
Crude birth rate (per 1,000 population)	46
Births per year (000)	493
% of all births registered	9
Number of maternal deaths	5,900
Neonatal mortality rate (per 1,000 live births)	46
Stillbirth rate (per 1,000 births)	29
Number of pregnant women tested for HIV	32,119
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	1,170
Gross secondary school enrolment (male; female) %	26; 12
Literacy rate (age 15 and over) (male; female) %	44; 22

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	1,200
Proportion of births attended by skilled health personnel (%)	14
Contraceptive prevalence rate (modern methods) (%)	3
Adolescent birth rate (births per 1,000 women age 15-19)	193
Antenatal care coverage (at least one visit; at least four visits) (%)	39; 18
Unmet need for family planning (%)	23
Under-5 mortality rate (per 1,000 live births)	209

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	220
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	–
Obstetricians	–
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; Yes; No
Number of midwifery education institutions (total); number of private	21; 16
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	–

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**0.4**
Birth complications per day; rural	**217**; 157
Lifetime risk of maternal death	**1 in 14**
Intrapartum stillbirth rate (per 1,000 births)	**14**
Neonatal mortality as % of under-5 mortality	**22**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	75
Association(s) affiliated with ICM; ICN	No; No

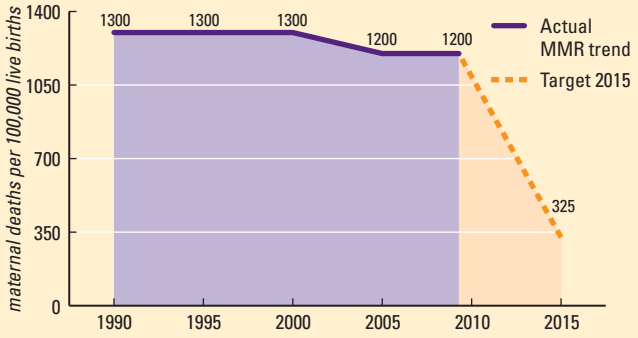
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	–
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	No

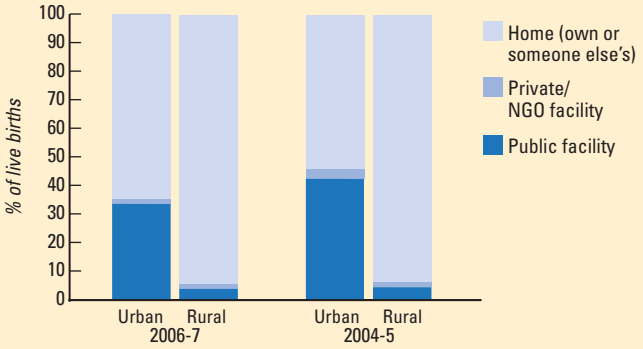
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	*Unavailable*
Number of Comprehensive EmONC facilities	59
Facilities per 1,000 births	–

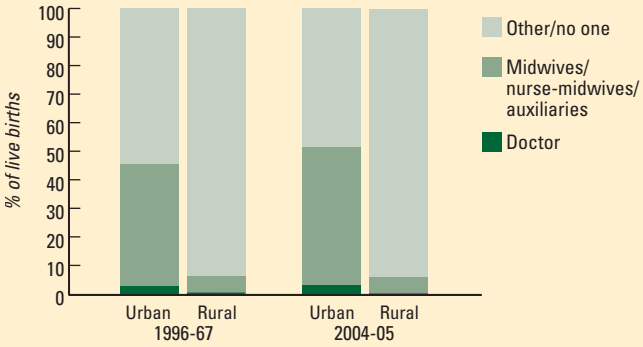
Trends in maternal mortality: 1990–2015



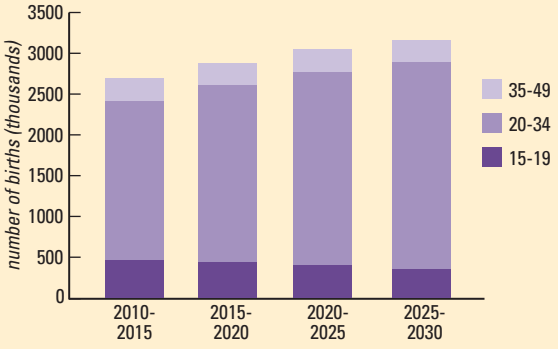
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Comoros

The Union of Comoros comprises three islands in the Indian Ocean. With an average age of 24 years, it has a relatively young and increasing population. Maternal mortality decreased by 36 percent over the past 20 years, but is still high even though skilled birth attendants assist a high percentage of births. Two hospitals offer comprehensive emergency obstetric care, but there is no basic emergency obstetric care that is separate from these facilities. New graduates joining the midwifery workforce would be largely sufficient to balance exits if attrition due to migration was managed or accounted for. Two midwifery associations exist but regulation and licensing have not been developed. It is hoped that improvements in retention and career development plans for midwives together with an increase in the health budget will accelerate progress towards the health MDGs.

COUNTRY INDICATORS*

Total population (000); % urban	691; 28
Adolescent population (15-19 yrs) (000); % of total	68; 10
Number of women of reproductive age (age 15-49) (000); % of total	177; 26
Total fertility rate (children per woman)	4.0
Crude birth rate (per 1,000 population)	32
Births per year (000)	21
% of all births registered	83
Number of maternal deaths	72
Neonatal mortality rate (per 1,000 live births)	36
Stillbirth rate (per 1,000 births)	27
Number of pregnant women tested for HIV	1,034
Midwives are authorized to administer a core set of life-saving interventions	–
Density of midwives, nurses and doctors per 1,000 population	0.9
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	29
Gross secondary school enrolment (male; female) %	52; 39
Literacy rate (age 15 and over) (male; female) %	79; 68

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	340
Proportion of births attended by skilled health personnel (%)	62
Contraceptive prevalence rate (modern methods) (%)	26
Adolescent birth rate (births per 1,000 women age 15-19)	95
Antenatal care coverage (at least one visit; at least four visits) (%)	75; 52
Unmet need for family planning (%)	35
Under-5 mortality rate (per 1,000 live births)	105

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	199
Other health professionals with some midwifery competencies[3]	*Unavailable*
General practitioners with some midwifery competencies	80
Obstetricians	5
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; Yes; No
Number of midwifery education institutions (total); number of private	1; 0
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	>100
Number of students enrolled in all years (2009)	40
Number of graduates (2009)	13
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	No
A licence is required to practise midwifery	No
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**9**
Birth complications per day; rural	**9**; 7
Lifetime risk of maternal death	**1 in 71**
Intrapartum stillbirth rate (per 1,000 births)	**13**
Neonatal mortality as % of under-5 mortality	**35**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	No; No

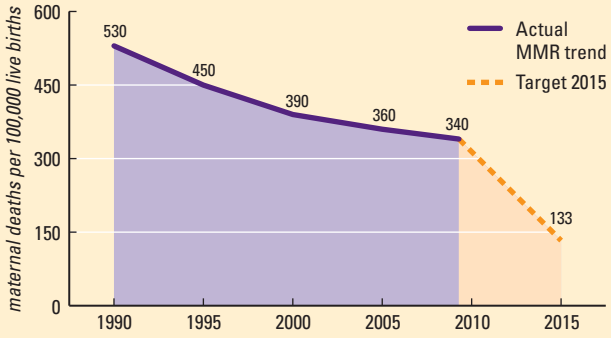
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	No

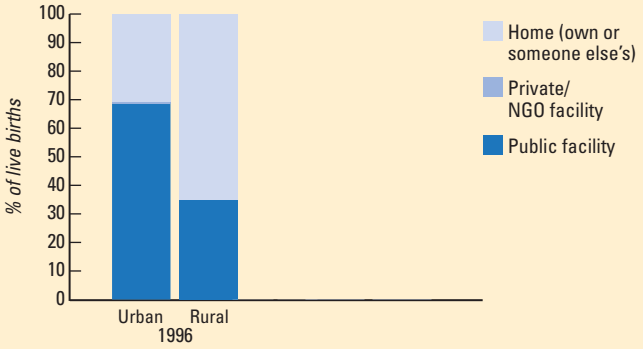
SERVICES

Number of facilities providing essential childbirth care	Unavailable
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	–
Number of Comprehensive EmONC facilities	2
Facilities per 1,000 births	–

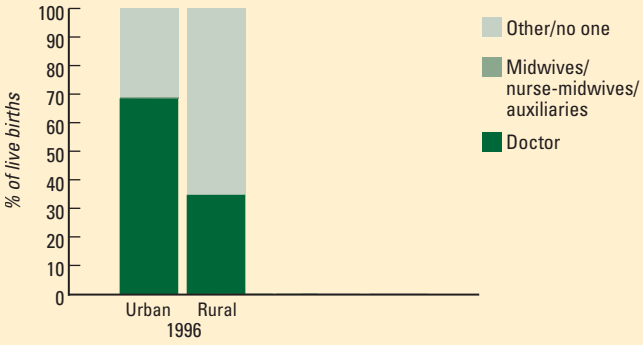
Trends in maternal mortality: 1990–2015



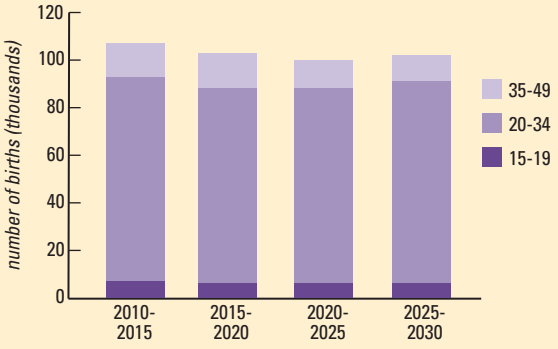
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Côte d'Ivoire

Health indicators and infrastructure have deteriorated in Côte d'Ivoire as a result of years of instability and conflict. Fertility remains high and contraceptive use is low. Maternal mortality has been moderately reduced since 1990, but remains high partially due to the significant HIV prevalence. Transition to free maternal and newborn care in 2010 has boosted demand for services but is exerting additional pressure on the fragile health system. The Human Resources Plan has estimated the number of midwifery professionals needed, and defined the roles of different cadres. A three-year direct-entry programme for midwifery education has been in place since 2007, and the curriculum includes ICM's essential competencies. Overall, education programmes lack a regulatory framework and career plans. Deployment of midwives to rural areas is problematic. Improving the recruitment and working conditions of faculty and reducing the number of students per cohort have been identified as key strategies to improve the quality of education.

COUNTRY INDICATORS*

Total population (000); % urban	21,571; 51
Adolescent population (15-19 yrs) (000); % of total	2,307; 11
Number of women of reproductive age (age 15-49) (000); % of total	5,055 ; 23
Total fertility rate (children per woman)	4.6
Crude birth rate (per 1,000 population)	35
Births per year (000)	717
% of all births registered	55
Number of maternal deaths	3,400
Neonatal mortality rate (per 1,000 live births)	39
Stillbirth rate (per 1,000 births)	32
Number of pregnant women tested for HIV	342,698
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	0.6
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	667
Gross secondary school enrolment (male; female) %	34; 19
Literacy rate (age 15 and over) (male; female) %	64; 44

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	470
Proportion of births attended by skilled health personnel (%)	57
Contraceptive prevalence rate (modern methods) (%)	13
Adolescent birth rate (births per 1,000 women age 15-19)	111
Antenatal care coverage (at least one visit; at least four visits) (%)	85; 45
Unmet need for family planning (%)	28
Under-5 mortality rate (per 1,000 live births)	121

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	2,553
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	2,113
Obstetricians	103
Community health workers with some midwifery training	*Unavailable*
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	4; 0
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	1,378
Number of graduates (2009)	329
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**4**
Birth complications per day; rural	**335**; 164
Lifetime risk of maternal death	**1 in 44**
Intrapartum stillbirth rate (per 1,000 births)	**15**
Neonatal mortality as % of under-5 mortality	**33**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	4,600
Association(s) affiliated with ICM; ICN	No; No

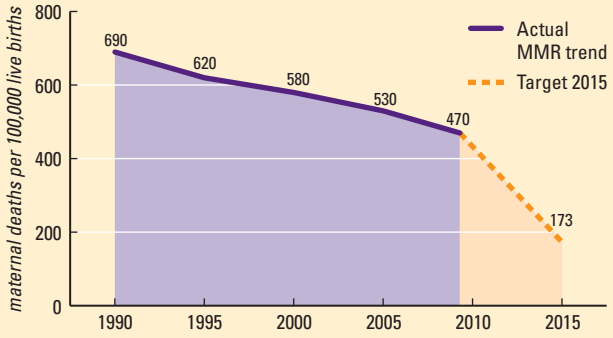
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

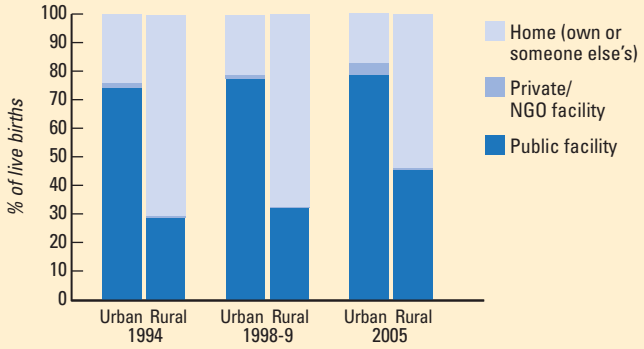
SERVICES

Number of facilities providing essential childbirth care	2,572
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	1,230
Number of Comprehensive EmONC facilities	56
Facilities per 1,000 births	4

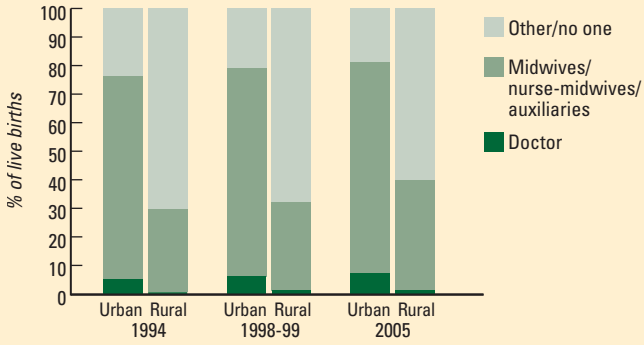
Trends in maternal mortality: 1990–2015



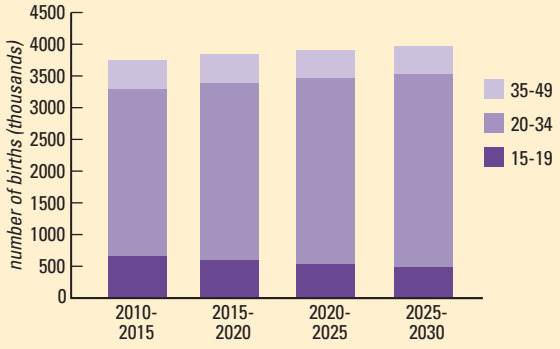
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Democratic Republic of the Congo

The Democratic Republic of the Congo has endured years of conflict and instability that damaged and destroyed much of the country's infrastructure. More than half of its large population live in poverty, and the total fertility rate remains high. Maternal mortality has been reduced since 1990, but remains very high. A road map to improve maternal and newborn health has been developed and budgeted, but is not yet fully operational at district level. The human resources for health plan does not specifically address the midwifery workforce. A combined nursing and midwifery programme has been implemented in the six nursing schools. In response to the severe shortage of midwives, the country is planning to open more midwifery schools. However, there is a lack of midwifery faculty, and the available educators are concentrated in the capital.

COUNTRY INDICATORS*

Total population (000); % urban	67,827; 35
Adolescent population (15-19 yrs) (000); % of total	7,533; 11
Number of women of reproductive age (age 15-49) (000); % of total	15,345; 23
Total fertility rate (children per woman)	6.0
Crude birth rate (per 1,000 population)	45
Births per year (000)	2,859
% of all births registered	99
Number of maternal deaths	19,000
Neonatal mortality rate (per 1,000 live births)	51
Stillbirth rate (per 1,000 births)	32
Number of pregnant women tested for HIV	253,297
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.6
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	3,983
Gross secondary school enrolment (male; female) %	45; 25
Literacy rate (age 15 and over) (male; female) %	78; 56

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	670
Proportion of births attended by skilled health personnel (%)	74
Contraceptive prevalence rate (modern methods) (%)	21
Adolescent birth rate (births per 1,000 women age 15-19)	127
Antenatal care coverage (at least one visit; at least four visits) (%)	85; 47
Unmet need for family planning (%)	24
Under-5 mortality rate (per 1,000 live births)	199

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	5758
Other health professionals with some midwifery competencies[3]	*Unavailable*
General practitioners with some midwifery competencies	*Unavailable*
Obstetricians	–
Community health workers with some midwifery training	*Unavailable*
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; No
Number of midwifery education institutions (total); number of private	38; 9
Duration of midwifery education programmes (in months)	36 to 48
Number of student admissions (first year)	–
Student admissions per total available student places (%)	82
Number of students enrolled in all years (2009)	1,163
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	No
A licence is required to practise midwifery	No
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**2**
Birth complications per day; rural	**1,313**; 854
Lifetime risk of maternal death	**1 in 24**
Intrapartum stillbirth rate (per 1,000 births)	**15**
Neonatal mortality as % of under-5 mortality	**26**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	–; –

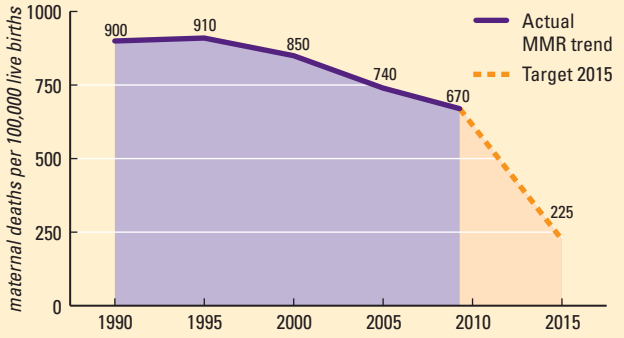
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	No
The plan is costed	No
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	No

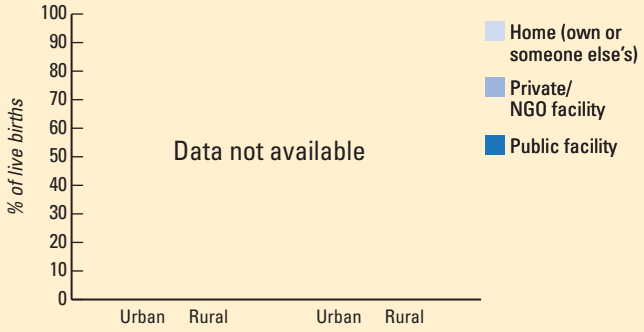
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	*Unavailable*
Number of Comprehensive EmONC facilities	*Unavailable*
Facilities per 1,000 births	–

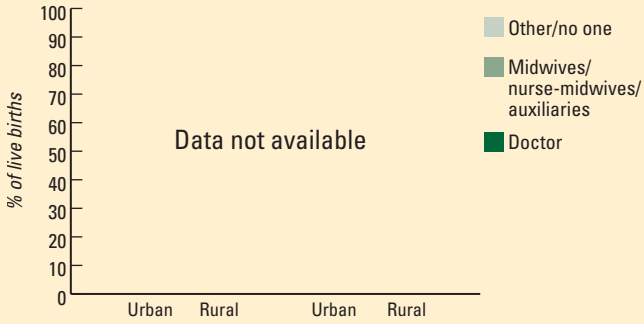
Trends in maternal mortality: 1990–2015



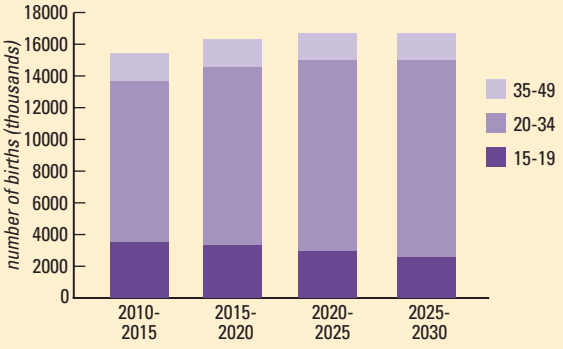
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Djibouti

In this small and culturally diverse country the majority of people live in urban areas. Djibouti faces the challenges of poverty and high fertility, low use of reproductive health services, along with a significant HIV prevalence. Maternal mortality has reduced slightly, but remains high, and female genital mutilation/cutting contributes to maternal mortality and morbidity. Since 2006, maternal and newborn care has been provided free of charge. The absence of a human resource information system impedes an accurate projection of staffing needs. Equipment and human resources are unevenly distributed, particularly in the interior areas of the country. A three-year direct-entry midwifery programme is in place, affiliated with the Higher Institute of Health Sciences. The curriculum includes the ICM essential competencies. Career opportunities are available for midwives with several years of professional experience. A six-month in-service internship is now required for graduate midwives, before being posted. A midwives association is currently being created.

COUNTRY INDICATORS*

Total population (000); % urban	879; 76
Adolescent population (15-19 yrs) (000); % of total	100; 11
Number of women of reproductive age (age 15-49) (000); % of total	232; 26
Total fertility rate (children per woman)	3.9
Crude birth rate (per 1,000 population)	28
Births per year (000)	24
% of all births registered	89
Number of maternal deaths	73
Neonatal mortality rate (per 1,000 live births)	35
Stillbirth rate (per 1,000 births)	34
Number of pregnant women tested for HIV	9,371
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	1.0
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	23
Gross secondary school enrolment (male; female) %	35; 24
Literacy rate (age 15 and over) (male; female) %	–; –

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	300
Proportion of births attended by skilled health personnel (%)	61
Contraceptive prevalence rate (modern methods) (%)	18
Adolescent birth rate (births per 1,000 women age 15-19)	27
Antenatal care coverage (at least one visit; at least four visits) (%)	92; 7
Unmet need for family planning (%)	–
Under-5 mortality rate (per 1,000 live births)	95

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	137
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	*Unavailable*
Obstetricians	1
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	1; 0
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	40
Student admissions per total available student places (%)	63
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	No
A licence is required to practise midwifery	No
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**6**
Birth complications per day; rural	**14**; 3
Lifetime risk of maternal death	**1 in 93**
Intrapartum stillbirth rate (per 1,000 births)	**16**
Neonatal mortality as % of under-5 mortality	**37**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	No
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	–; –

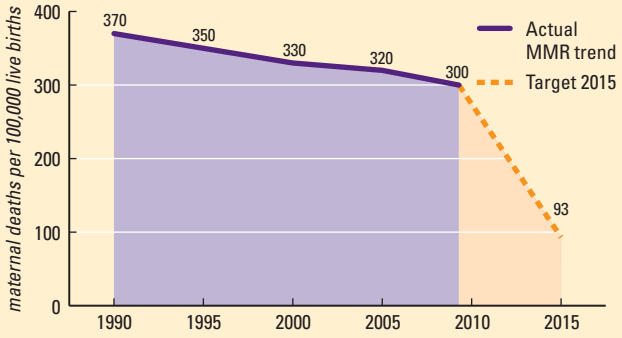
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	–
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Partial

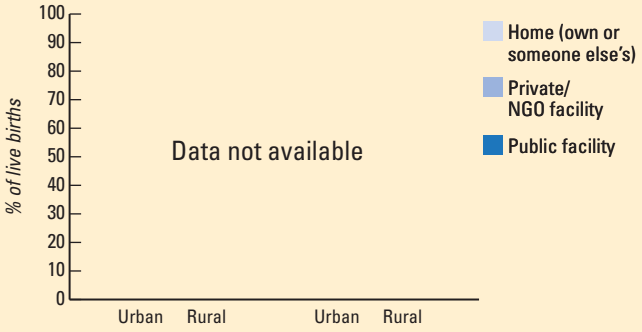
SERVICES

Number of facilities providing essential childbirth care	21
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	7
Number of Comprehensive EmONC facilities	2
Facilities per 1,000 births	1

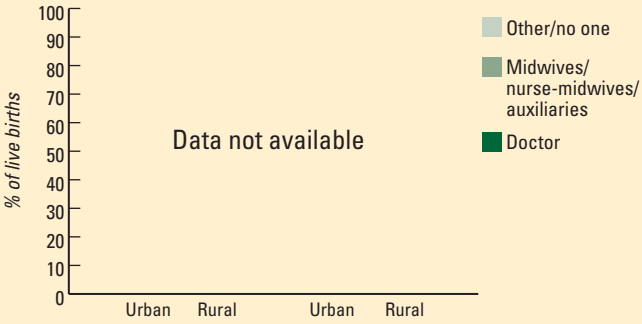
Trends in maternal mortality: 1990–2015



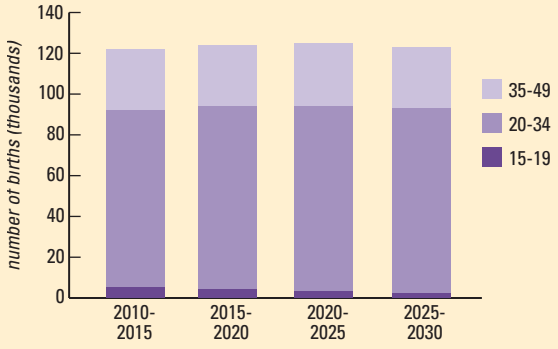
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Ethiopia

More than 80 percent of Ethiopia's population lives in rural areas. The country has one of the highest levels of unmet need for contraception in Africa and only 6 percent of births are attended by a skilled health worker. Maternal mortality has been steadily declining since 1990, but remains high. The lack of functioning health care facilities is severe, particularly in rural and isolated communities. The 2006 national reproductive health strategy includes maternal health, and addressing acute shortages in the midwifery workforce is a top priority of the proposed human resource strategy. Plans to expand midwifery education are underway. A direct-entry midwifery programme is available in 25 schools. Accelerated midwifery programmes and additional obstetric training for nurses are also available. Graduates are guaranteed employment and placements in their own communities are offered. Strengthening the infrastructure of the health system is important to raise the capacity and motivation of the midwifery workforce.

COUNTRY INDICATORS*

Total population (000); % urban	84,976; 17
Adolescent population (15-19 yrs) (000); % of total	9,604; 11
Number of women of reproductive age (age 15-49) (000); % of total	19,955; 23
Total fertility rate (children per woman)	5.3
Crude birth rate (per 1,000 population)	38
Births per year (000)	3,078
% of all births registered	7
Number of maternal deaths	14,000
Neonatal mortality rate (per 1,000 live births)	35
Stillbirth rate (per 1,000 births)	26
Number of pregnant women tested for HIV	488,554
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	8,760
Gross secondary school enrolment (male; female) %	39; 28
Literacy rate (age 15 and over) (male; female) %	50; 23

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	470
Proportion of births attended by skilled health personnel (%)	6
Contraceptive prevalence rate (modern methods) (%)	15
Adolescent birth rate (births per 1,000 women age 15-19)	109
Antenatal care coverage (at least one visit; at least four visits) (%)	28; 12
Unmet need for family planning (%)	34
Under-5 mortality rate (per 1,000 live births)	109

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	1,379
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	1,151
Obstetricians	192
Community health workers with some midwifery training	31831
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	25; 2
Duration of midwifery education programmes (in months)	36 to 48
Number of student admissions (first year)	–
Student admissions per total available student places (%)	98
Number of students enrolled in all years (2009)	3,000
Number of graduates (2009)	777
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**0.4**
Birth complications per day; rural	**1397**; 1146
Lifetime risk of maternal death	**1 in 40**
Intrapartum stillbirth rate (per 1,000 births)	**12**
Neonatal mortality as % of under-5 mortality	**34**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	Yes; Yes

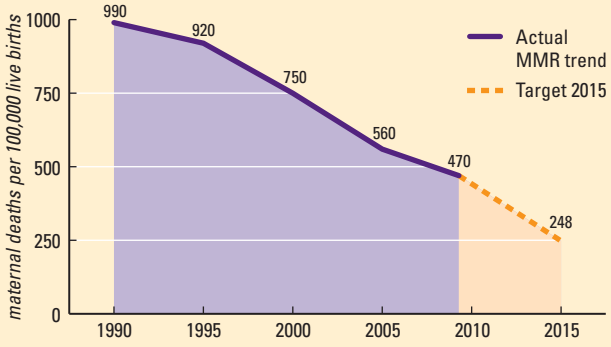
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	No
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	No
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	No
All maternal and newborn health services are free (public sector)	Partial

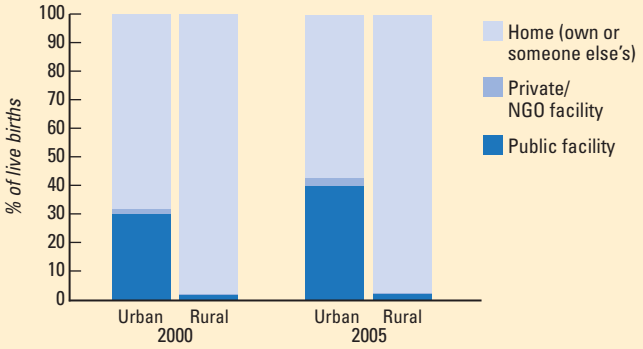
SERVICES

Number of facilities providing essential childbirth care	797
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	25
Number of Comprehensive EmONC facilities	58
Facilities per 1,000 births	0

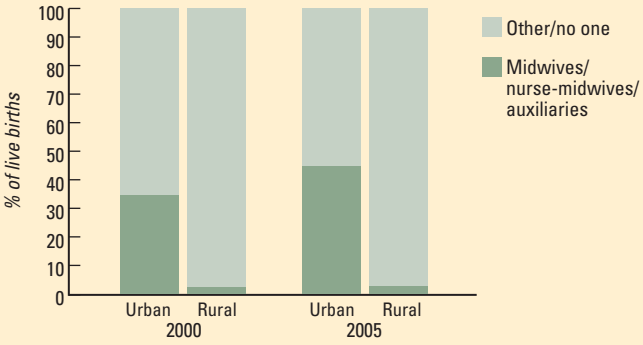
Trends in maternal mortality: 1990–2015



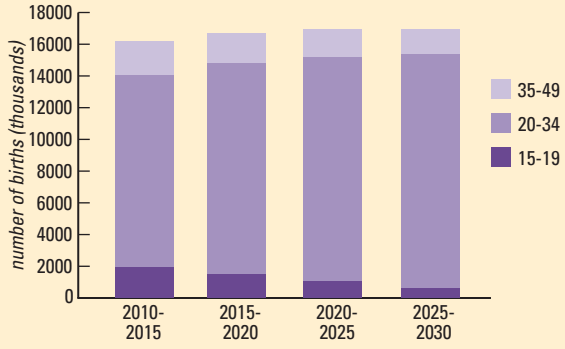
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Gabon

Despite its wealth of resources, high rates of poverty can be found among the small and predominantly urban population of Gabon. Fertility has dropped significantly in the past 10 years. The prevalence of HIV among adults is nearly 6 percent. Young women are particularly affected, and an estimated 26 percent of maternal deaths are due to HIV. Maternal mortality has not been reduced in the period since 1990. A road map for reducing maternal and neonatal mortality has been developed, but barriers to services and poor quality of care hamper implementation. Midwifery education is experiencing a decline, affected by a shortage of faculty and insufficient practical supervision of students. The curriculum of the direct-entry midwifery education programme does not include all the essential competencies recommended by ICM. Attrition among practising midwives is high. The Association of Midwives is an active advocate.

COUNTRY INDICATORS*

Total population (000); % urban	1,501; 86
Adolescent population (15-19 yrs) (000); % of total	171; 11
Number of women of reproductive age (age 15-49) (000); % of total	387; 26
Total fertility rate (children per woman)	3.3
Crude birth rate (per 1,000 population)	27
Births per year (000)	39
% of all births registered	89
Number of maternal deaths	100
Neonatal mortality rate (per 1,000 live births)	25
Stillbirth rate (per 1,000 births)	17
Number of pregnant women tested for HIV	9,321
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	5.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	26
Gross secondary school enrolment (male; female) %	–; –
Literacy rate (age 15 and over) (male; female) %	91; 83

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	260
Proportion of births attended by skilled health personnel (%)	86
Contraceptive prevalence rate (modern methods) (%)	33
Adolescent birth rate (births per 1,000 women age 15-19)	144
Antenatal care coverage (at least one visit; at least four visits) (%)	94; 63
Unmet need for family planning (%)	28
Under-5 mortality rate (per 1,000 live births)	71

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	460
Other health professionals with some midwifery competencies[3]	276
General practitioners with some midwifery competencies	174
Obstetricians	21
Community health workers with some midwifery training	*Unavailable*
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	1; 0
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	91
Number of students enrolled in all years (2009)	68
Number of graduates (2009)	16
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**12**
Birth complications per day; rural	**18**; 4
Lifetime risk of maternal death	**1 in 110**
Intrapartum stillbirth rate (per 1,000 births)	**8**
Neonatal mortality as % of under-5 mortality	**36**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	284
Association(s) affiliated with ICM; ICN	Yes; No

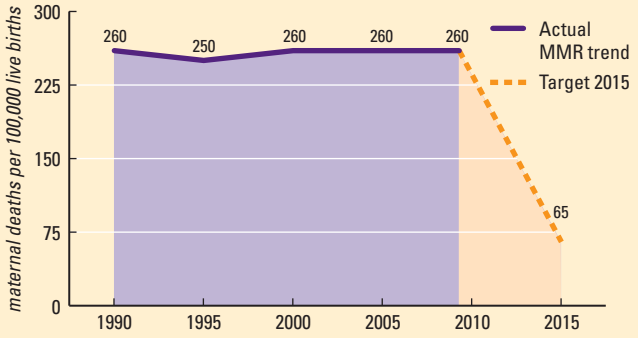
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	No
The plan is costed	–
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Partial

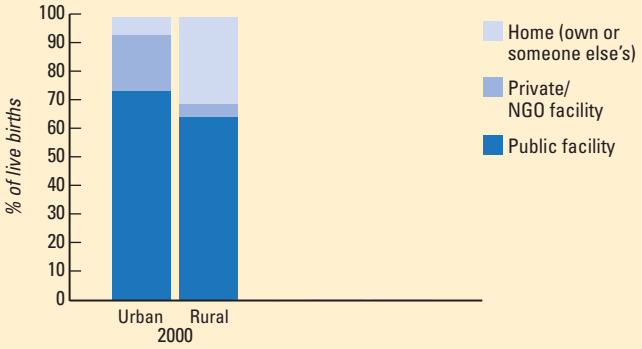
SERVICES

Number of facilities providing essential childbirth care	102
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	44
Number of Comprehensive EmONC facilities	14
Facilities per 1,000 births	3

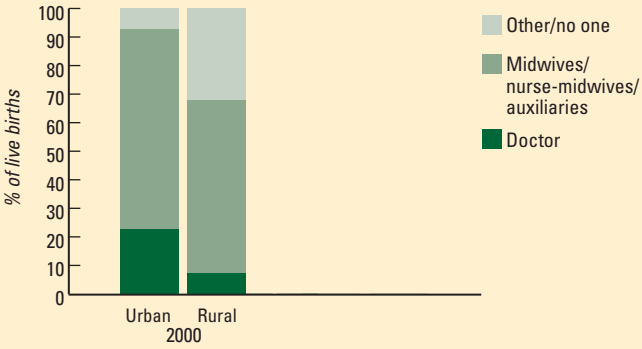
Trends in maternal mortality: 1990–2015



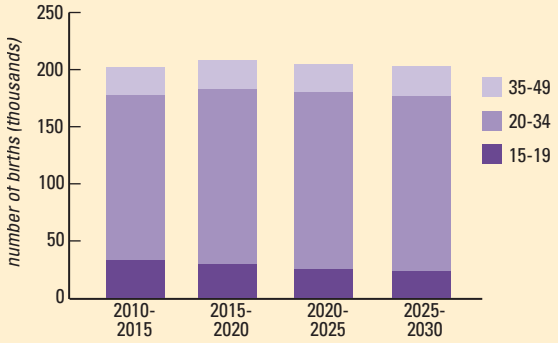
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Gambia

More than 60 percent of the Gambian population lives in poverty. Predominantly urban and young, the population has low usage of contraceptive methods and is growing fast. Maternal mortality has steadily decreased since 1990, although the ratio remains high. The national health policy includes the provision of free maternal and newborn health services and a strategy to expand emergency obstetric care. The government has introduced a performance management package for the health sector and works with health professional associations to improve working conditions. There is a midwifery workforce shortage and low capacity for pre-service training. Despite insufficient faculty and the fragile educational infrastructure, efforts are in place to accelerate education in midwifery competencies. A retention scheme is in place offering incentives to midwives (and other cadres) posted to remote areas. Investments and capacity building at all levels of the nation's health system will contribute to scaling up midwifery services.

COUNTRY INDICATORS*

Total population (000); % urban	1,751; 58
Adolescent population (15-19 yrs) (000); % of total	183; 10
Number of women of reproductive age (age 15-49) (000); % of total	419; 24
Total fertility rate (children per woman)	5.1
Crude birth rate (per 1,000 population)	37
Births per year (000)	61
% of all births registered	55
Number of maternal deaths	250
Neonatal mortality rate (per 1,000 live births)	32
Stillbirth rate (per 1,000 births)	26
Number of pregnant women tested for HIV	31,071
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	0.6
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	54
Gross secondary school enrolment (male; female) %	52; 49
Literacy rate (age 15 and over) (male; female) %	57; 34

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	400
Proportion of births attended by skilled health personnel (%)	57
Contraceptive prevalence rate (modern methods) (%)	18
Adolescent birth rate (births per 1,000 women age 15-19)	104
Antenatal care coverage (at least one visit; at least four visits) (%)	98; –
Unmet need for family planning (%)	–
Under-5 mortality rate (per 1,000 live births)	106

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	274
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	–
Obstetricians	–
Community health workers with some midwifery training	1,092
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; Yes
Number of midwifery education institutions (total); number of private	9; 0
Duration of midwifery education programmes (in months)	18
Number of student admissions (first year)	–
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	–
Midwives hold a protected title	–
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**5**
Birth complications per day; rural	**28**; 13
Lifetime risk of maternal death	**1 in 49**
Intrapartum stillbirth rate (per 1,000 births)	**12**
Neonatal mortality as % of under-5 mortality	**31**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	300
Association(s) affiliated with ICM; ICN	Yes; Yes

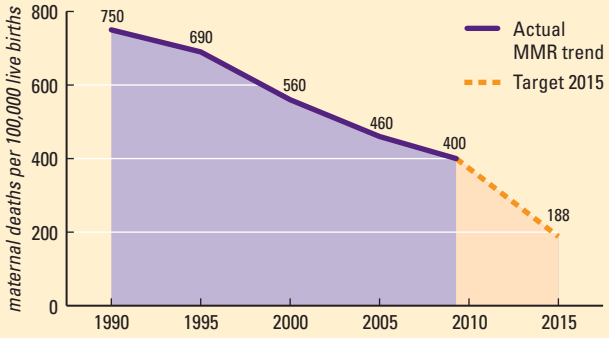
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	No
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

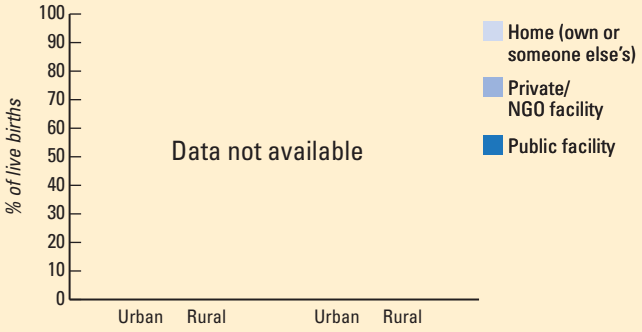
SERVICES

Number of facilities providing essential childbirth care	53
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	41
Number of Comprehensive EmONC facilities	7
Facilities per 1,000 births	1

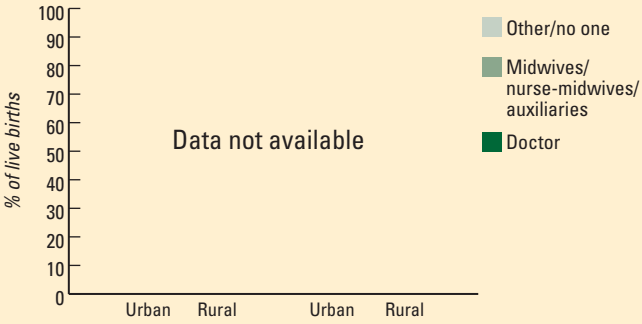
Trends in maternal mortality: 1990–2015



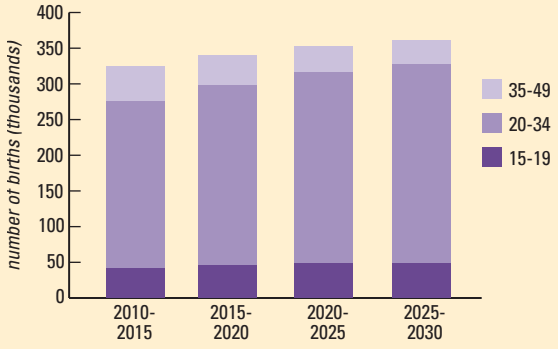
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Ghana

Half of Ghana's fast growing population lives in urban areas. The government has adopted a multisectoral approach to control the HIV epidemic. Special attention is given to youth reproductive health and the minimum age for marriage has been raised to 18. Maternal mortality has been reduced by 44 percent since 1990, but remains high. National health insurance covers antenatal care and delivery, but gaps in access to care persist, due in large part to midwifery shortages. Human resource policies and strategies include increasing the number of midwives. A new direct-entry programme for a BSc in midwifery supports this priority scale-up with the first cohort of students commencing in 2011. Recruitment and retention of midwives to rural postings and the remote northern provinces, is identified as a key priority, and would require raising the status of midwives, improving working conditions and developing a standardized reimbursement system for services rendered.

COUNTRY INDICATORS*

Total population (000); % urban	24,333; 52
Adolescent population (15-19 yrs) (000); % of total	2,605; 11
Number of women of reproductive age (age 15-49) (000); % of total	6,057; 25
Total fertility rate (children per woman)	4.0
Crude birth rate (per 1,000 population)	32
Births per year (000)	752
% of all births registered	51
Number of maternal deaths	2,600
Neonatal mortality rate (per 1,000 live births)	26
Stillbirth rate (per 1,000 births)	22
Number of pregnant women tested for HIV	388,254
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	1.1
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	810
Gross secondary school enrolment (male; female) %	58; 52
Literacy rate (age 15 and over) (male; female) %	72; 59

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	350
Proportion of births attended by skilled health personnel (%)	57
Contraceptive prevalence rate (modern methods) (%)	24
Adolescent birth rate (births per 1,000 women age 15-19)	70
Antenatal care coverage (at least one visit; at least four visits) (%)	90; 78
Unmet need for family planning (%)	35
Under-5 mortality rate (per 1,000 live births)	72

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	3,780
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	2,173
Obstetricians	64
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; Yes
Number of midwifery education institutions (total); number of private	16; 0
Duration of midwifery education programmes (in months)	24 to 36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**5**
Birth complications per day; rural	**306**; 150
Lifetime risk of maternal death	**1 in 66**
Intrapartum stillbirth rate (per 1,000 births)	**10**
Neonatal mortality as % of under-5 mortality	**39**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	800
Association(s) affiliated with ICM; ICN	Yes; Yes

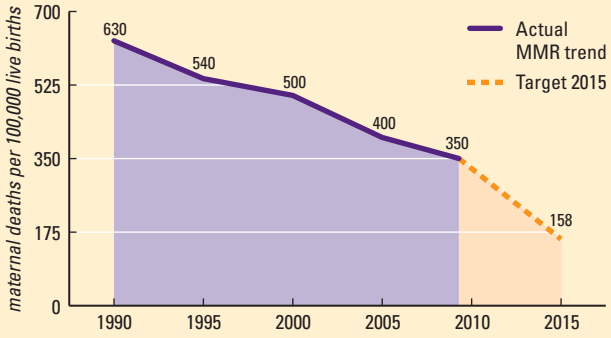
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	–
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	–
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	–
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

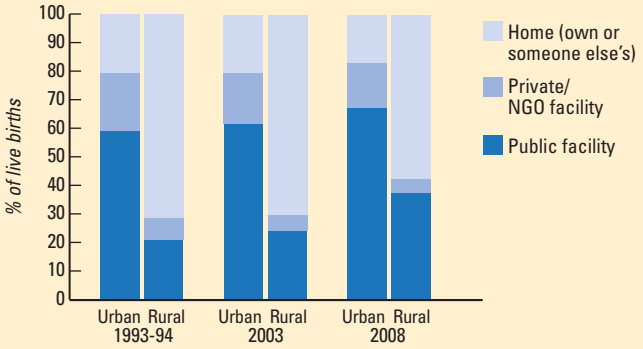
SERVICES

Number of facilities providing essential childbirth care	Unavailable
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	–
Number of Comprehensive EmONC facilities	–
Facilities per 1,000 births	–

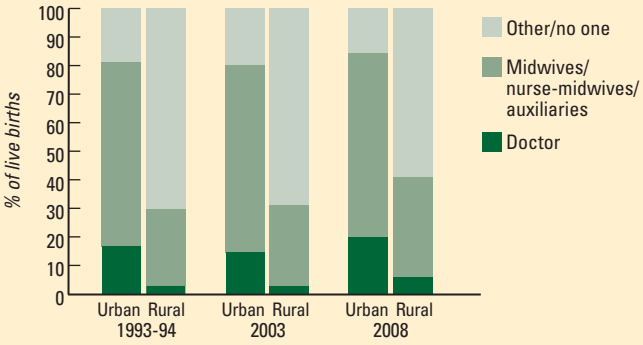
Trends in maternal mortality: 1990–2015



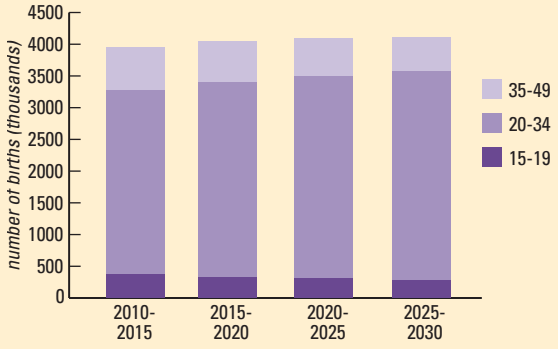
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Guinea

More than 70 percent of Guinea's mostly rural population lives in poverty. Political turmoil and insecurity, along with a high prevalence of HIV, have disrupted efforts to improve population health status and some health indicators have reversed. Maternal mortality has been reduced by 43 percent since 1990, but remains very high. The national health policy addresses maternal health, with a human resources for health policy in support of this. Health insurance is being introduced to cover pregnancy and childbirth and a policy for free caesareans has been implemented. Currently only one private school teaches a three-year direct-entry midwifery programme. Given the adverse living conditions in rural areas, half of the midwifery workforce is concentrated in the capital city, and no incentives are offered for rural posts. The government is committed to developing a rotation system for health personnel deployment and strengthening basic and continuing midwifery education.

COUNTRY INDICATORS*

Total population (000); % urban	10,324; 35
Adolescent population (15-19 yrs) (000); % of total	1,100; 11
Number of women of reproductive age (age 15-49) (000); % of total	2,373; 23
Total fertility rate (children per woman)	5.4
Crude birth rate (per 1,000 population)	40
Births per year (000)	390
% of all births registered	43
Number of maternal deaths	2,700
Neonatal mortality rate (per 1,000 live births)	40
Stillbirth rate (per 1,000 births)	24
Number of pregnant women tested for HIV	39,893
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	0.1
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	474
Gross secondary school enrolment (male; female) %	45; 26
Literacy rate (age 15 and over) (male; female) %	50; 26

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	680
Proportion of births attended by skilled health personnel (%)	46
Contraceptive prevalence rate (modern methods) (%)	9
Adolescent birth rate (births per 1,000 women age 15-19)	153
Antenatal care coverage (at least one visit; at least four visits) (%)	88; 50
Unmet need for family planning (%)	21
Under-5 mortality rate (per 1,000 live births)	146

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	401
Other health professionals with some midwifery competencies[3]	2,885
General practitioners with some midwifery competencies	–
Obstetricians	–
Community health workers with some midwifery training	1,009
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; No
Number of midwifery education institutions (total); number of private	4; 2
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**1**
Birth complications per day; rural	**182**; 109
Lifetime risk of maternal death	**1 in 26**
Intrapartum stillbirth rate (per 1,000 births)	**11**
Neonatal mortality as % of under-5 mortality	**29**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	50
Association(s) affiliated with ICM; ICN	Yes; No

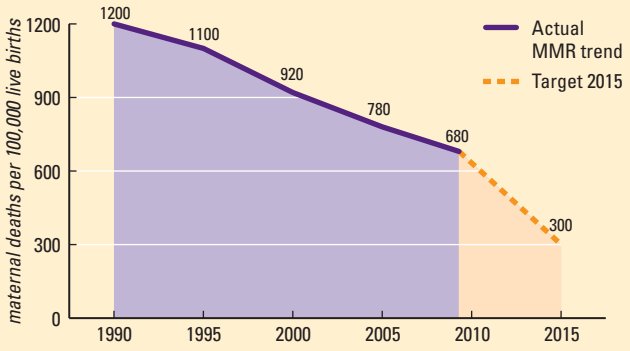
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Partial

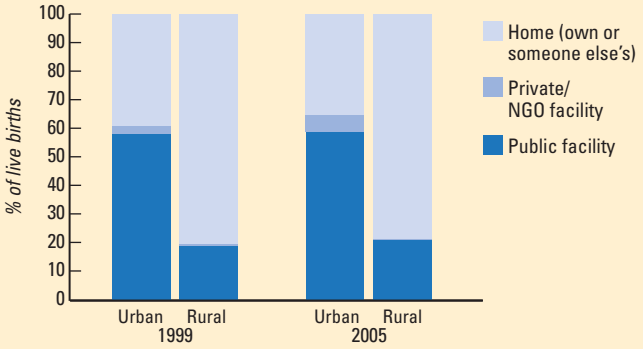
SERVICES

Number of facilities providing essential childbirth care	485
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	50
Number of Comprehensive EmONC facilities	35
Facilities per 1,000 births	1

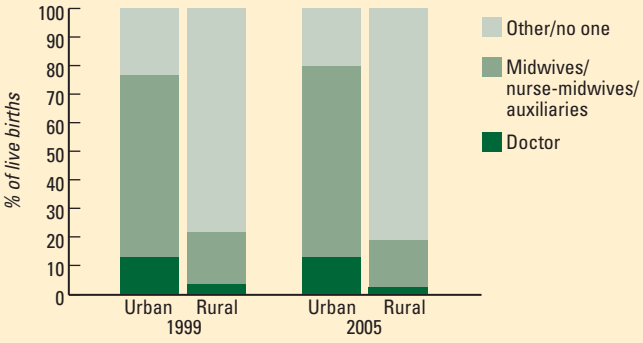
Trends in maternal mortality: 1990–2015



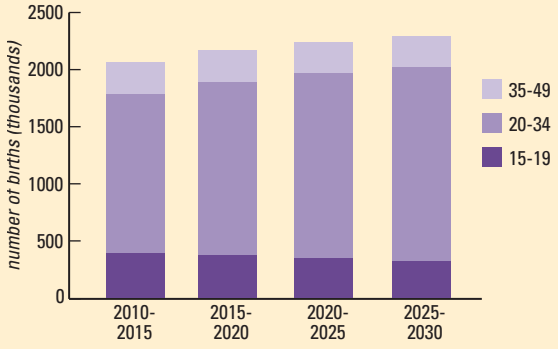
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Guinea-Bissau

Poor infrastructure and service delivery, largely destroyed during the civil war, have contributed to a reversal in Guinea-Bissau's population health status. The current capacity of the health system is very low. Maternal mortality has decreased slightly since 1990, but remains extremely high. Emergency obstetric care is only available in the capital city. A national reproductive health policy and programme, as well as service delivery norms were recently developed. A roadmap for reducing maternal and neonatal mortality is in place, and aims to improve access to care packages, particularly for low-income groups and those in remote areas. The 2005 national plan for developing human resources recognizes problems associated with workforce attrition and the dearth of educated midwives, nurses and obstetric specialists. Two public institutions provide midwifery education to nurses. Improving infrastructure and equipment, and increasing the midwifery workforce are key steps to expand access to quality midwifery services.

COUNTRY INDICATORS*

Total population (000); % urban	1,647; 30
Adolescent population (15-19 yrs) (000); % of total	166; 10
Number of women of reproductive age (age 15-49) (000); % of total	380; 23
Total fertility rate (children per woman)	5.7
Crude birth rate (per 1,000 population)	41
Births per year (000)	65
% of all births registered	39
Number of maternal deaths	650
Neonatal mortality rate (per 1,000 live births)	46
Stillbirth rate (per 1,000 births)	30
Number of pregnant women tested for HIV	13,864
Midwives are authorized to administer a core set of life-saving interventions	No
Density of midwives, nurses and doctors per 1,000 population	0.6
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	195
Gross secondary school enrolment (male; female) %	–; –
Literacy rate (age 15 and over) (male; female) %	66; 37

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	1,000
Proportion of births attended by skilled health personnel (%)	39
Contraceptive prevalence rate (modern methods) (%)	10
Adolescent birth rate (births per 1,000 women age 15-19)	170
Antenatal care coverage (at least one visit; at least four visits) (%)	78; –
Unmet need for family planning (%)	–
Under-5 mortality rate (per 1,000 live births)	195

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	163
Other health professionals with some midwifery competencies[3]	24
General practitioners with some midwifery competencies	17
Obstetricians	2
Community health workers with some midwifery training	915
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; Yes; No
Number of midwifery education institutions (total); number of private	–; 0
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**3**
Birth complications per day; rural	**28**; 20
Lifetime risk of maternal death	**1 in 18**
Intrapartum stillbirth rate (per 1,000 births)	**14**
Neonatal mortality as % of under-5 mortality	**24**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	258
Association(s) affiliated with ICM; ICN	No; –

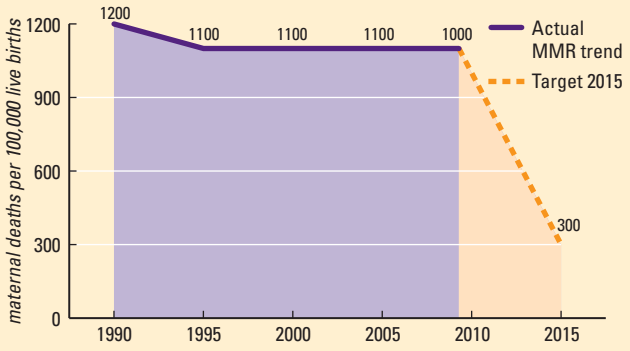
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	No
The plan is costed	No
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	–
Confidential enquiry for maternal deaths	–
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	–

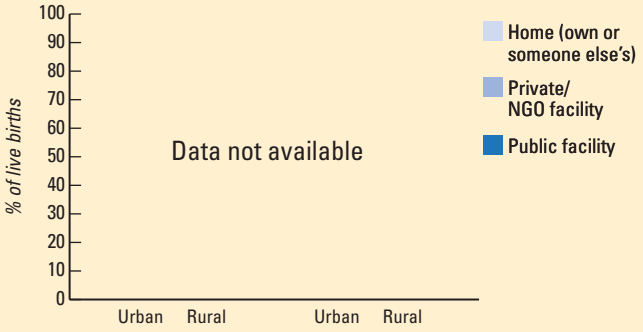
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	95
Number of Comprehensive EmONC facilities	6
Facilities per 1,000 births	–

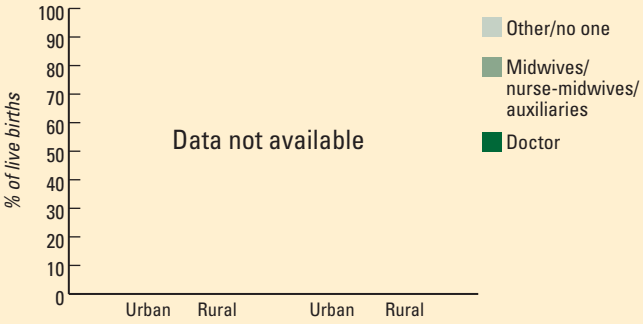
Trends in maternal mortality: 1990–2015



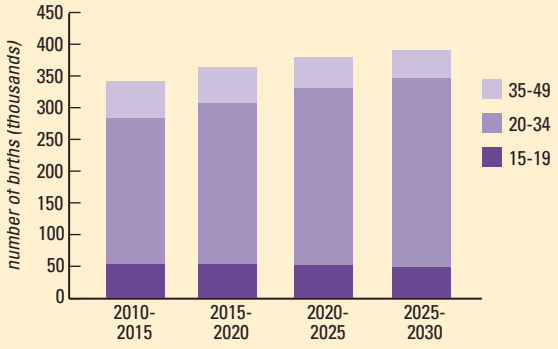
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Guyana

Guyana has a small and culturally diverse population, with 70 percent living in rural areas. The negative rate of population growth is mainly due to migration. With very high rates of communicable diseases, HIV is one of the leading causes of mortality. Maternal mortality declined in the 1990s, but it increased again in the 2000-2008 period. High priority is given to addressing maternal health gaps and services are now free in public health facilities. The maternal and newborn health policy aims at strengthening the midwifery workforce, and has contributed to a better deployment of midwives in remote areas and to the integration of traditional birth attendants in community care. A two-year direct-entry programme focused on graduating midwives for rural areas is implemented in three public schools in Guyana. The vacancy rate for midwifery faculty is high. Improving the learning environment is key to strengthening the coverage and quality of midwifery services.

COUNTRY INDICATORS*

Total population (000); % urban	761; 29
Adolescent population (15-19 yrs) (000); % of total	72; 9
Number of women of reproductive age (age 15-49) (000); % of total	190; 25
Total fertility rate (children per woman)	2.3
Crude birth rate (per 1,000 population)	18
Births per year (000)	14
% of all births registered	93
Number of maternal deaths	37
Neonatal mortality rate (per 1,000 live births)	21
Stillbirth rate (per 1,000 births)	17
Number of pregnant women tested for HIV	14,283
Midwives are authorized to administer a core set of life-saving interventions	–
Density of midwives, nurses and doctors per 1,000 population	2.8
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	–
Gross secondary school enrolment (male; female) %	102; 102
Literacy rate (age 15 and over) (male; female) %	–; –

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	270
Proportion of births attended by skilled health personnel (%)	83
Contraceptive prevalence rate (modern methods) (%)	34
Adolescent birth rate (births per 1,000 women age 15-19)	90
Antenatal care coverage (at least one visit; at least four visits) (%)	81; –
Unmet need for family planning (%)	–
Under-5 mortality rate (per 1,000 live births)	36

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	400
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	452
Obstetricians	2
Community health workers with some midwifery training	60
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; Yes
Number of midwifery education institutions (total); number of private	6; 0
Duration of midwifery education programmes (in months)	12 to 24
Number of student admissions (first year)	120
Student admissions per total available student places (%)	78
Number of students enrolled in all years (2009)	175
Number of graduates (2009)	120
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	–
Birth complications per day; rural	8; 5
Lifetime risk of maternal death	1 in 150
Intrapartum stillbirth rate (per 1,000 births)	4
Neonatal mortality as % of under-5 mortality	60

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	75
Association(s) affiliated with ICM; ICN	No; Yes

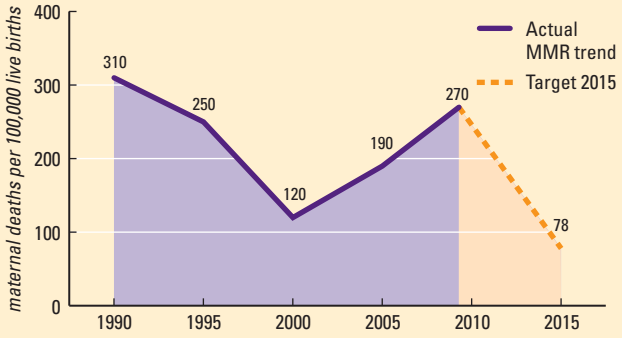
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

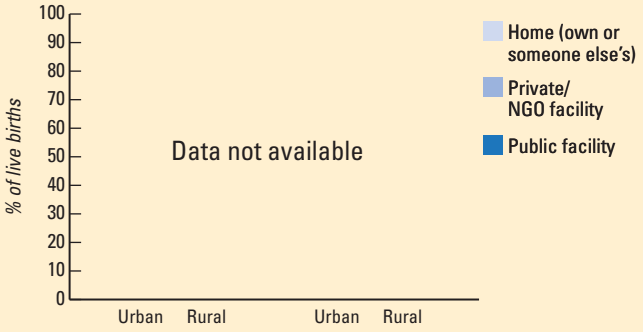
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	6
Number of Comprehensive EmONC facilities	–
Facilities per 1,000 births	–

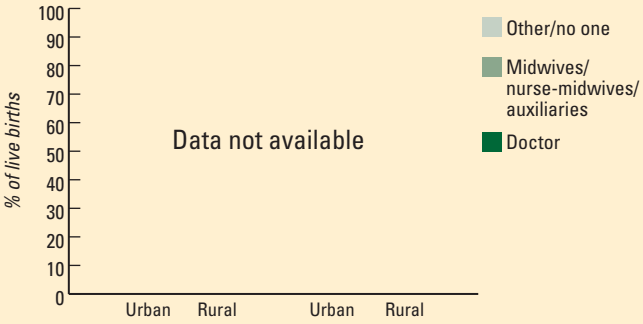
Trends in maternal mortality: 1990–2015



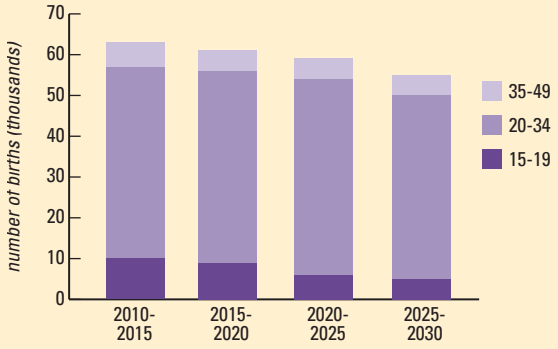
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Haiti

Haiti, the poorest country in the Western Hemisphere, faced many challenges prior to the devastating earthquake of January 2010, including political turmoil, natural disasters and food insecurity. Maternal mortality has declined steadily, especially since 1995, but the ratio remains high. Since 2008, the Ministry of Health and Population, with support from international partners, has implemented a scheme to provide family planning, antenatal, obstetric and neonatal care free of charge in a number of health facilities in the country. Workforce attrition is reportedly high, including migration of qualified nurse-midwives. There is currently one midwifery school, but plans are underway to open new education facilities in the provinces, and to implement a revised curriculum that meets the ICM standards. A scale up of educational institutions with accompanying retention mechanisms is imperative to increase and sustain the midwifery workforce.

COUNTRY INDICATORS*

Total population (000); % urban	10,188; 52
Adolescent population (15-19 yrs) (000); % of total	1,113; 11
Number of women of reproductive age (age 15-49) (000); % of total	2,667; 26
Total fertility rate (children per woman)	3.5
Crude birth rate (per 1,000 population)	28
Births per year (000)	273
% of all births registered	81
Number of maternal deaths	820
Neonatal mortality rate (per 1,000 live births)	27
Stillbirth rate (per 1,000 births)	16
Number of pregnant women tested for HIV	154,835
Midwives are authorized to administer a core set of life-saving interventions	No
Density of midwives, nurses and doctors per 1,000 population	0.4
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	563
Gross secondary school enrolment (male; female) %	–; –
Literacy rate (age 15 and over) (male; female) %	–; –

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	300
Proportion of births attended by skilled health personnel (%)	26
Contraceptive prevalence rate (modern methods) (%)	32
Adolescent birth rate (births per 1,000 women age 15-19)	69
Antenatal care coverage (at least one visit; at least four visits) (%)	85; 54
Unmet need for family planning (%)	38
Under-5 mortality rate (per 1,000 live births)	89

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	174
Other health professionals with some midwifery competencies[3]	40
General practitioners with some midwifery competencies	373
Obstetricians	221
Community health workers with some midwifery training	*Unavailable*
A live registry of licensed midwives exists	–

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; No; Yes
Number of midwifery education institutions (total); number of private	1; 0
Duration of midwifery education programmes (in months)	–
Number of student admissions (first year)	–
Student admissions per total available student places (%)	90
Number of students enrolled in all years (2009)	36
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	–
Midwives hold a protected title	–
A recognized definition of a professional midwife exists	–
A government body regulates midwifery practice	–
A licence is required to practise midwifery	–
Midwives are authorized to prescribe life-saving medications	–

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**1**
Birth complications per day; rural	**113**; 54
Lifetime risk of maternal death	**1 in 93**
Intrapartum stillbirth rate (per 1,000 births)	**4**
Neonatal mortality as % of under-5 mortality	**31**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	80
Association(s) affiliated with ICM; ICN	Yes; No

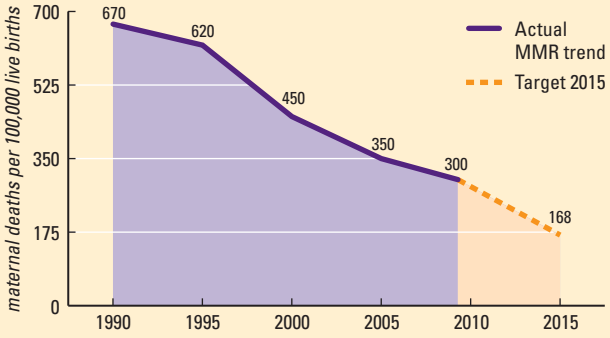
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	No
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Partial

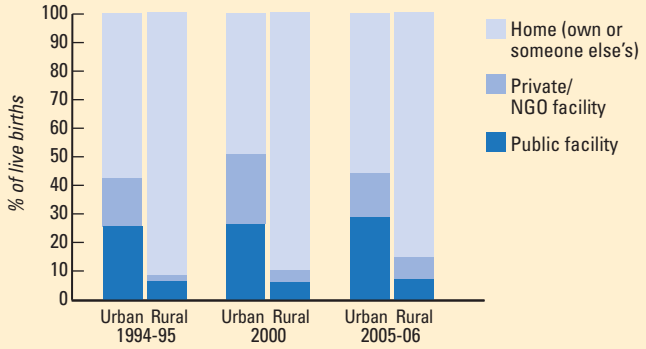
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	*Unavailable*
Number of Comprehensive EmONC facilities	12
Facilities per 1,000 births	–

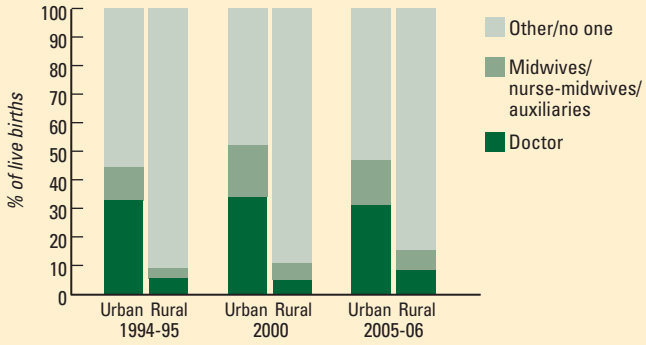
Trends in maternal mortality: 1990–2015



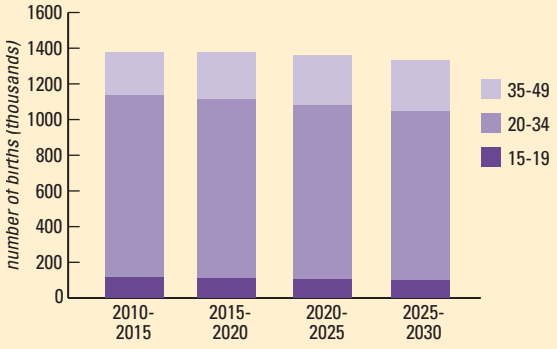
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

India

India's population, the second largest in the world, is 70 percent rural. The percentage of the population living in poverty has declined in recent decades, but differences persist between and within regions. The status of women is low and measures are in place to halt discriminating practices against girls. Maternal mortality has been reduced by 59 percent since 1990, with greater successes in some states. National and state governments are committed to expanding coverage of health services to excluded populations. A conditional cash transfer programme is promoting institutional delivery. India has a strong body of midwives. However, in some regions the majority of midwifery services are provided by auxiliary nurse midwives, who lack the full set of ICM competencies. Ensuring availability of human resources for skilled attendance at birth in remote facilities remains a challenge.

COUNTRY INDICATORS*

Total population (000); % urban	1,214,464; 30
Adolescent population (15-19 yrs) (000); % of total	121,243; 10
Number of women of reproductive age (age 15-49) (000); % of total	310,624; 26
Total fertility rate (children per woman)	2.7
Crude birth rate (per 1,000 population)	23
Births per year (000)	26,929
% of all births registered	41
Number of maternal deaths	63,000
Neonatal mortality rate (per 1,000 live births)	34
Stillbirth rate (per 1,000 births)	22
Number of pregnant women tested for HIV	5,717,819
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	1.9
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	25,620
Gross secondary school enrolment (male; female) %	61; 52
Literacy rate (age 15 and over) (male; female) %	75; 51

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	230
Proportion of births attended by skilled health personnel (%)	47
Contraceptive prevalence rate (modern methods) (%)	56
Adolescent birth rate (births per 1,000 women age 15-19)	45
Antenatal care coverage (at least one visit; at least four visits) (%)	74; 37
Unmet need for family planning (%)	13
Under-5 mortality rate (per 1,000 live births)	68

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	324,624
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	*Unavailable*
Obstetricians	28,000
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; Yes; No
Number of midwifery education institutions (total); number of private	4,271; 3,820
Duration of midwifery education programmes (in months)	6 to 9
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	– ○
Birth complications per day; rural **10,976**; 7,683	●
Lifetime risk of maternal death	**1 in 140** ●
Intrapartum stillbirth rate (per 1,000 births)	**13** ●
Neonatal mortality as % of under-5 mortality	**52** ●

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	269,113
Association(s) affiliated with ICM; ICN	Yes; No

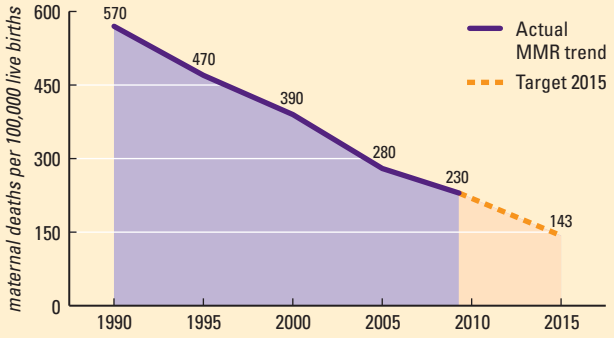
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

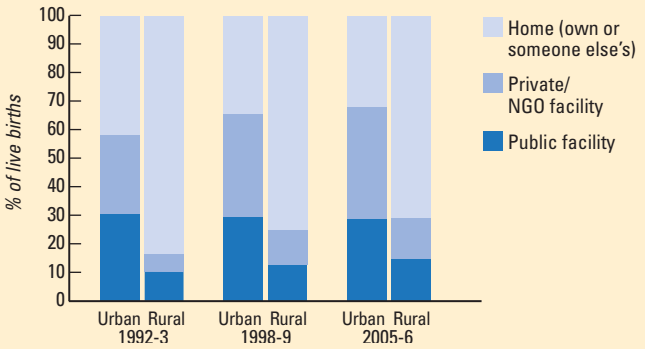
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	8,324
Number of Comprehensive EmONC facilities	2,463
Facilities per 1,000 births	–

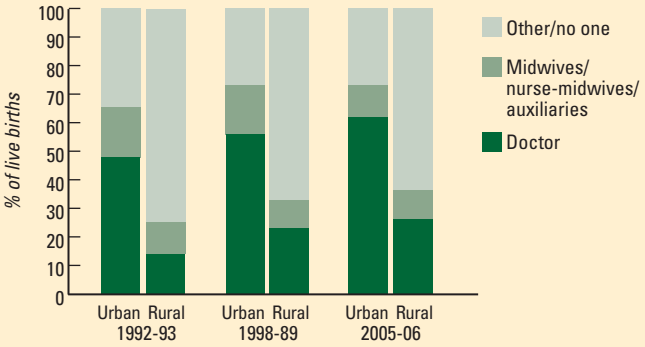
Trends in maternal mortality: 1990–2015



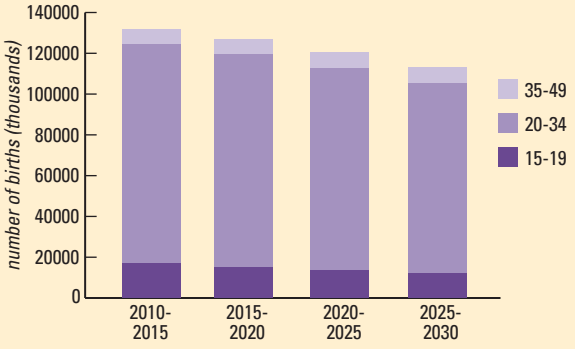
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: * 'Annex 2. Data Dictionary' provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data was not available, the term 'Not available' is used. In all other instances, '–' is used to denote a nil response or data that could not be validated. 1. Numbers refer to those currently practising (all figures are taken from publicly available information and have not been verified by the GoI). 2. Includes nurse-midwives, nurses and auxiliary nurse midwives with full midwifery competencies. These figures do not necessarily reflect midwife numbers as per the ICM definition.

Indonesia

In recent years the number of people living in poverty in the world's fourth most populous country has been significantly reduced. Indonesia has implemented successful family planning programmes, and fertility has steadily declined. The maternal mortality ratio has been reduced by 62 percent since 1990. Socio-economic and cultural issues affect access, availability and utilization of care. A maternal health policy has been in effect since 2009, making institutional delivery free of charge. Government interventions have focused on securing availability and distribution of skilled birth attendants particularly in underserved areas with a village midwife programme initiated 15 years ago. As of 2012, all midwifery schools will need to be accredited by the National Accreditation Board. Midwifery posts are offered in public rural facilities, but more attractive employment conditions are offered by private practice in urban areas. A three-year direct entry programme is in place. Education schemes focusing on the teaching and managerial competencies of midwives will strengthen the quantity and quality of the future midwifery workforce.

COUNTRY INDICATORS*

Total population (000); % urban	232,517; 44
Adolescent population (15-19 yrs) (000); % of total	20,454; 9
Number of women of reproductive age (age 15-49) (000); % of total	64,292; 28
Total fertility rate (children per woman)	2.2
Crude birth rate (per 1,000 population)	19
Births per year (000)	4,236
% of all births registered	55
Number of maternal deaths	10,000
Neonatal mortality rate (per 1,000 live births)	19
Stillbirth rate (per 1,000 births)	15
Number of pregnant women tested for HIV	10,026
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	2.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	3,560
Gross secondary school enrolment (male; female) %	75; 74
Literacy rate (age 15 and over) (male; female) %	95; 89

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	240
Proportion of births attended by skilled health personnel (%)	79
Contraceptive prevalence rate (modern methods) (%)	61
Adolescent birth rate (births per 1,000 women age 15-19)	52
Antenatal care coverage (at least one visit; at least four visits) (%)	93; 82
Unmet need for family planning (%)	9
Under-5 mortality rate (per 1,000 live births)	41

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	93,889
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	–
Obstetricians	870
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	426; 346
Duration of midwifery education programmes (in months)	12 to 36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	–
Birth complications per day; rural	**2,028**; 1,136
Lifetime risk of maternal death	**1 in 190**
Intrapartum stillbirth rate (per 1,000 births)	**5**
Neonatal mortality as % of under-5 mortality	**49**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	88,796
Association(s) affiliated with ICM; ICN	Yes; No

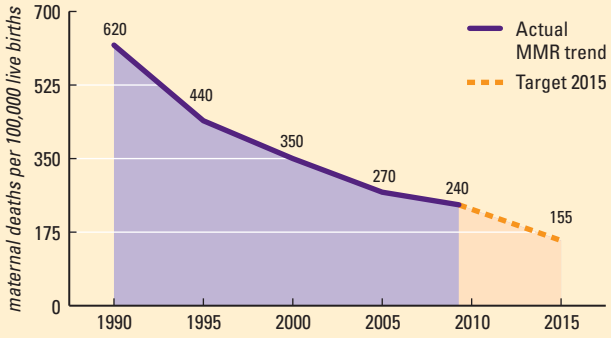
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	–
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

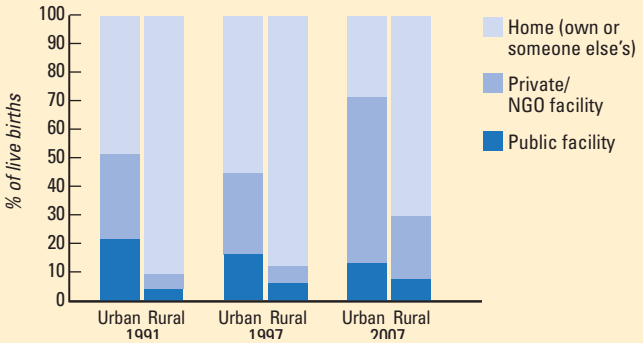
SERVICES

Number of facilities providing essential childbirth care	5,891
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	1,347
Number of Comprehensive EmONC facilities	317
Facilities per 1,000 births	1

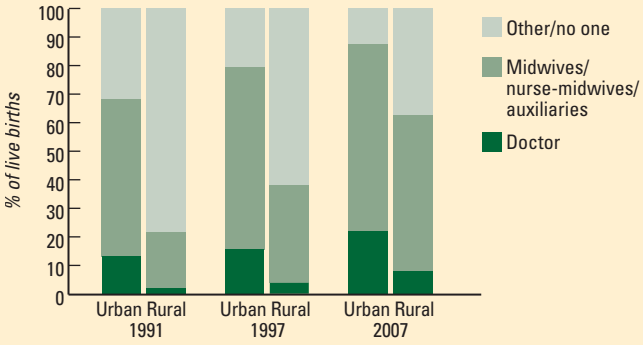
Trends in maternal mortality: 1990–2015



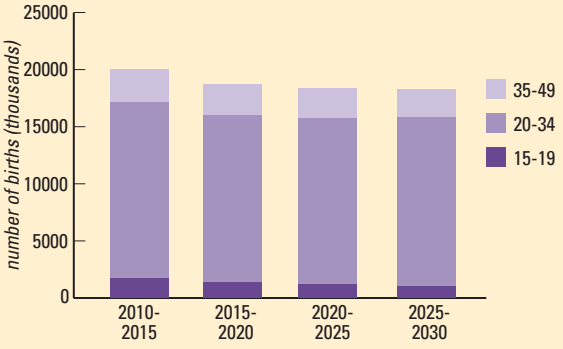
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Kenya

An estimated 50 percent of Kenya's population lives in poverty. High rates of infectious diseases such as HIV and malaria pose a great burden on the health system. An estimated 14 percent of maternal deaths are due to HIV. Maternal health figures improved in the 1990s, but in the past decade no progress has been made in reducing maternal mortality. Disparities of wealth and poverty are a barrier to equitable access to services. The 2007 National Reproductive Health Policy puts a special focus on inclusion of vulnerable and marginalized populations. Set up in 2002, the Kenya Health Workforce Information System allows the Government to determine how best to develop and deploy the health workforce. A midwifery education and training system is in place, and midwives are authorized to practice all essential ICM competencies. However, staff shortages in the public health system are critical, despite the continuing difficulties of newly graduated midwives to secure employment.

COUNTRY INDICATORS*

Total population (000); % urban	40,863; 22
Adolescent population (15-19 yrs) (000); % of total	4,339; 11
Number of women of reproductive age (age 15-49) (000); % of total	9,802; 24
Total fertility rate (children per woman)	4.9
Crude birth rate (per 1,000 population)	39
Births per year (000)	1,496
% of all births registered	48
Number of maternal deaths	7,900
Neonatal mortality rate (per 1,000 live births)	27
Stillbirth rate (per 1,000 births)	22
Number of pregnant women tested for HIV	961,990
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	1.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	1,669
Gross secondary school enrolment (male; female) %	61; 56
Literacy rate (age 15 and over) (male; female) %	90; 83

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	530
Proportion of births attended by skilled health personnel (%)	42
Contraceptive prevalence rate (modern methods) (%)	39
Adolescent birth rate (births per 1,000 women age 15-19)	103
Antenatal care coverage (at least one visit; at least four visits) (%)	88; 52
Unmet need for family planning (%)	25
Under-5 mortality rate (per 1,000 live births)	86

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	24,421
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	–
Obstetricians	251
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; Yes
Number of midwifery education institutions (total); number of private	60; 27
Duration of midwifery education programmes (in months)	12 to 42
Number of student admissions (first year)	–
Student admissions per total available student places (%)	>100
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	–
Birth complications per day; rural	**608**; 426
Lifetime risk of maternal death	**1 in 38**
Intrapartum stillbirth rate (per 1,000 births)	**10**
Neonatal mortality as % of under-5 mortality	**33**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	Yes; Yes

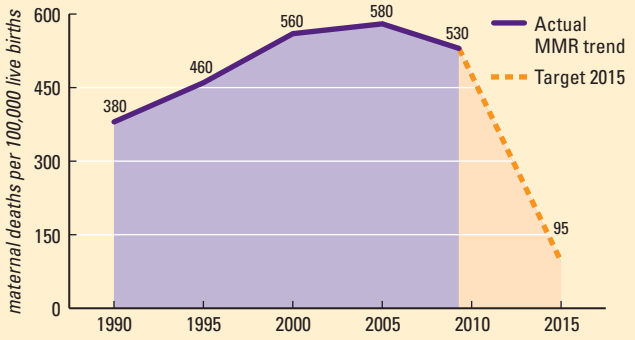
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	–
Compulsory notification of maternal deaths	MM
Systematic maternal death audits and reviews	–
Confidential enquiry for maternal deaths	–
Compulsory registration of all births	–
All maternal and newborn health services are free (public sector)	Yes

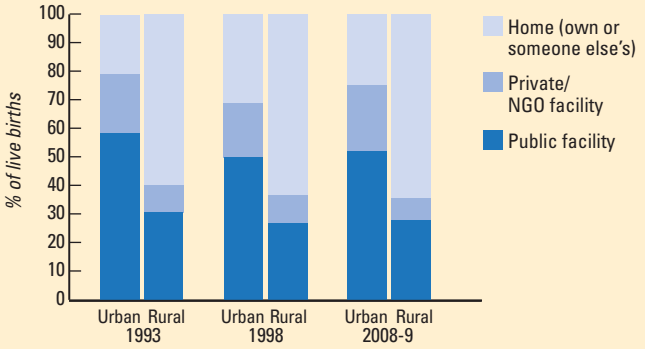
SERVICES

Number of facilities providing essential childbirth care	–
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	2,465
Number of Comprehensive EmONC facilities	522
Facilities per 1,000 births	–

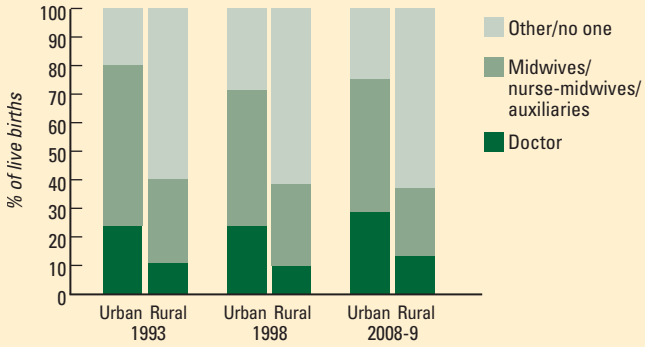
Trends in maternal mortality: 1990–2015



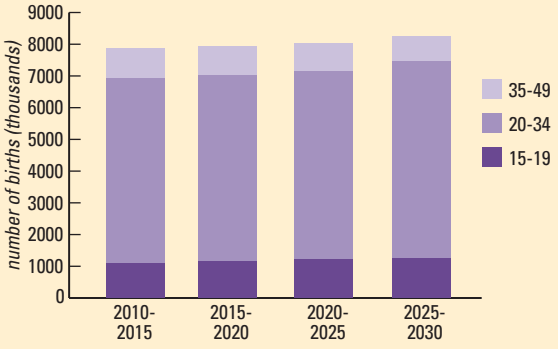
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Lao People's Democratic Republic

The majority of the population in the Lao People's Democratic Republic lives in rural areas. Geography, cultural diversity, low population density and high levels of poverty contribute to very limited access to healthcare services. Reductions in total fertility rates and increases in contraceptive use have been achieved in the past five years. Maternal mortality has decreased by 51 percent since 1990 but remains very high. An assessment conducted in 2008 showed that 80 percent of health workers had limited competencies to assist women during pregnancy, labour and birth. The 2009 National Skilled Birth Attendance Plan was developed to recruit, educate and retrain staff, in order to build a more competent midwifery cadre. Graduated midwives are posted in health centres to provide services and do outreach work at the community level. A strengthened health system will contribute to enhancing the enabling environment in which the new cadre of midwives work.

COUNTRY INDICATORS*

Total population (000); % urban	6,436; 33
Adolescent population (15-19 yrs) (000); % of total	762; 12
Number of women of reproductive age (age 15-49) (000); % of total	1,667; 26
Total fertility rate (children per woman)	3.5
Crude birth rate (per 1,000 population)	27
Births per year (000)	170
% of all births registered	59
Number of maternal deaths	980
Neonatal mortality rate (per 1,000 live births)	22
Stillbirth rate (per 1,000 births)	17
Number of pregnant women tested for HIV	3,094
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	1.2
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	360
Gross secondary school enrolment (male; female) %	48; 39
Literacy rate (age 15 and over) (male; female) %	82; 63

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	580
Proportion of births attended by skilled health personnel (%)	20
Contraceptive prevalence rate (modern methods) (%)	32
Adolescent birth rate (births per 1,000 women age 15-19)	110
Antenatal care coverage (at least one visit; at least four visits) (%)	35; –
Unmet need for family planning (%)	40
Under-5 mortality rate (per 1,000 live births)	61

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	343
Other health professionals with some midwifery competencies[3]	208
General practitioners with some midwifery competencies	174
Obstetricians	69
Community health workers with some midwifery training	381
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; Yes; Yes
Number of midwifery education institutions (total); number of private	16; 0
Duration of midwifery education programmes (in months)	12
Number of student admissions (first year)	–
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**2**
Birth complications per day; rural	**75**; 49
Lifetime risk of maternal death	**1 in 49**
Intrapartum stillbirth rate (per 1,000 births)	**5**
Neonatal mortality as % of under-5 mortality	**38**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	No
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	–; –

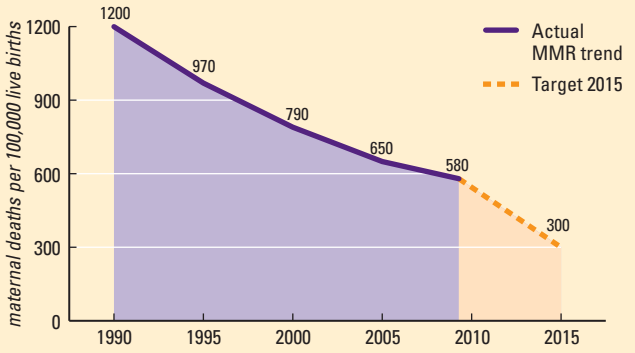
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	–
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	No
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	No
All maternal and newborn health services are free (public sector)	Partial

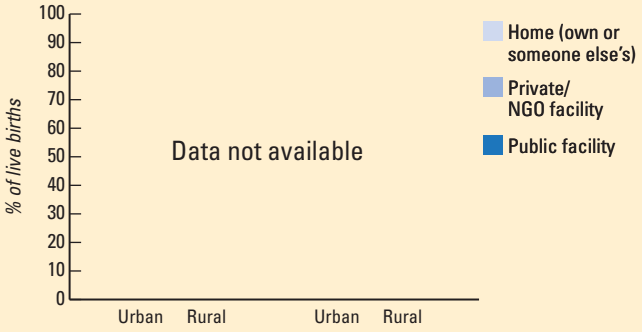
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	150
Number of Comprehensive EmONC facilities	46
Facilities per 1,000 births	–

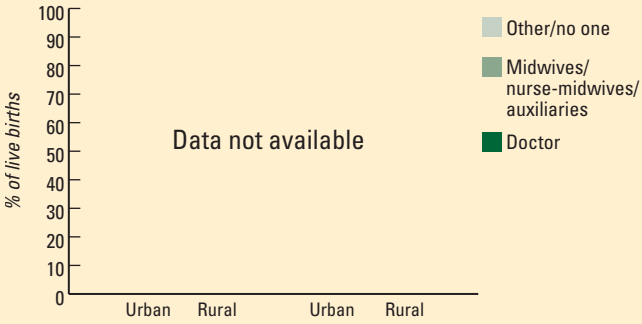
Trends in maternal mortality: 1990–2015



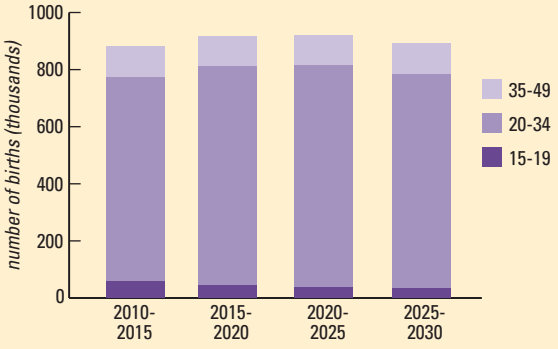
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Liberia

Liberia lost most of its health workforce and health infrastructure during a devastating 15-year civil war. Ranking near the bottom of the Human Development Index, the country is in the midst of rebuilding itself. Half of the young and fast growing population is poor and can afford neither education nor health care. The maternal mortality ratio is one of the highest in the world, and has decreased by only 10% since 1990. Steps have been taken to improve maternal health and the government has established ambitious targets. Positive developments include scaling up midwifery education and establishing career paths and incentives to retain midwives. However, without a clear strategy to reduce maternal mortality and additional external support, it is unlikely that the MDG 5 target can be attained. Currently, most of the functioning health facilities operate exclusively with the support of NGOs or faith-based organizations.

COUNTRY INDICATORS*

Total population (000); % urban	4,102; 48
Adolescent population (15-19 yrs) (000); % of total	437; 11
Number of women of reproductive age (age 15-49) (000); % of total	975; 24
Total fertility rate (children per woman)	5.9
Crude birth rate (per 1,000 population)	38
Births per year (000)	143
% of all births registered	–
Number of maternal deaths	1,400
Neonatal mortality rate (per 1,000 live births)	37
Stillbirth rate (per 1,000 births)	27
Number of pregnant women tested for HIV	32,659
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	261
Gross secondary school enrolment (male; female) %	36; 27
Literacy rate (age 15 and over) (male; female) %	63; 53

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	990
Proportion of births attended by skilled health personnel (%)	46
Contraceptive prevalence rate (modern methods) (%)	11
Adolescent birth rate (births per 1,000 women age 15-19)	177
Antenatal care coverage (at least one visit; at least four visits) (%)	79; 66
Unmet need for family planning (%)	36
Under-5 mortality rate (per 1,000 live births)	119

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	412
Other health professionals with some midwifery competencies[3]	193
General practitioners with some midwifery competencies	90
Obstetricians	3
Community health workers with some midwifery training	50
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; Yes
Number of midwifery education institutions (total); number of private	5; 0
Duration of midwifery education programmes (in months)	18 to 24
Number of student admissions (first year)	219
Student admissions per total available student places (%)	>100
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**3**
Birth complications per day; rural	**72**; 38
Lifetime risk of maternal death	**1 in 20**
Intrapartum stillbirth rate (per 1,000 births)	**13**
Neonatal mortality as % of under-5 mortality	**33**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	4,000
Association(s) affiliated with ICM; ICN	Yes; Yes

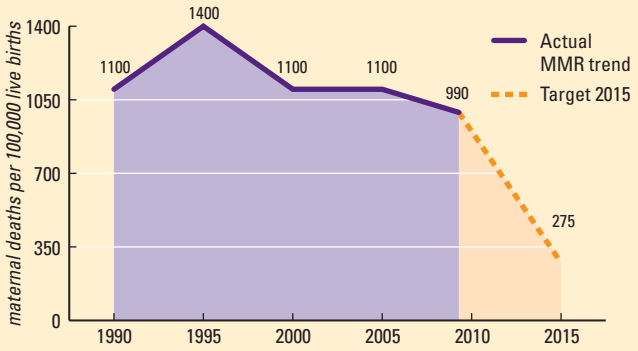
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	–
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Partial

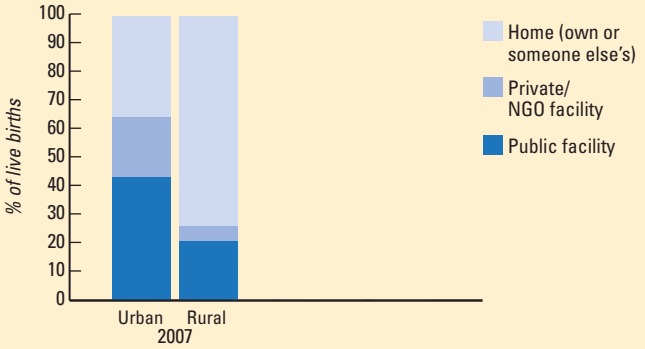
SERVICES

Number of facilities providing essential childbirth care	–
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	45
Number of Comprehensive EmONC facilities	11
Facilities per 1,000 births	–

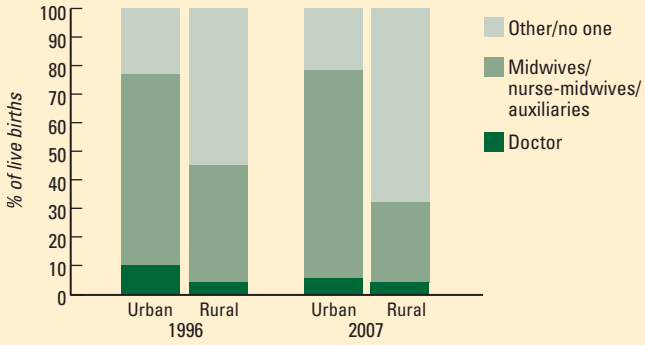
Trends in maternal mortality: 1990–2015



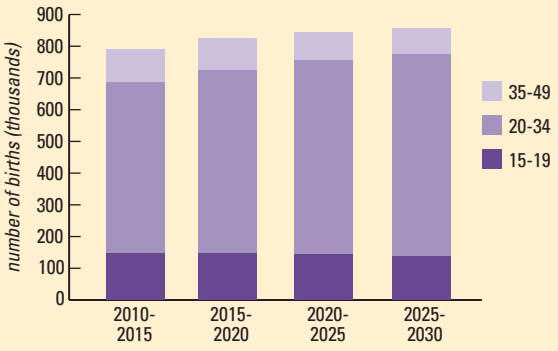
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Madagascar

Madagascar is facing the triple challenge of fast population growth, growing poverty and political instability. Fertility is high and the adolescent fertility rate is among the highest in Africa. The country has reduced maternal mortality since 1990, but the ratio remains high. Weak infrastructure, referral systems and equipment, and lack of qualified staff, make access to health care especially difficult in the provinces. The government has made maternal and newborn health a top priority, and a national plan for maternal and newborn health was launched in 2008. A policy of free care at birth that includes caesarean sections promotes institutional birth and increasing skilled attendance at birth to a target of 75 percent. The country has a total of 21 midwifery schools, but the number of graduated midwives needed is not yet being met, and in isolated facilities, auxiliaries are still the main care providers.

COUNTRY INDICATORS*

Total population (000); % urban	20,146; 30
Adolescent population (15-19 yrs) (000); % of total	2,222; 11
Number of women of reproductive age (age 15-49) (000); % of total	4,811; 24
Total fertility rate (children per woman)	4.7
Crude birth rate (per 1,000 population)	36
Births per year (000)	683
% of all births registered	75
Number of maternal deaths	3,000
Neonatal mortality rate (per 1,000 live births)	21
Stillbirth rate (per 1,000 births)	21
Number of pregnant women tested for HIV	140,261
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.5
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	837
Gross secondary school enrolment (male; female) %	31; 29
Literacy rate (age 15 and over) (male; female) %	77; 65

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	440
Proportion of births attended by skilled health personnel (%)	51
Contraceptive prevalence rate (modern methods) (%)	27
Adolescent birth rate (births per 1,000 women age 15-19)	148
Antenatal care coverage (at least one visit; at least four visits) (%)	80; 40
Unmet need for family planning (%)	24
Under-5 mortality rate (per 1,000 live births)	61

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	2,969
Other health professionals with some midwifery competencies[3]	97
General practitioners with some midwifery competencies	3,071
Obstetricians	24
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	21; 15
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	520
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	No
A licence is required to practise midwifery	No
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**4**
Birth complications per day; rural	**304**; 210
Lifetime risk of maternal death	**1 in 45**
Intrapartum stillbirth rate (per 1,000 births)	**10**
Neonatal mortality as % of under-5 mortality	**37**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	No; No

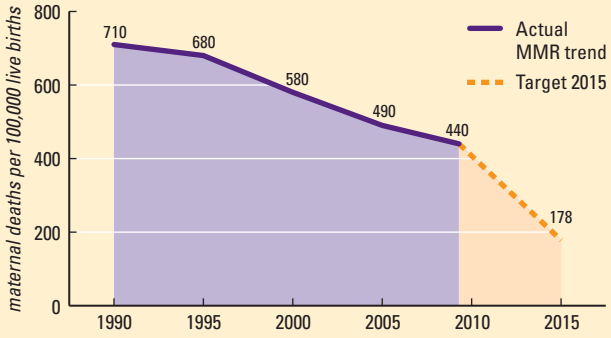
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	–
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Partial

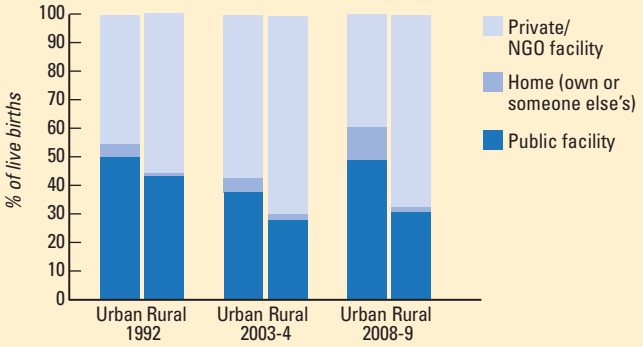
SERVICES

Number of facilities providing essential childbirth care	2,975
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	3
Number of Comprehensive EmONC facilities	19
Facilities per 1,000 births	4

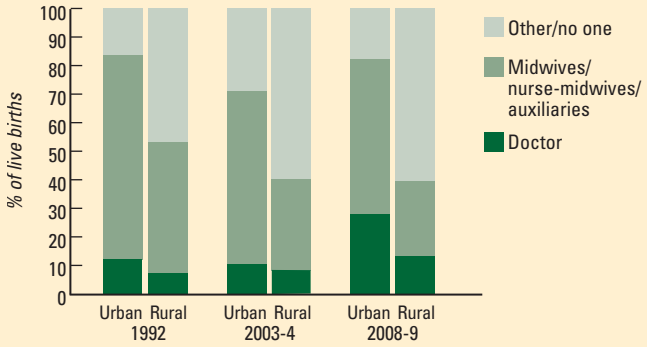
Trends in maternal mortality: 1990–2015



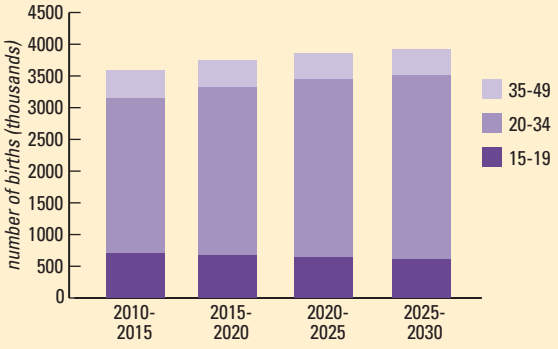
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Malawi

More than 60 percent of Malawi's predominantly rural population lives in poverty. Fifty percent of women are married by age 18, and the adolescent pregnancy rate remains very high. HIV prevalence among adults is estimated at 12 percent. Maternal mortality has slightly declined since 1990 but remains very high. The 2007 road map to accelerate the reduction of maternal mortality aims at increasing the availability, accessibility, utilization and quality of skilled obstetric care at all levels of the health system. The shortage of human resources is critical and staff turnover and attrition in rural areas is high. Malawi has good standards of midwifery regulation and education. A direct-entry programme has been created and a new cadre of community-based midwives is being educated. This will help increase the midwifery workforce, given that education institutions were not producing adequate numbers of graduates. Provision of equipment and supplies should be enhanced to optimize the performance of midwives in rural areas.

COUNTRY INDICATORS*

Total population (000); % urban	15,692; 20
Adolescent population (15-19 yrs) (000); % of total	1,761; 11
Number of women of reproductive age (age 15-49) (000); % of total	3,532; 23
Total fertility rate (children per woman)	5.5
Crude birth rate (per 1,000 population)	40
Births per year (000)	594
% of all births registered	–
Number of maternal deaths	3,000
Neonatal mortality rate (per 1,000 live births)	30
Stillbirth rate (per 1,000 births)	24
Number of pregnant women tested for HIV	316,000
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	746
Gross secondary school enrolment (male; female) %	32; 27
Literacy rate (age 15 and over) (male; female) %	80; 66

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	510
Proportion of births attended by skilled health personnel (%)	54
Contraceptive prevalence rate (modern methods) (%)	41
Adolescent birth rate (births per 1,000 women age 15-19)	177
Antenatal care coverage (at least one visit; at least four visits) (%)	92; 57
Unmet need for family planning (%)	28
Under-5 mortality rate (per 1,000 live births)	115

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	2,479
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	246
Obstetricians	16
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; Yes; No
Number of midwifery education institutions (total); number of private	19; 1
Duration of midwifery education programmes (in months)	12
Number of student admissions (first year)	–
Student admissions per total available student places (%)	97
Number of students enrolled in all years (2009)	1,090
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**4**
Birth complications per day; rural	**278**; 223
Lifetime risk of maternal death	**1 in 36**
Intrapartum stillbirth rate (per 1,000 births)	**11**
Neonatal mortality as % of under-5 mortality	**27**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	8,376
Association(s) affiliated with ICM; ICN	Yes; Yes

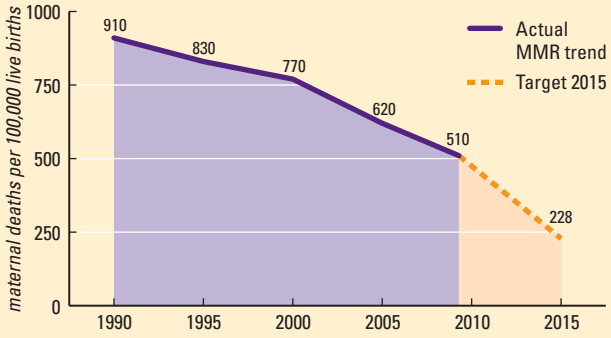
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	No
All maternal and newborn health services are free (public sector)	Yes

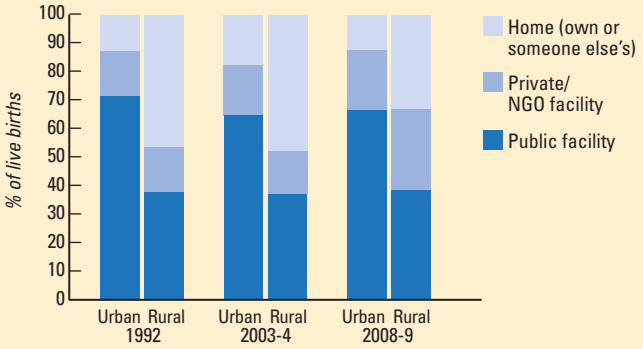
SERVICES

Number of facilities providing essential childbirth care	499
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	5
Number of Comprehensive EmONC facilities	42
Facilities per 1,000 births	1

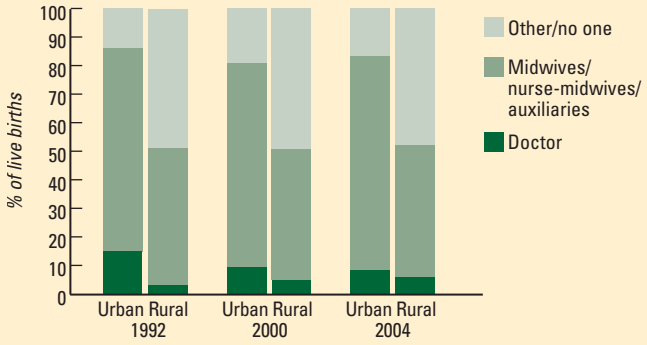
Trends in maternal mortality: 1990–2015



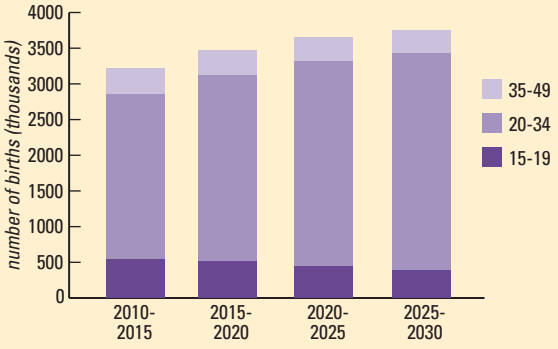
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Mali

In Mali, a vast landlocked country in western Africa, two thirds of the 13.5 million population lives in rural areas. The fertility rate is high and contraceptive usage is low. Almost half of the rapidly growing population is under 15 years of age and there is a relatively high net migration rate, due to an active diaspora. The maternal mortality ratio is one of the highest in the world, although it has slowly decreased in the past 20 years. The MDG 5 target for 2015 is out of reach in the present conditions. Traditional practices and a high illiteracy rate among women are important barriers for seeking professional maternal care, in addition to the unavailability of maternal health services in many rural areas. There are no incentives to keep skilled midwives in remote and hard to reach areas and no career plans for them. A recent policy of free caesarean sections could lead to an increase in the number of institutional deliveries if it was implemented with sufficient resources to respond to needs (for example, adequate provision of caesarean kits).

COUNTRY INDICATORS*

Total population (000); % urban	13,323; 36
Adolescent population (15-19 yrs) (000); % of total	1,494; 11
Number of women of reproductive age (age 15-49) (000); % of total	3,236; 24
Total fertility rate (children per woman)	6.5
Crude birth rate (per 1,000 population)	43
Births per year (000)	538
% of all births registered	53
Number of maternal deaths	4,500
Neonatal mortality rate (per 1,000 live births)	50
Stillbirth rate (per 1,000 births)	23
Number of pregnant women tested for HIV	86,814
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	0.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	1,280
Gross secondary school enrolment (male; female) %	46; 30
Literacy rate (age 15 and over) (male; female) %	35; 18

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	830
Proportion of births attended by skilled health personnel (%)	49
Contraceptive prevalence rate (modern methods) (%)	8
Adolescent birth rate (births per 1,000 women age 15-19)	190
Antenatal care coverage (at least one visit; at least four visits) (%)	70; 35
Unmet need for family planning (%)	31
Under-5 mortality rate (per 1,000 live births)	194

MIDWIFERY WORKFORCE[1]

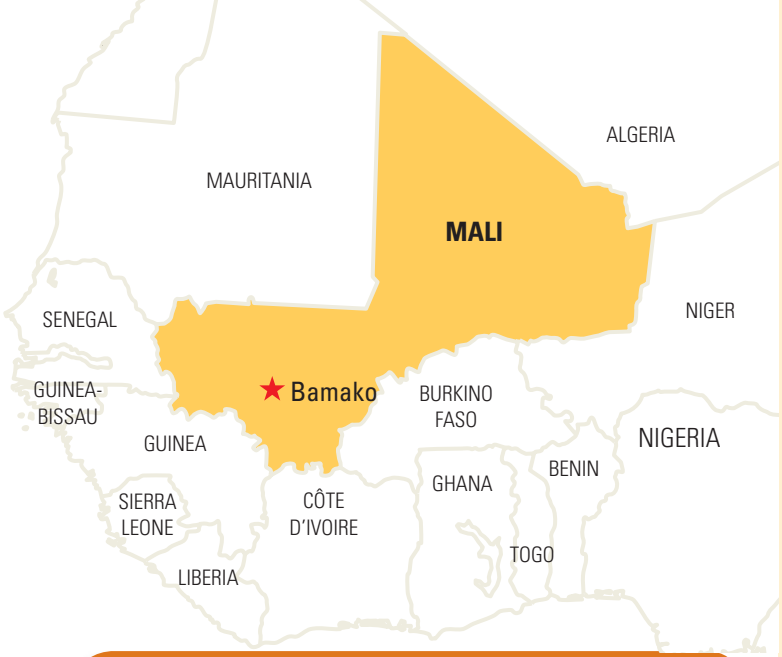
Midwives (including nurse-midwives)[2]	1,579
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	*Unavailable*
Obstetricians	84
Community health workers with some midwifery training	1,250
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	49; 45
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	–
Midwives hold a protected title	–
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	–
A licence is required to practise midwifery	–
Midwives are authorized to prescribe life-saving medications	Yes



MIDWIFERY BAROMETER

Midwives per 1,000 live births	**3**
Birth complications per day; rural	**287**; 184
Lifetime risk of maternal death	**1 in 22**
Intrapartum stillbirth rate (per 1,000 births)	**11**
Neonatal mortality as % of under-5 mortality	**26**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	975
Association(s) affiliated with ICM; ICN	Yes; No

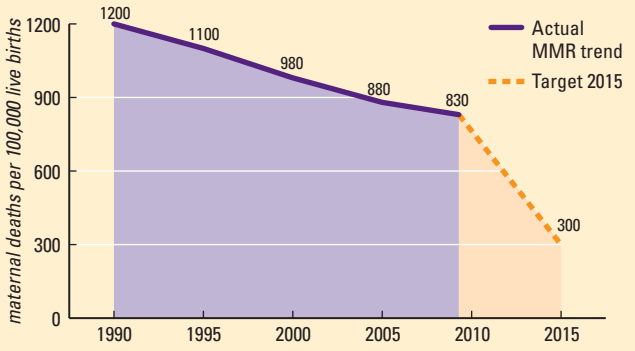
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	–
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

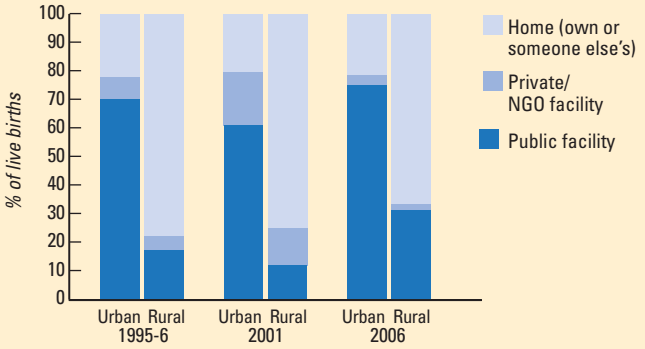
SERVICES

Number of facilities providing essential childbirth care	1,209
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	79
Number of Comprehensive EmONC facilities	61
Facilities per 1,000 births	2

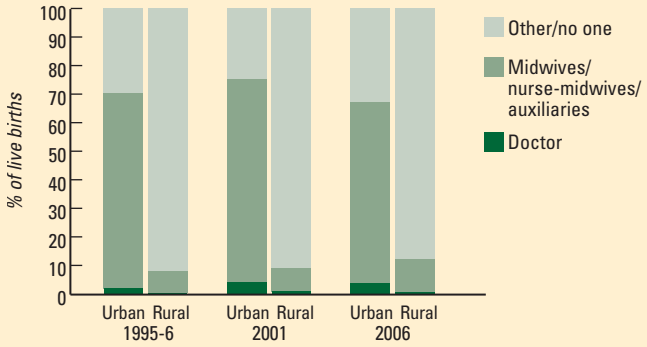
Trends in maternal mortality: 1990–2015



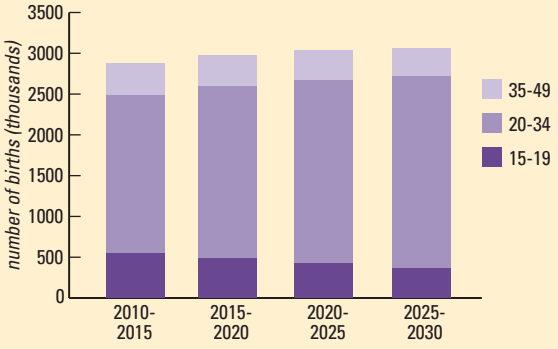
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Mauritania

The Islamic Republic of Mauritania in north-western Africa is a vast, sparsely populated country. Three quarters of its land is desert or semi-desert. The population is young and growing, and the adolescent birth rate is high. Responding to unmet maternal and newborn health needs is challenging. Maternal mortality remains high, even if it has decreased by 30 percent in the past 20 years. Very few facilities provide basic emergency obstetric and newborn care. The national policy and strategic health plan, published in 2009, focuses on maternal and child health, and an observatory of human resources for health has recently been launched. The government has introduced a voluntary fixed-rate pre-paid scheme covering pregnancy and birth (le 'forfait obstetrical'), which has now been extended to large parts of the country. There is a professional association of Mauritanian midwives and a union, but no council has been specifically assigned to regulate midwifery work.

COUNTRY INDICATORS*

Total population (000); % urban	3,366; 41
Adolescent population (15-19 yrs) (000); % of total	356; 11
Number of women of reproductive age (age 15-49) (000); % of total	838; 25
Total fertility rate (children per woman)	4.5
Crude birth rate (per 1,000 population)	34
Births per year (000)	107
% of all births registered	56
Number of maternal deaths	590
Neonatal mortality rate (per 1,000 live births)	41
Stillbirth rate (per 1,000 births)	27
Number of pregnant women tested for HIV	6,371
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.8
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	104
Gross secondary school enrolment (male; female) %	26; 23
Literacy rate (age 15 and over) (male; female) %	64; 50

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	550
Proportion of births attended by skilled health personnel (%)	61
Contraceptive prevalence rate (modern methods) (%)	9
Adolescent birth rate (births per 1,000 women age 15-19)	88
Antenatal care coverage (at least one visit; at least four visits) (%)	75; 16
Unmet need for family planning (%)	32
Under-5 mortality rate (per 1,000 live births)	118

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	350
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	*Unavailable*
Obstetricians	–
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	2; 0
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	>100
Number of students enrolled in all years (2009)	885
Number of graduates (2009)	214
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	–
Midwives hold a protected title	–
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**3**
Birth complications per day; rural	**48**; 28
Lifetime risk of maternal death	**1 in 41**
Intrapartum stillbirth rate (per 1,000 births)	**12**
Neonatal mortality as % of under-5 mortality	**35**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	No; No

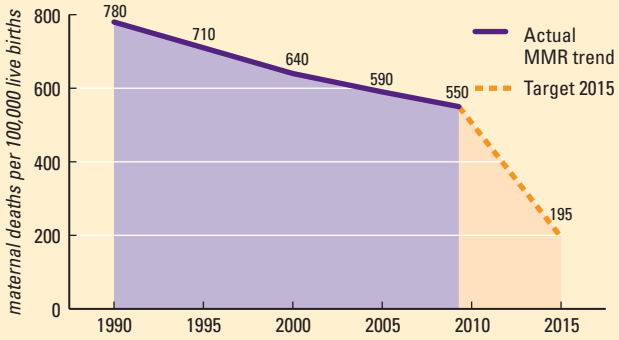
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	No

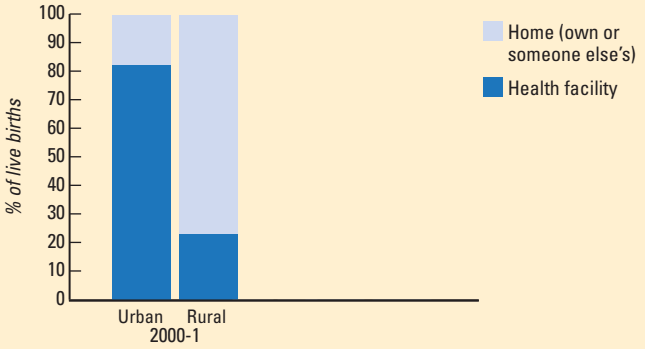
SERVICES

Number of facilities providing essential childbirth care	190
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	55
Number of Comprehensive EmONC facilities	28
Facilities per 1,000 births	2

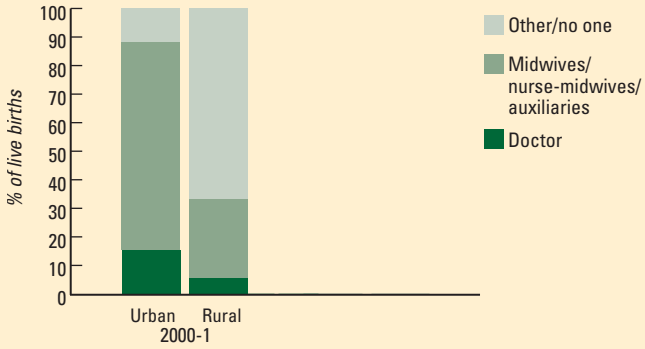
Trends in maternal mortality: 1990–2015



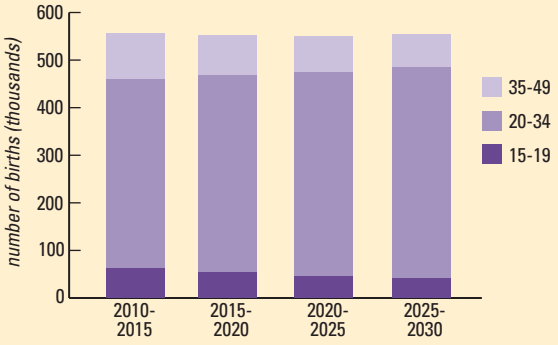
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Morocco

Morocco has nearly completed the transition from high to low fertility. Contraceptive use has increased significantly. Large differences exist between urban and rural access to health care and skilled birth attendants. Gender disparities persist and efforts are in place to improve the status of women. A reduction in the maternal mortality ratio of an estimated 60 percent has been achieved in the past 20 years. The 2008-2012 strategic plan focuses on reproductive health. The policy for maternal and newborn health makes facility-based birth free of charge (including caesareans). The policy aims at strengthening the referral system; improving provision of essential drugs, blood and equipment; and improving access in rural areas. Measures to strengthen the competencies of the midwifery workforce are underway. These include a review of the curriculum and an increase in the hours of classroom instruction in the current education programmes. The Midwives Association can play an important role in advancing regulation to promote the autonomy of the midwifery workforce.

COUNTRY INDICATORS*

Total population (000); % urban	32,381; 58
Adolescent population (15-19 yrs) (000); % of total	3,178; 10
Number of women of reproductive age (age 15-49) (000); % of total	9,209; 28
Total fertility rate (children per woman)	2.4
Crude birth rate (per 1,000 population)	20
Births per year (000)	646
% of all births registered	85
Number of maternal deaths	720
Neonatal mortality rate (per 1,000 live births)	20
Stillbirth rate (per 1,000 births)	20
Number of pregnant women tested for HIV	2,723
Midwives are authorized to administer a core set of life-saving interventions	–
Density of midwives, nurses and doctors per 1,000 population	1.5
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	586
Gross secondary school enrolment (male; female) %	60; 51
Literacy rate (age 15 and over) (male; female) %	69; 44

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	110
Proportion of births attended by skilled health personnel (%)	63
Contraceptive prevalence rate (modern methods) (%)	63
Adolescent birth rate (births per 1,000 women age 15-19)	18
Antenatal care coverage (at least one visit; at least four visits) (%)	68; 31
Unmet need for family planning (%)	10
Under-5 mortality rate (per 1,000 live births)	39

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	2,967
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	–
Obstetricians	474
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	71; 50
Duration of midwifery education programmes (in months)	–
Number of student admissions (first year)	–
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	1,400
Number of graduates (2009)	–
Midwifery education programmes are accredited	–

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	No
A licence is required to practise midwifery	No
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**5**
Birth complications per day; rural	**280**; 117
Lifetime risk of maternal death	**1 in 360**
Intrapartum stillbirth rate (per 1,000 births)	**3**
Neonatal mortality as % of under-5 mortality	**54**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	121
Association(s) affiliated with ICM; ICN	Yes; No

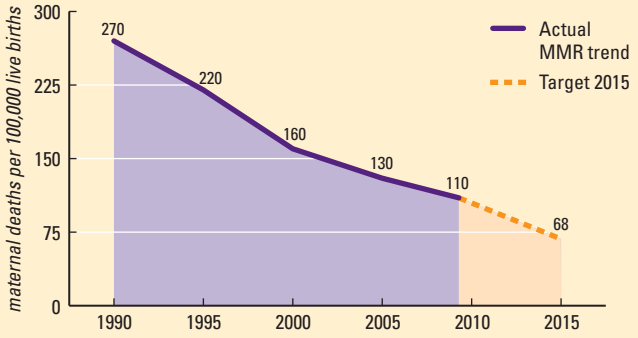
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	–
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

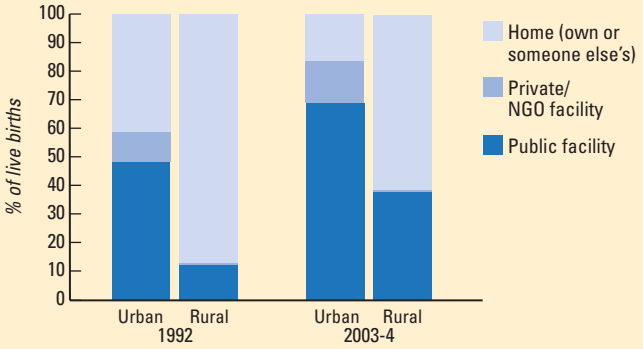
SERVICES

Number of facilities providing essential childbirth care	–
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	518
Number of Comprehensive EmONC facilities	94
Facilities per 1,000 births	–

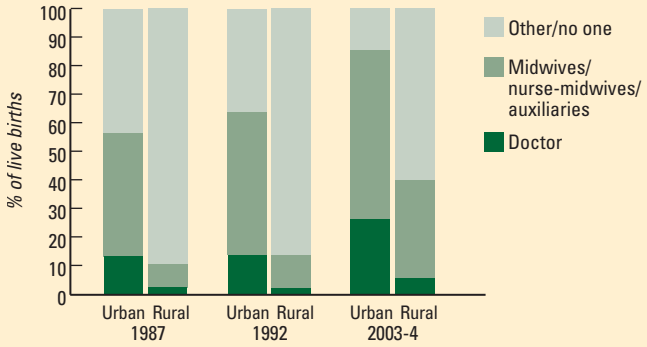
Trends in maternal mortality: 1990–2015



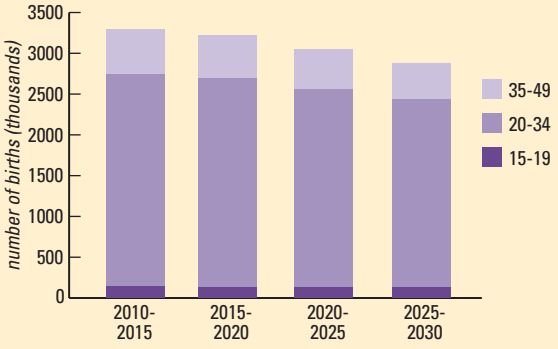
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Mozambique

Mozambique is one of the world's least developed countries. Its population health status has weakened because of the HIV epidemic, which heavily affects young women. Use of modern contraceptive methods is low and the unmet need for family planning high. Maternal mortality has been significantly reduced since 1990, but remains high. Improving quality of care and services across the health sector is a top priority of the Ministry of Health. A comprehensive review of maternal and newborn care policies and guidelines was conducted in 2009 and a model to improve delivery facilities was developed. The role of the midwife and that of the nurse are not clearly defined, and nurses have been occasionally provided with supplementary education to provide obstetric care and fill gaps. The shortage in the midwifery workforce impedes the scale up of maternal health initiatives and recently announced targets to increase institutional deliveries to 66 percent by 2015.

COUNTRY INDICATORS*

Total population (000); % urban	23,406; 38
Adolescent population (15-19 yrs) (000); % of total	2,480; 11
Number of women of reproductive age (age 15-49) (000); % of total	5,576; 24
Total fertility rate (children per woman)	5.1
Crude birth rate (per 1,000 population)	39
Births per year (000)	874
% of all births registered	–
Number of maternal deaths	4,800
Neonatal mortality rate (per 1,000 live births)	41
Stillbirth rate (per 1,000 births)	29
Number of pregnant women tested for HIV	672,020
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	865
Gross secondary school enrolment (male; female) %	24; 18
Literacy rate (age 15 and over) (male; female) %	70; 40

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	550
Proportion of births attended by skilled health personnel (%)	55
Contraceptive prevalence rate (modern methods) (%)	17
Adolescent birth rate (births per 1,000 women age 15-19)	185
Antenatal care coverage (at least one visit; at least four visits) (%)	89; 53
Unmet need for family planning (%)	18
Under-5 mortality rate (per 1,000 live births)	147

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	2,946
Other health professionals with some midwifery competencies[3]	879
General practitioners with some midwifery competencies	622
Obstetricians	34
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	14; 0
Duration of midwifery education programmes (in months)	33 to 48
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	900
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**3**
Birth complications per day; rural	**385**; 238
Lifetime risk of maternal death	**1 in 37**
Intrapartum stillbirth rate (per 1,000 births)	**13**
Neonatal mortality as % of under-5 mortality	**29**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	Yes; No

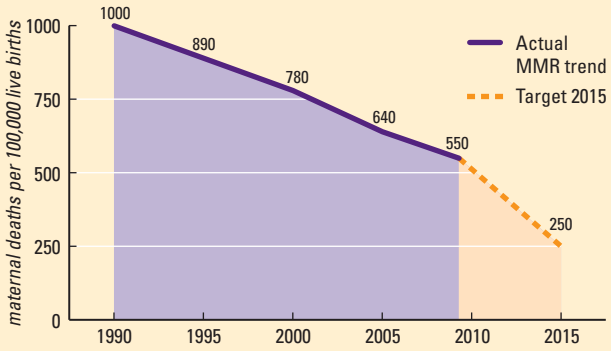
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	No
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	–
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

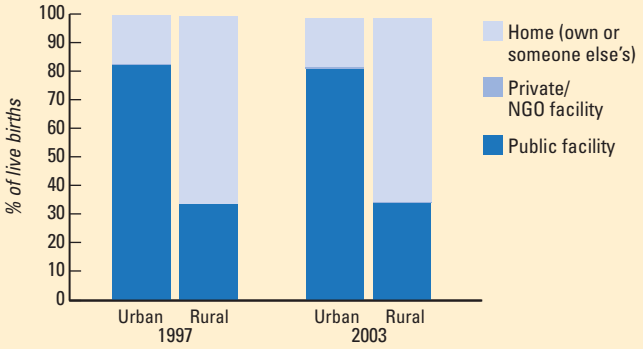
SERVICES

Number of facilities providing essential childbirth care	1,292
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	530
Number of Comprehensive EmONC facilities	42
Facilities per 1,000 births	1

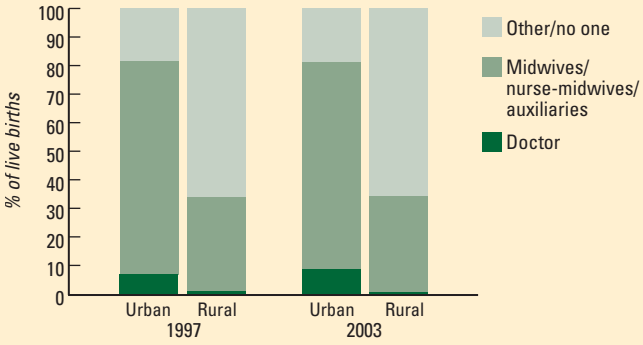
Trends in maternal mortality: 1990–2015



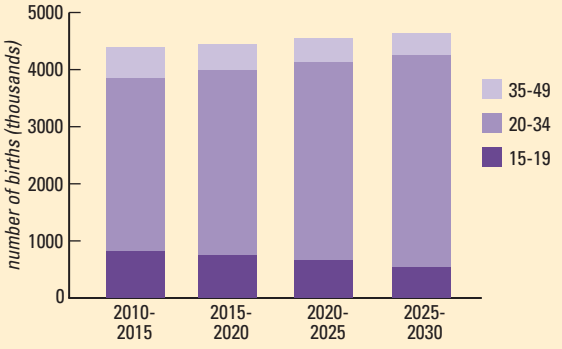
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Myanmar

One of Asia's poorest countries, Myanmar faces significant humanitarian needs. More than 70 percent of its population lives in rural areas. Public funding for health and education is low. Nonetheless, an improvement in the health status of the population has been observed, and maternal mortality has been reduced by 43 percent in the past 20 years. Policies to provide maternal health care services free at the point of delivery are in place, but there are significant rural-urban disparities in coverage. The Reproductive Health Strategic Plan (2009-2013) covers human resource planning for maternal and newborn health, although the midwifery workforce is not specifically addressed. The country has 20 direct-entry midwifery programmes. Enrolment restrictions regarding age, height and marital status are likely to be reducing the pool of student candidates. The curriculum now includes ICM's essential competencies. Establishing solid accreditation and supervision systems, along with effective deployment and retention measures, will facilitate the work of the available midwifery workforce.

COUNTRY INDICATORS*

Total population (000); % urban	50,496; 34
Adolescent population (15-19 yrs) (000); % of total	4,518; 9
Number of women of reproductive age (age 15-49) (000); % of total	14,454; 29
Total fertility rate (children per woman)	2.3
Crude birth rate (per 1,000 population)	21
Births per year (000)	1,021
% of all births registered	65
Number of maternal deaths	2,400
Neonatal mortality rate (per 1,000 live births)	33
Stillbirth rate (per 1,000 births)	20
Number of pregnant women tested for HIV	182,760
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	1.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	755
Gross secondary school enrolment (male; female) %	–; –
Literacy rate (age 15 and over) (male; female) %	95; 89

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	240
Proportion of births attended by skilled health personnel (%)	57
Contraceptive prevalence rate (modern methods) (%)	37
Adolescent birth rate (births per 1,000 women age 15-19)	17
Antenatal care coverage (at least one visit; at least four visits) (%)	76; 22
Unmet need for family planning (%)	19
Under-5 mortality rate (per 1,000 live births)	73

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	9,226
Other health professionals with some midwifery competencies[3]	22,162
General practitioners with some midwifery competencies	–
Obstetricians	97
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; No
Number of midwifery education institutions (total); number of private	45; 0
Duration of midwifery education programmes (in months)	18 to 48
Number of student admissions (first year)	2,637
Student admissions per total available student places (%)	61
Number of students enrolled in all years (2009)	3,800
Number of graduates (2009)	2,527
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**9**
Birth complications per day; rural	**457**; 302
Lifetime risk of maternal death	**1 in 180**
Intrapartum stillbirth rate (per 1,000 births)	**6**
Neonatal mortality as % of under-5 mortality	**47**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	12,000
Association(s) affiliated with ICM; ICN	No; Yes

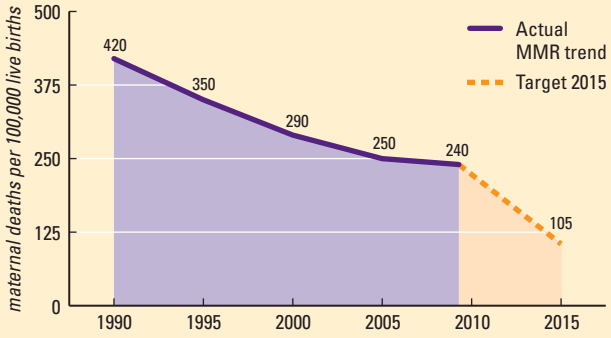
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

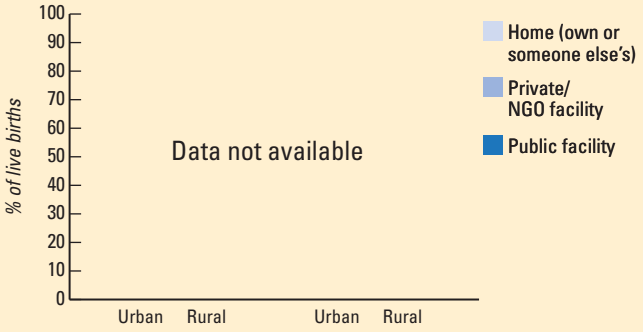
SERVICES

Number of facilities providing essential childbirth care	–
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	7,394
Number of Comprehensive EmONC facilities	1,265
Facilities per 1,000 births	–

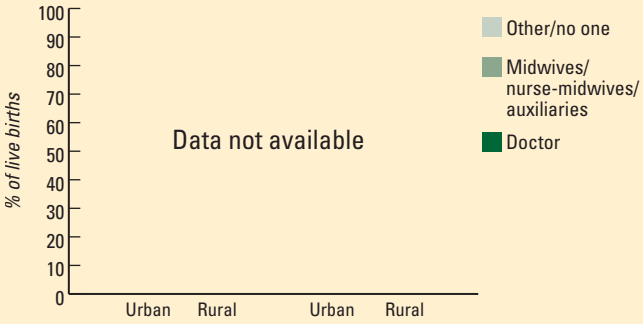
Trends in maternal mortality: 1990–2015



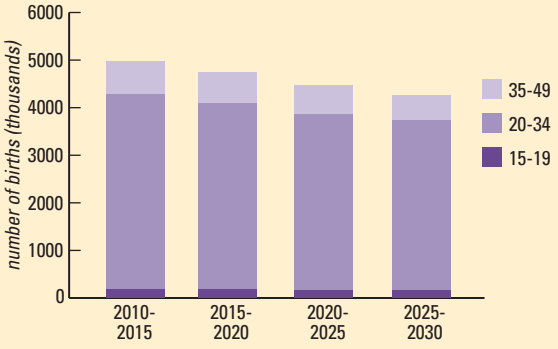
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Nepal

Nepal is currently in a process of post-conflict transition. Great disparities in access to health care can be found between different ethnic groups, among people of different education and income levels, and between geographic areas. The total fertility rate has declined and contraceptive use has increased significantly. The maternal mortality ratio has been reduced by 56 percent in the past 20 years. Health sector priorities focus on strengthening and expanding equitable access to and utilization of services, with a special focus on underserved populations. In 2006, a policy on skilled birth attendants endorsed the development of professional midwives. The policy led to the implementation of in-service training strategies for skilled birth attendants, and the expansion of birthing centres and emergency obstetric and newborn care facilities. Skilled attendants are still insufficient, in terms of numbers and of quality. Discussion is underway to start a direct-entry midwifery education programme, which would contribute to fast-tracking the development of a strong midwifery cadre.

COUNTRY INDICATORS*

Total population (000); % urban	29,853; 19
Adolescent population (15-19 yrs) (000); % of total	3,312; 11
Number of women of reproductive age (age 15-49) (000); % of total	7,810; 26
Total fertility rate (children per woman)	2.9
Crude birth rate (per 1,000 population)	25
Births per year (000)	731
% of all births registered	35
Number of maternal deaths	2,800
Neonatal mortality rate (per 1,000 live births)	27
Stillbirth rate (per 1,000 births)	24
Number of pregnant women tested for HIV	65,791
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	0.7
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	1,881
Gross secondary school enrolment (male; female) %	46; 41
Literacy rate (age 15 and over) (male; female) %	71; 45

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	380
Proportion of births attended by skilled health personnel (%)	19
Contraceptive prevalence rate (modern methods) (%)	48
Adolescent birth rate (births per 1,000 women age 15-19)	106
Antenatal care coverage (at least one visit; at least four visits) (%)	44; 29
Unmet need for family planning (%)	25
Under-5 mortality rate (per 1,000 live births)	51

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	2875
Other health professionals with some midwifery competencies[3]	16,506
General practitioners with some midwifery competencies	–
Obstetricians	225
Community health workers with some midwifery training	3,000
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; Yes; No
Number of midwifery education institutions (total); number of private	105; 100
Duration of midwifery education programmes (in months)	12
Number of student admissions (first year)	4,080
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	4,220
Number of graduates (2009)	4,240
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	No
A licence is required to practise midwifery	No
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**4**
Birth complications per day; rural	**345**; 280
Lifetime risk of maternal death	**1 in 80**
Intrapartum stillbirth rate (per 1,000 births)	**13**
Neonatal mortality as % of under-5 mortality	**55**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	36,650
Association(s) affiliated with ICM; ICN	No; Yes

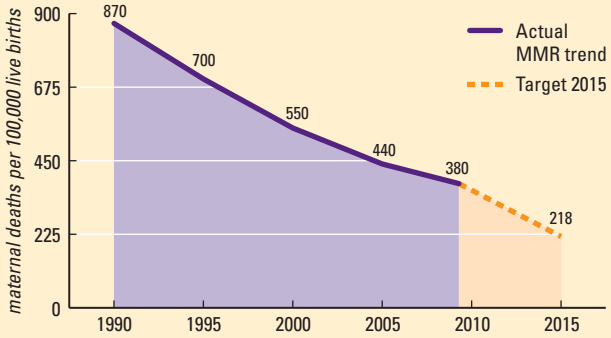
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	MM
All maternal and newborn health services are free (public sector)	Yes

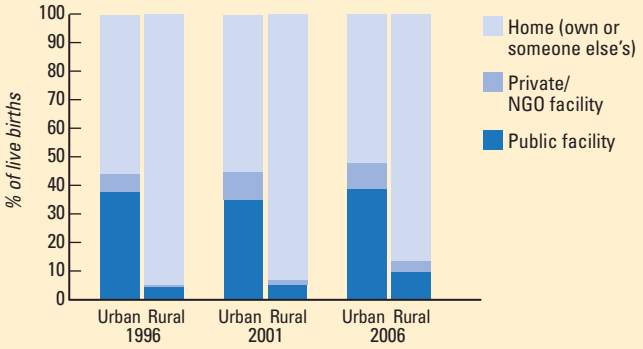
SERVICES

Number of facilities providing essential childbirth care	889
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	105
Number of Comprehensive EmONC facilities	93
Facilities per 1,000 births	1

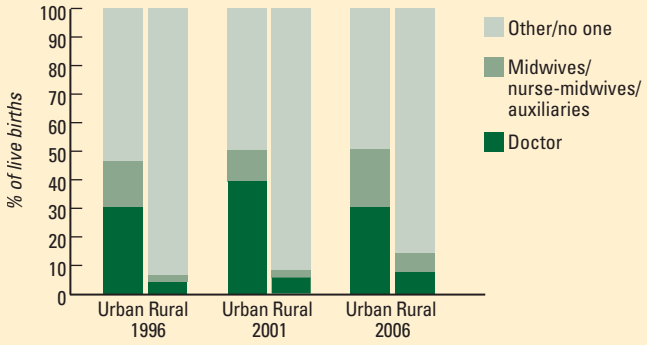
Trends in maternal mortality: 1990–2015



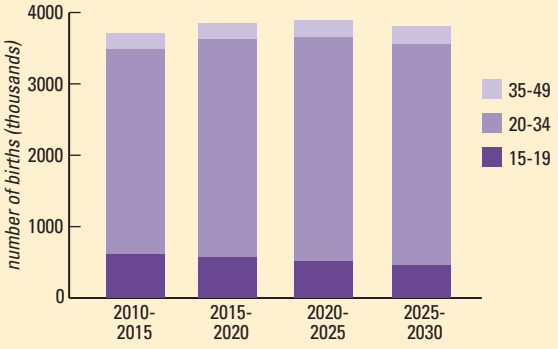
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Nicaragua

In Nicaragua, poverty is more severe in rural and peri-urban areas. Income inequality is increasing, particularly affecting women. The total fertility rate has declined, but great disparities can be found in contraceptive use between the poorest and the wealthiest quintiles of the population. The maternal mortality ratio has been reduced by nearly 50 percent since 1990. The National Health Policy does not specifically address maternal health staffing issues. A midwifery education programme is in place, and public and private institutions educate obstetric nurses. This cadre is recognized and accredited nationally, and an initiative is currently underway to broaden recognition to the Central American level. Regulation should be updated to allow the new cadre of obstetric nurses to perform to their full capacity especially in isolated facilities, where no other health professionals are available. A deployment strategy has been implemented to secure the posting of graduated obstetric nurses in areas with higher maternal mortality.

COUNTRY INDICATORS*

Total population (000); % urban	5,822; 57
Adolescent population (15-19 yrs) (000); % of total	665; 11
Number of women of reproductive age (age 15-49) (000); % of total	1,565; 27
Total fertility rate (children per woman)	2.7
Crude birth rate (per 1,000 population)	25
Births per year (000)	140
% of all births registered	81
Number of maternal deaths	150
Neonatal mortality rate (per 1,000 live births)	12
Stillbirth rate (per 1,000 births)	15
Number of pregnant women tested for HIV	81,686
Midwives are authorized to administer a core set of life-saving interventions	–
Density of midwives, nurses and doctors per 1,000 population	1.4
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	132
Gross secondary school enrolment (male; female) %	64; 72
Literacy rate (age 15 and over) (male; female) %	78; 78

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	100
Proportion of births attended by skilled health personnel (%)	74
Contraceptive prevalence rate (modern methods) (%)	72
Adolescent birth rate (births per 1,000 women age 15-19)	109
Antenatal care coverage (at least one visit; at least four visits) (%)	90; 78
Unmet need for family planning (%)	8
Under-5 mortality rate (per 1,000 live births)	27

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	930
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	1,276
Obstetricians	162
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; Yes; Yes
Number of midwifery education institutions (total); number of private	14; 4
Duration of midwifery education programmes (in months)	24 to 60
Number of student admissions (first year)	–
Student admissions per total available student places (%)	>100
Number of students enrolled in all years (2009)	1,844
Number of graduates (2009)	495
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	No
A licence is required to practise midwifery	No
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**7**
Birth complications per day; rural	**57**; 24
Lifetime risk of maternal death	**1 in 300**
Intrapartum stillbirth rate (per 1,000 births)	**3**
Neonatal mortality as % of under-5 mortality	**46**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	No; Yes

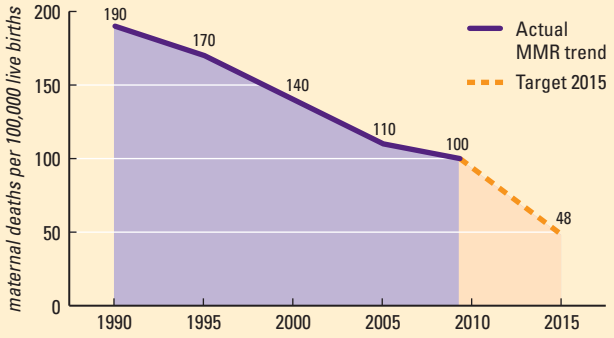
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	No
The plan is costed	No
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

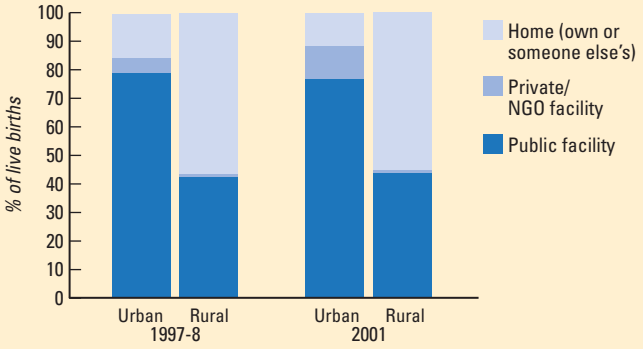
SERVICES

Number of facilities providing essential childbirth care	163
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	17
Number of Comprehensive EmONC facilities	24
Facilities per 1,000 births	1

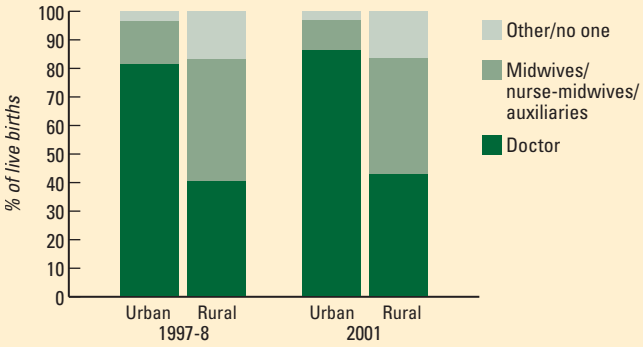
Trends in maternal mortality: 1990–2015



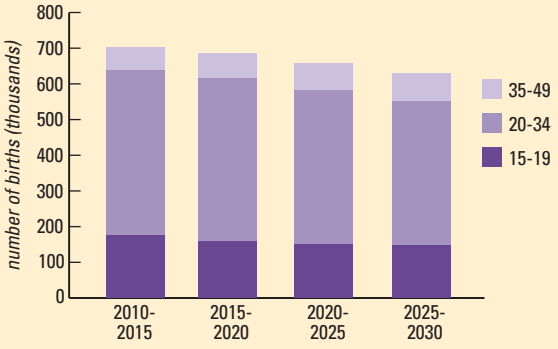
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Niger

An estimated 66 percent of Niger's young and mostly rural population lives in poverty, and a similar percentage of the adult population is illiterate. Drought cycles and desertification, along with armed conflict in the north, have hindered development efforts. Niger has the highest fertility rate in sub-Saharan Africa. Access to reproductive health services and information is limited and sociocultural norms pose additional barriers. Maternal mortality has progressively decreased in the past 20 years but remains very high. The Poverty Reduction Strategy seeks to increase contraceptive use. Priority human resources for health strategies include: recruitment of competent midwives, training obstetrician-gynaecologists and village health workers, and retention of health workers. The National Health Development Plan prioritizes the expansion of emergency obstetric and newborn care and the eradication of traditional practices that adversely affect women's health, among other measures. Quality improvement efforts to strengthen human resources for health management are currently in place.

COUNTRY INDICATORS*

Total population (000); % urban	15,891; 17
Adolescent population (15-19 yrs) (000); % of total	1,606; 10
Number of women of reproductive age (age 15-49) (000); % of total	3,424; 22
Total fertility rate (children per woman)	7.1
Crude birth rate (per 1,000 population)	54
Births per year (000)	784
% of all births registered	32
Number of maternal deaths	6,500
Neonatal mortality rate (per 1,000 live births)	35
Stillbirth rate (per 1,000 births)	23
Number of pregnant women tested for HIV	158,695
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.2
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	2,045
Gross secondary school enrolment (male; female) %	14; 9
Literacy rate (age 15 and over) (male; female) %	43; 15

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	820
Proportion of births attended by skilled health personnel (%)	33
Contraceptive prevalence rate (modern methods) (%)	11
Adolescent birth rate (births per 1,000 women age 15-19)	199
Antenatal care coverage (at least one visit; at least four visits) (%)	46; 15
Unmet need for family planning (%)	16
Under-5 mortality rate (per 1,000 live births)	167

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	682
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	36
Obstetricians	18
Community health workers with some midwifery training	2,256
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	17; 15
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**1**
Birth complications per day; rural	**340**; 272
Lifetime risk of maternal death	**1 in 16**
Intrapartum stillbirth rate (per 1,000 births)	**11**
Neonatal mortality as % of under-5 mortality	**22**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	–; –

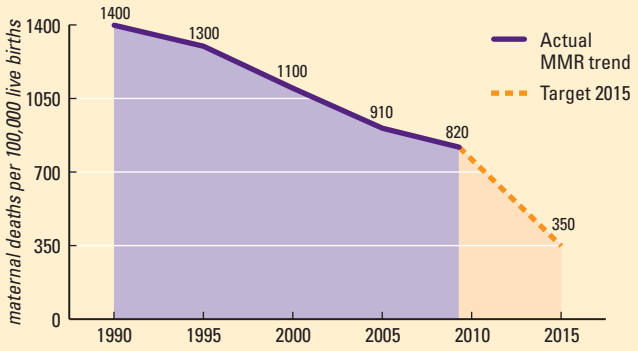
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	No
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	No
All maternal and newborn health services are free (public sector)	MM

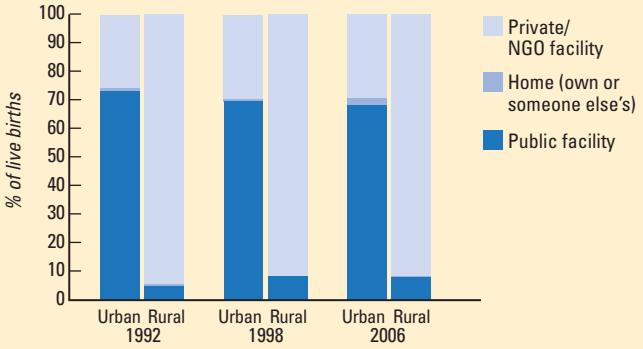
SERVICES

Number of facilities providing essential childbirth care	237
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	44
Number of Comprehensive EmONC facilities	29
Facilities per 1,000 births	0

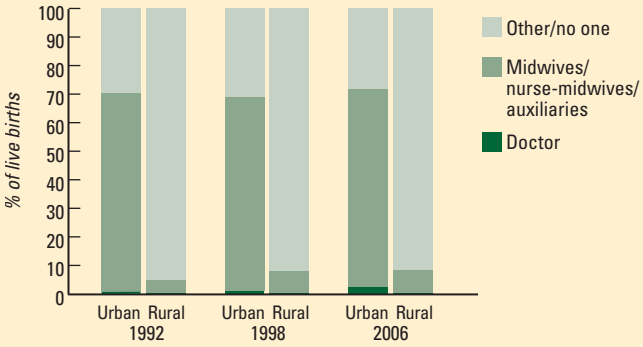
Trends in maternal mortality: 1990–2015



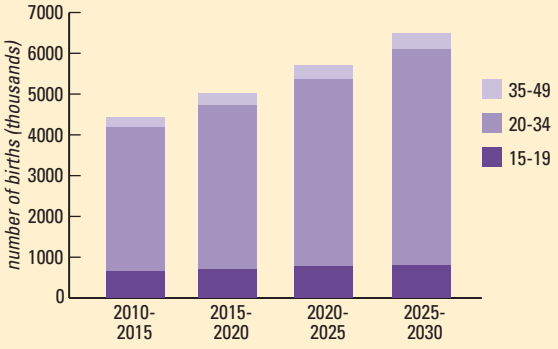
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Nigeria

Nigeria faces challenges related to the high growth rate of its large population. The total and adolescent fertility rates are high and modern contraceptive use remains low. The weak health system, women's low social status, and harmful traditional practices continue to present significant barriers to efforts to improve women's health. The maternal mortality ratio has only decreased by 24 percent since 1990, and remains very high. A policy for free maternal care services is being implemented. Nigeria has a strong body of registered midwives, and relicensing is compulsory every three years. However, access to quality care in rural and remote areas is problematic, due to difficulties in retaining qualified health care providers. In 2009 the Ministry of Health launched the Midwives Service Scheme to address shortages of midwifery cadres at the primary health care level. In response to the shortage of faculty in education institutions, retired midwives are being recruited to fill gaps.

COUNTRY INDICATORS*

Total population (000); % urban	158,259; 50
Adolescent population (15-19 yrs) (000); % of total	16,899; 11
Number of women of reproductive age (age 15-49) (000); % of total	37,425; 24
Total fertility rate (children per woman)	5.7
Crude birth rate (per 1,000 population)	40
Births per year (000)	6,003
% of all births registered	33
Number of maternal deaths	50,000
Neonatal mortality rate (per 1,000 live births)	39
Stillbirth rate (per 1,000 births)	42
Number of pregnant women tested for HIV	820,865
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	2.0
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	6,790
Gross secondary school enrolment (male; female) %	34; 27
Literacy rate (age 15 and over) (male; female) %	72; 49

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	840
Proportion of births attended by skilled health personnel (%)	39
Contraceptive prevalence rate (modern methods) (%)	15
Adolescent birth rate (births per 1,000 women age 15-19)	123
Antenatal care coverage (at least one visit; at least four visits) (%)	58; 45
Unmet need for family planning (%)	20
Under-5 mortality rate (per 1,000 live births)	143

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	88,796
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	–
Obstetricians	*Unavailable*
Community health workers with some midwifery training	117,568
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; Yes
Number of midwifery education institutions (total); number of private	74; 27
Duration of midwifery education programmes (in months)	6 to 60
Number of student admissions (first year)	–
Student admissions per total available student places (%)	>100
Number of students enrolled in all years (2009)	7,375
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	–
Birth complications per day; rural	**2,727**; 1,364
Lifetime risk of maternal death	**1 in 23**
Intrapartum stillbirth rate (per 1,000 births)	**19**
Neonatal mortality as % of under-5 mortality	**28**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	Yes; Yes

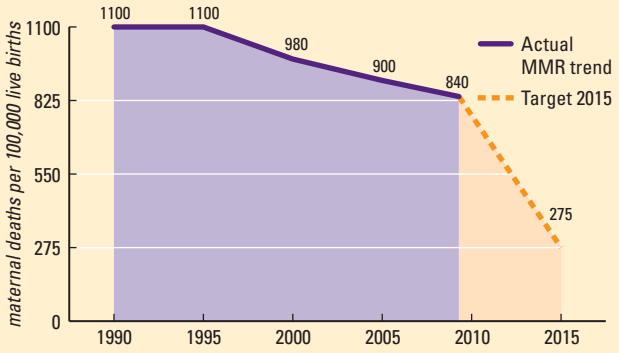
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	–
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	No
Systematic maternal death audits and reviews	–
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

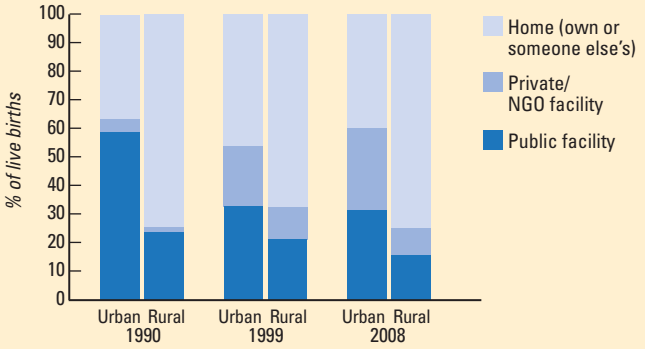
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	*Unavailable*
Number of Comprehensive EmONC facilities	163
Facilities per 1,000 births	–

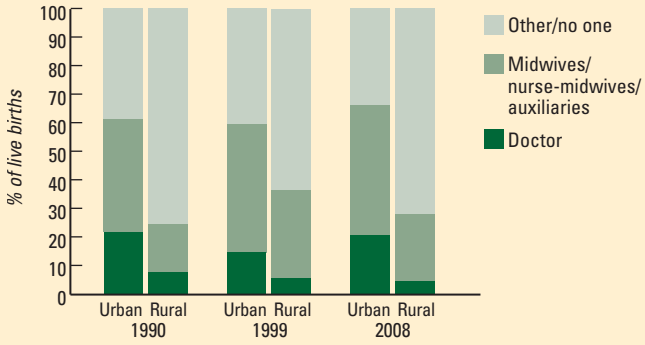
Trends in maternal mortality: 1990–2015



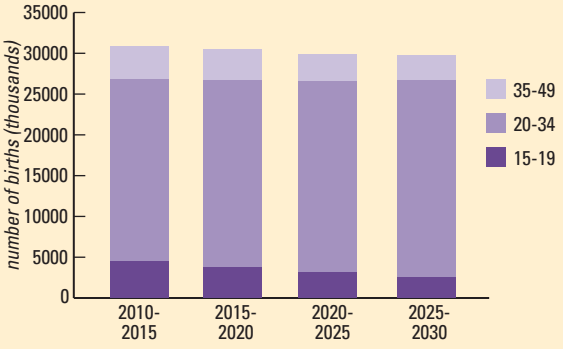
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Pakistan

Pakistan's large and young population is rapidly increasing. Rural-to-urban migration is high. Progress has been made on gender equality; however, the literacy rate for women and participation of women in the workforce remain low. Use of contraceptives has risen in the past decade and the total fertility rate has slightly declined. Maternal mortality has been reduced by 48 percent since 1990. A national maternal, newborn and child health programme was drafted in 2005 and aims to improve accessibility to quality services, with an emphasis on low-income groups and vulnerable members of society. There is a policy of free provision of health care, although women still incur out-of-pocket charges. A greater focus on midwifery has resulted from the 2005 policy, facilitating the establishment of the Midwives Association of Pakistan. Training and supporting a new cadre of community midwives has started in selected districts and attention is being given to increase the midwifery faculty. Further activities are required to address gaps in the training curriculum and in the provision of midwifery care.

COUNTRY INDICATORS*

Total population (000); % urban	184,753; 36
Adolescent population (15-19 yrs) (000); % of total	19,899; 11
Number of women of reproductive age (age 15-49) (000); % of total	45,740; 25
Total fertility rate (children per woman)	4.0
Crude birth rate (per 1,000 population)	30
Births per year (000)	5,295
% of all births registered	–
Number of maternal deaths	14,000
Neonatal mortality rate (per 1,000 live births)	42
Stillbirth rate (per 1,000 births)	46
Number of pregnant women tested for HIV	10,277
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	1.4
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	7,030
Gross secondary school enrolment (male; female) %	37; 28
Literacy rate (age 15 and over) (male; female) %	67; 40

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	260
Proportion of births attended by skilled health personnel (%)	39
Contraceptive prevalence rate (modern methods) (%)	27
Adolescent birth rate (births per 1,000 women age 15-19)	20
Antenatal care coverage (at least one visit; at least four visits) (%)	61; 28
Unmet need for family planning (%)	25
Under-5 mortality rate (per 1,000 live births)	89

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	54,706
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	*Unavailable*
Obstetricians	2,933
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; Yes
Number of midwifery education institutions (total); number of private	242; 44
Duration of midwifery education programmes (in months)	12 to 18
Number of student admissions (first year)	9,019
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	7,166
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**10**
Birth complications per day; rural	**2281**; 1368
Lifetime risk of maternal death	**1 in 93**
Intrapartum stillbirth rate (per 1,000 births)	**26**
Neonatal mortality as % of under-5 mortality	**48**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	1,000
Association(s) affiliated with ICM; ICN	Yes; No

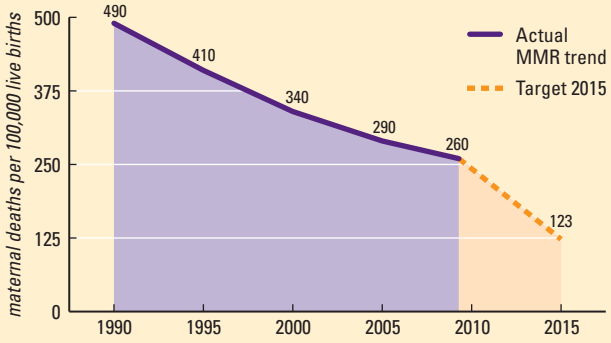
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	No
The plan is costed	No
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	–
Confidential enquiry for maternal deaths	MM
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

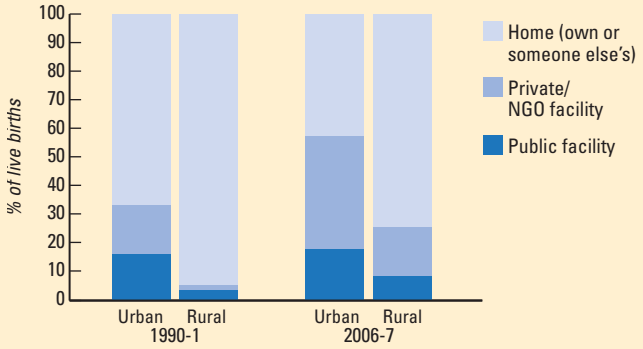
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	*Unavailable*
Number of Comprehensive EmONC facilities	*Unavailable*
Facilities per 1,000 births	–

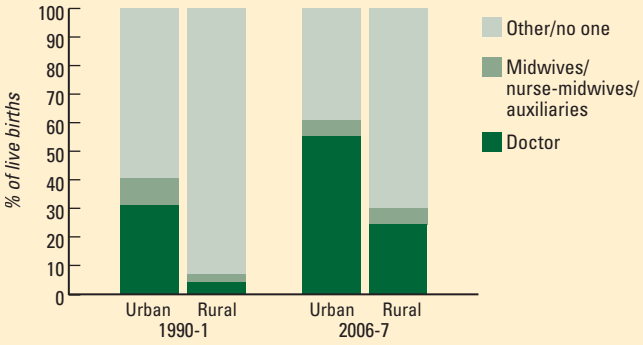
Trends in maternal mortality: 1990–2015



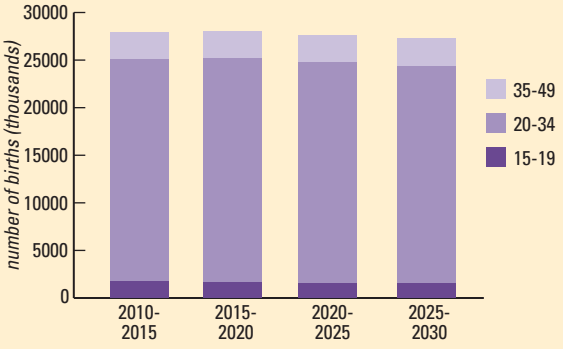
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Papua New Guinea

Part of one of the largest Pacific islands, Papua New Guinea has a culturally diverse and fast growing population, which us predominantly young and rural. The total fertility rate remains high. With a reduction in maternal mortality of only 26 percent since 1990, Papua New Guinea's current ratio is among the highest in the Western Pacific. Skilled attendance at birth is low, mainly due to an acute shortage of midwives, poor accessibility, lack of adequate delivery facilities and low levels of trust in public services. The current National Health Plan 2011-2020 addresses the needs for health facilities at community level. Plans to fill the midwifery gap in the country are underway, by strengthening the midwifery education institutions. Currently there is no direct-entry programme for midwifery education, and the only available education is sequential (a one-year midwifery programme after three years of nursing education).

COUNTRY INDICATORS*

Total population (000); % urban	6,888; 13
Adolescent population (15-19 yrs) (000); % of total	722; 10
Number of women of reproductive age (age 15-49) (000); % of total	1,723; 25
Total fertility rate (children per woman)	4.1
Crude birth rate (per 1,000 population)	31
Births per year (000)	206
% of all births registered	–
Number of maternal deaths	530
Neonatal mortality rate (per 1,000 live births)	26
Stillbirth rate (per 1,000 births)	15
Number of pregnant women tested for HIV	43,942
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	0.6
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	239
Gross secondary school enrolment (male; female) %	–; –
Literacy rate (age 15 and over) (male; female) %	64; 56

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	250
Proportion of births attended by skilled health personnel (%)	53
Contraceptive prevalence rate (modern methods) (%)	26
Adolescent birth rate (births per 1,000 women age 15-19)	70
Antenatal care coverage (at least one visit; at least four visits) (%)	79; 55
Unmet need for family planning (%)	–
Under-5 mortality rate (per 1,000 live births)	69

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	292
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	225
Obstetricians	16
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; Yes; Yes
Number of midwifery education institutions (total); number of private	12; 7
Duration of midwifery education programmes (in months)	12 to 36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**1**
Birth complications per day; rural	**87**; 75
Lifetime risk of maternal death	**1 in 94**
Intrapartum stillbirth rate (per 1,000 births)	**5**
Neonatal mortality as % of under-5 mortality	**37**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	Yes; No

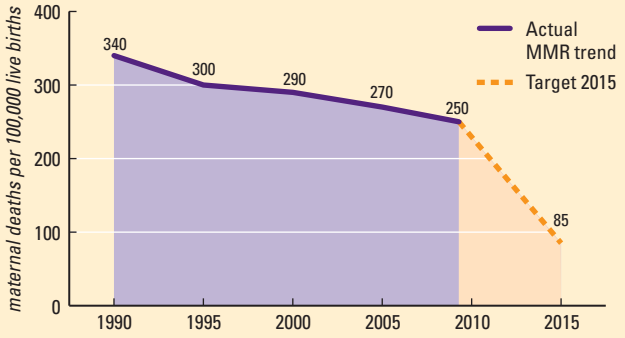
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Partial

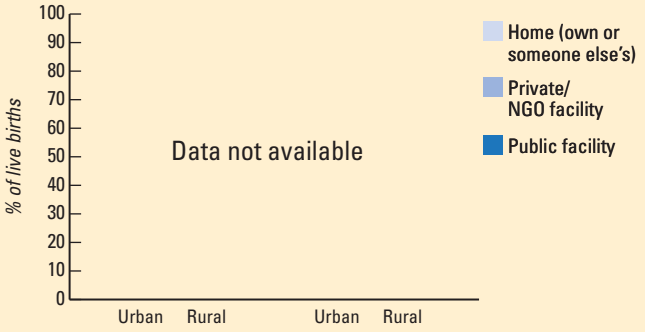
SERVICES

Number of facilities providing essential childbirth care	–
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	584
Number of Comprehensive EmONC facilities	26
Facilities per 1,000 births	–

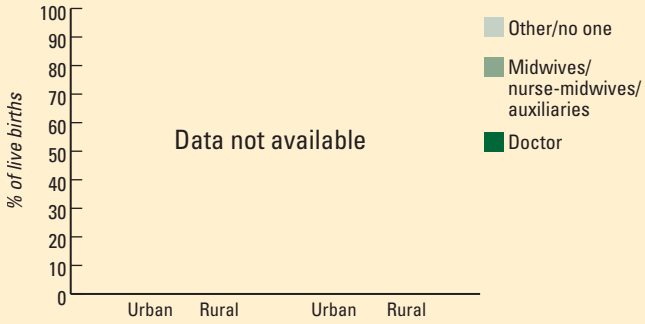
Trends in maternal mortality: 1990–2015



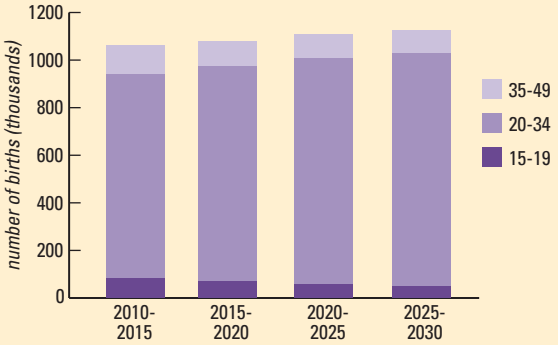
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Rwanda

Rwanda has made clear progress in rebuilding its society in recent years. Modern contraceptive use has increased, but the total fertility rate remains high, and the population is growing fast. Measures are in place to curb the spread of HIV and to promote women's empowerment. Maternal mortality has been significantly reduced, especially in the past decade, but remains high. The national health development strategy prioritizes maternal and newborn health, and an insurance plan provides free maternal and newborn health services. Rwanda has begun developing a full midwifery cadre in addition to nurse-midwives, and regulations for the midwifery profession need to be developed. Pre-service education capacity will increase in response to the government's commitment to train five times more midwives, but the country is not yet producing an adequate number of competent midwives. Lack of specialized midwifery schools and faculty shortages are the main constraints.

COUNTRY INDICATORS*

Total population (000); % urban	10,277; 19
Adolescent population (15-19 yrs) (000); % of total	1,059; 10
Number of women of reproductive age (age 15-49) (000); % of total	2,584; 25
Total fertility rate (children per woman)	5.4
Crude birth rate (per 1,000 population)	41
Births per year (000)	395
% of all births registered	82
Number of maternal deaths	2,200
Neonatal mortality rate (per 1,000 live births)	33
Stillbirth rate (per 1,000 births)	23
Number of pregnant women tested for HIV	294,457
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.5
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	586
Gross secondary school enrolment (male; female) %	23; 21
Literacy rate (age 15 and over) (male; female) %	75; 66

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	540
Proportion of births attended by skilled health personnel (%)	52
Contraceptive prevalence rate (modern methods) (%)	36
Adolescent birth rate (births per 1,000 women age 15-19)	43
Antenatal care coverage (at least one visit; at least four visits) (%)	96; 24
Unmet need for family planning (%)	38
Under-5 mortality rate (per 1,000 live births)	117

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	1,658
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	550
Obstetricians	20
Community health workers with some midwifery training	15,000
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	6; 2
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	150
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	180
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	–
Midwives hold a protected title	–
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	–
A licence is required to practise midwifery	–
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**4**
Birth complications per day; rural	**180**; 144
Lifetime risk of maternal death	**1 in 35**
Intrapartum stillbirth rate (per 1,000 births)	**11**
Neonatal mortality as % of under-5 mortality	**30**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	No; Yes

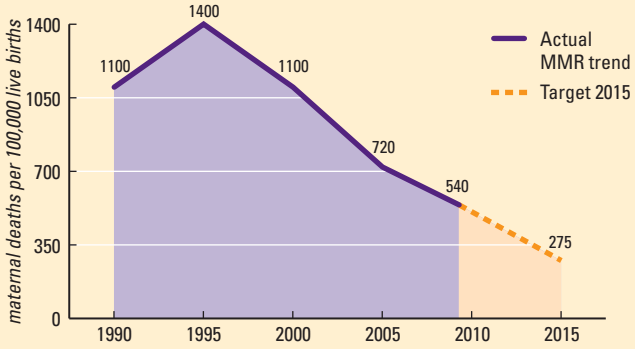
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	–
The national health workforce plan specifically addresses midwifery	–
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

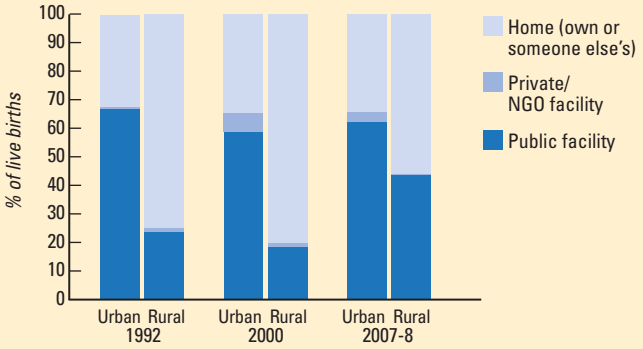
SERVICES

Number of facilities providing essential childbirth care	–
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	430
Number of Comprehensive EmONC facilities	44
Facilities per 1,000 births	–

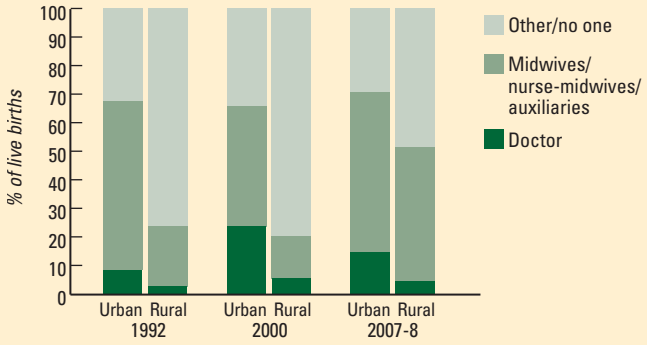
Trends in maternal mortality: 1990–2015



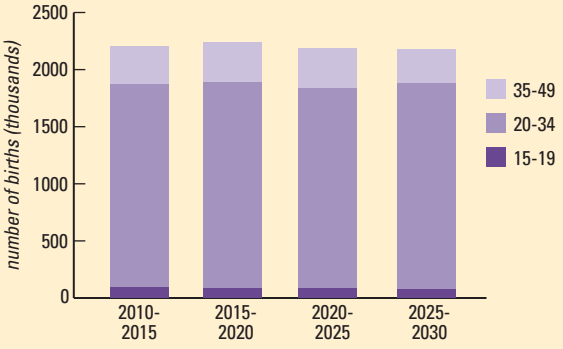
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Senegal

Senegal has made progress in improving access to education and there is greater equity in enrolment between boys and girls. Fertility has declined slowly, but remains high. Contraceptive use is low. Although some villages are abandoning the practice, female genital mutilation/cutting is still widely practised. Maternal mortality has reduced significantly in the past 20 years, but remains high. A national road map to reduce maternal and neonatal mortality and morbidity is in place, and a policy of cost-exemption for institutional birth, including caesarean sections, has increased use of services since 2005. There is a general shortage of skilled health personnel (including midwives, obstetricians, anaesthetists and paediatricians), particularly in the rural areas. The role of midwives has been expanded in order to increase access to emergency obstetric and newborn care and family planning services with a government commitment to increase recruitment of state midwives. Mechanisms to deploy and retain midwives in rural areas are being tested.

COUNTRY INDICATORS*

Total population (000); % urban	12,861; 42
Adolescent population (15-19 yrs) (000); % of total	1,449; 11
Number of women of reproductive age (age 15-49) (000); % of total	3,162; 25
Total fertility rate (children per woman)	4.8
Crude birth rate (per 1,000 population)	38
Births per year (000)	468
% of all births registered	55
Number of maternal deaths	1900
Neonatal mortality rate (per 1,000 live births)	31
Stillbirth rate (per 1,000 births)	34
Number of pregnant women tested for HIV	166,830
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.5
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	450
Gross secondary school enrolment (male; female) %	34; 27
Literacy rate (age 15 and over) (male; female) %	52; 33

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	410
Proportion of births attended by skilled health personnel (%)	52
Contraceptive prevalence rate (modern methods) (%)	12
Adolescent birth rate (births per 1,000 women age 15-19)	96
Antenatal care coverage (at least one visit; at least four visits) (%)	87; 40
Unmet need for family planning (%)	32
Under-5 mortality rate (per 1,000 live births)	95

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	990
Other health professionals with some midwifery competencies[3]	60
General practitioners with some midwifery competencies	14
Obstetricians	126
Community health workers with some midwifery training	1,603
A live registry of licensed midwives exists	–

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; No
Number of midwifery education institutions (total); number of private	136; 126
Duration of midwifery education programmes (in months)	24 to 36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**2**
Birth complications per day; rural	**200**; 110
Lifetime risk of maternal death	**1 in 46**
Intrapartum stillbirth rate (per 1,000 births)	**16**
Neonatal mortality as % of under-5 mortality	**33**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	Yes; –

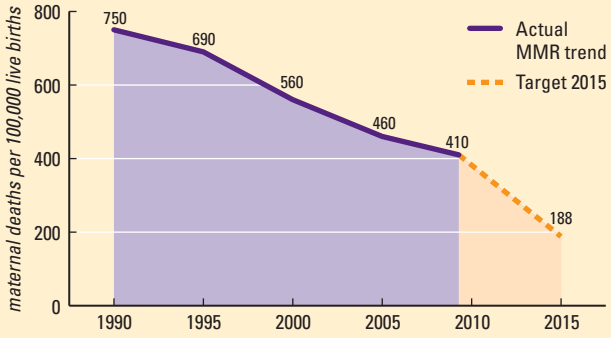
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	–
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	No
All maternal and newborn health services are free (public sector)	Partial

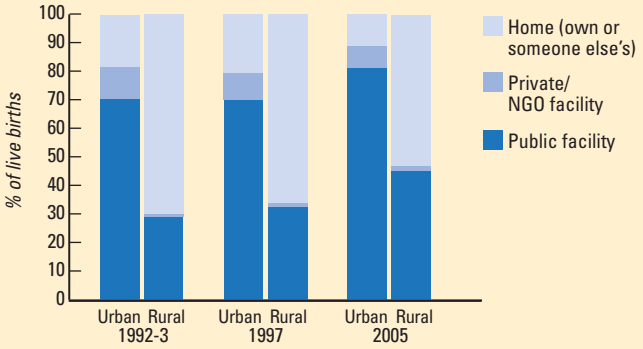
SERVICES

Number of facilities providing essential childbirth care	2,381
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	1,273
Number of Comprehensive EmONC facilities	39
Facilities per 1,000 births	5

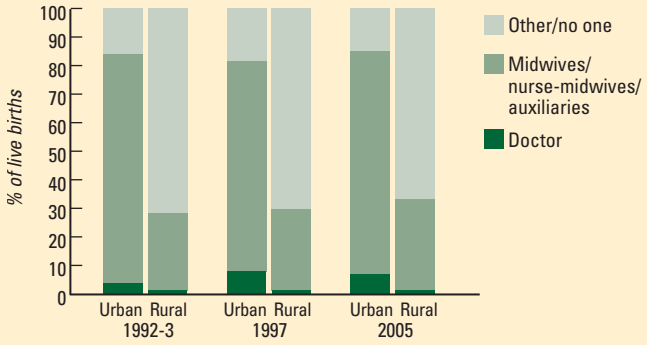
Trends in maternal mortality: 1990–2015



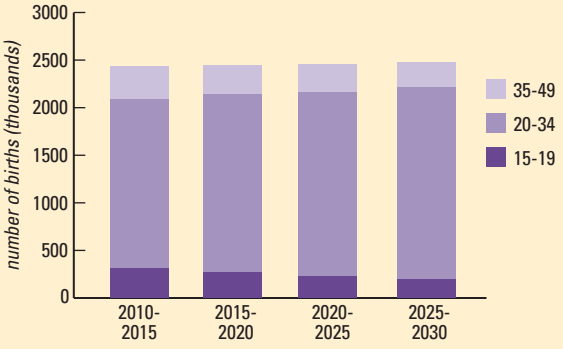
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Sierra Leone

Much of Sierra Leone's health infrastructure was destroyed during the nearly decade-long war that ended in 2002, and required rehabilitation. Large disparities in access to basic health care can be found between urban and rural areas, where the majority of the population lives. Contraceptive use is low, and the fertility rate remains high. The maternal mortality ratio has slightly decreased in the past 20 years but remains very high. A free health care initiative and a basic package of essential health services for women and newborns have been introduced in 2010 placing additional stress on midwifery services. Addressing midwifery shortages is recognized as a top priority. Midwifery education is offered as post-basic training to registered nurses. The curriculum has recently been reviewed according to the ICM essential competencies. Midwives, however, face practical difficulties such as lack of supportive supervision, drugs and equipment. Uneven distribution of services and providers is problematic, and effective deployment and retention strategies are crucial to ensure adequate coverage and skill-mix balance.

COUNTRY INDICATORS*

Total population (000); % urban	5,836; 38
Adolescent population (15-19 yrs) (000); % of total	590; 10
Number of women of reproductive age (age 15-49) (000); % of total	1,456; 25
Total fertility rate (children per woman)	5.2
Crude birth rate (per 1,000 population)	40
Births per year (000)	221
% of all births registered	48
Number of maternal deaths	2,200
Neonatal mortality rate (per 1,000 live births)	49
Stillbirth rate (per 1,000 births)	30
Number of pregnant women tested for HIV	99,256
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	0.2
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	340
Gross secondary school enrolment (male; female) %	42; 28
Literacy rate (age 15 and over) (male; female) %	52; 29

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	970
Proportion of births attended by skilled health personnel (%)	42
Contraceptive prevalence rate (modern methods) (%)	8
Adolescent birth rate (births per 1,000 women age 15-19)	143
Antenatal care coverage (at least one visit; at least four visits) (%)	87; 56
Unmet need for family planning (%)	28
Under-5 mortality rate (per 1,000 live births)	198

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	111
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	–
Obstetricians	–
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; No; Yes
Number of midwifery education institutions (total); number of private	2; 0
Duration of midwifery education programmes (in months)	18 to 24
Number of student admissions (first year)	–
Student admissions per total available student places (%)	>100
Number of students enrolled in all years (2009)	225
Number of graduates (2009)	41
Midwifery education programmes are accredited	–

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	–
Midwives hold a protected title	–
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**1**
Birth complications per day; rural	**100**; 62
Lifetime risk of maternal death	**1 in 21**
Intrapartum stillbirth rate (per 1,000 births)	**14**
Neonatal mortality as % of under-5 mortality	**25**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	250
Association(s) affiliated with ICM; ICN	Yes; No

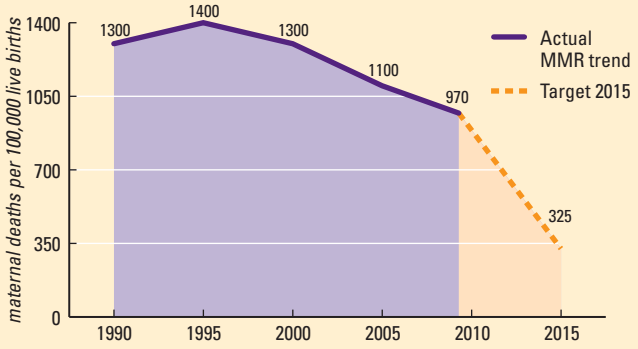
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	–
Compulsory notification of maternal deaths	No
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

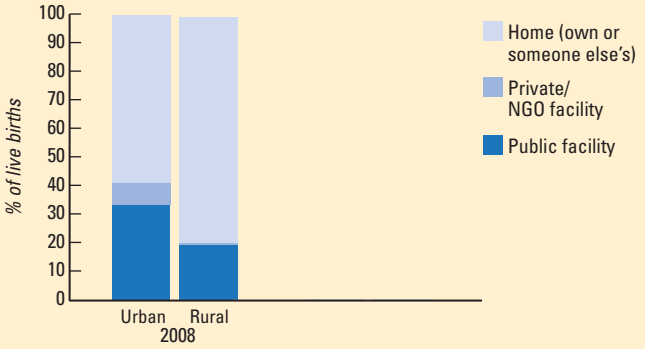
SERVICES

Number of facilities providing essential childbirth care	–
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	–
Number of Comprehensive EmONC facilities	17
Facilities per 1,000 births	–

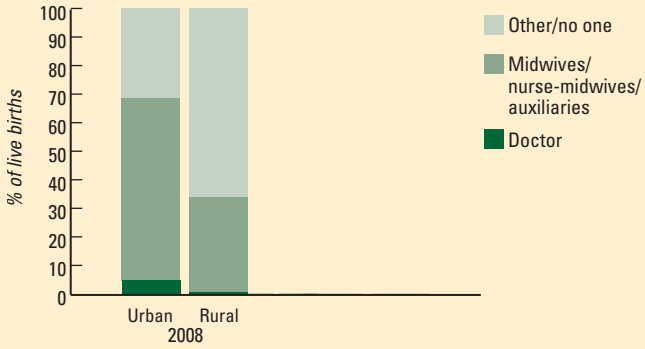
Trends in maternal mortality: 1990–2015



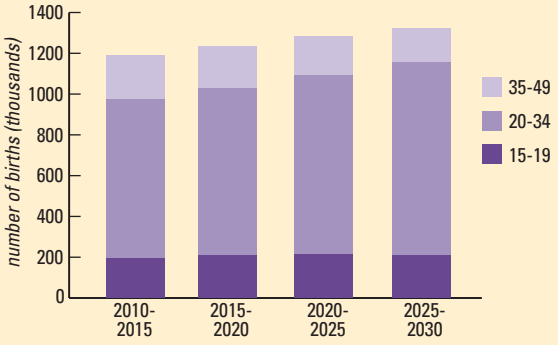
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Somalia

Political instability, the effective split of the country into three political entities, and a worsening humanitarian crisis have greatly impacted the quality and availability of health services, leaving many in Somalia without access to basic health care. Weakened infrastructure, along with poor literacy rates, a shortage of health providers and difficulty accessing services, has contributed to a deterioration of health indicators. Intensified fighting in the south central region is adversely affecting humanitarian efforts, while the situation is far more favourable in Somaliland. Maternal mortality is estimated to have increased in the past 20 years and the current ratio is extremely high. Nurses and midwives are trained in basic emergency obstetric care but they do not have full authority to prescribe life-saving medicines, which is problematic, particularly in isolated regions. Improving career development opportunities for nurses and midwives is one of the many things that need to be done to improve the health status of mothers and newborns in Somalia.

COUNTRY INDICATORS*

Total population (000); % urban	9,359; 37
Adolescent population (15-19 yrs) (000); % of total	937; 10
Number of women of reproductive age (age 15-49) (000); % of total	2,151; 23
Total fertility rate (children per woman)	6.4
Crude birth rate (per 1,000 population)	44
Births per year (000)	392
% of all births registered	3
Number of maternal deaths	4,800
Neonatal mortality rate (per 1,000 live births)	53
Stillbirth rate (per 1,000 births)	30
Number of pregnant women tested for HIV	1,131
Midwives are authorized to administer a core set of life-saving interventions	No
Density of midwives, nurses and doctors per 1,000 population	0.1
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	832
Gross secondary school enrolment (male; female) %	11; 5
Literacy rate (age 15 and over) (male; female) %	–; –

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	1,200
Proportion of births attended by skilled health personnel (%)	33
Contraceptive prevalence rate (modern methods) (%)	15
Adolescent birth rate (births per 1,000 women age 15-19)	123
Antenatal care coverage (at least one visit; at least four visits) (%)	26; 6
Unmet need for family planning (%)	–
Under-5 mortality rate (per 1,000 live births)	180

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	429
Other health professionals with some midwifery competencies[3]	*Unavailable*
General practitioners with some midwifery competencies	*Unavailable*
Obstetricians	*Unavailable*
Community health workers with some midwifery training	*Unavailable*
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; Yes
Number of midwifery education institutions (total); number of private	8; 2
Duration of midwifery education programmes (in months)	12 to 18
Number of student admissions (first year)	–
Student admissions per total available student places (%)	>100
Number of students enrolled in all years (2009)	180
Number of graduates (2009)	–
Midwifery education programmes are accredited	No

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	–
Midwives hold a protected title	–
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**1**
Birth complications per day; rural	**178**; 130
Lifetime risk of maternal death	**1 in 14**
Intrapartum stillbirth rate (per 1,000 births)	**14**
Neonatal mortality as % of under-5 mortality	**29**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	350
Association(s) affiliated with ICM; ICN	No; No

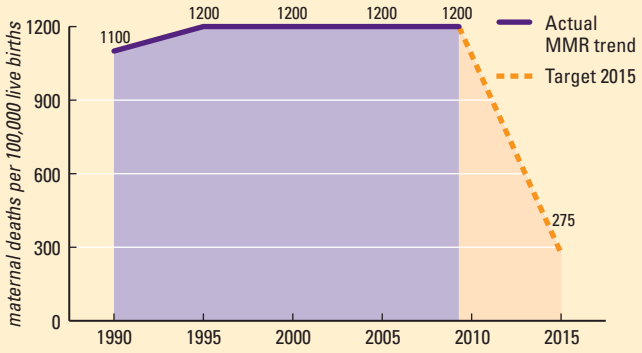
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	No
The plan is costed	–
The national health workforce plan specifically addresses midwifery	–
Compulsory notification of maternal deaths	No
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	No
All maternal and newborn health services are free (public sector)	No

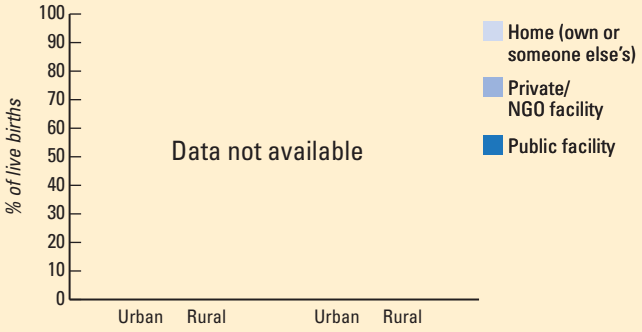
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	*Unavailable*
Number of Comprehensive EmONC facilities	*Unavailable*
Facilities per 1,000 births	–

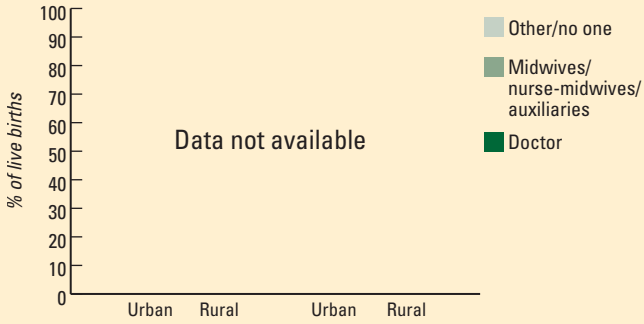
Trends in maternal mortality: 1990–2015



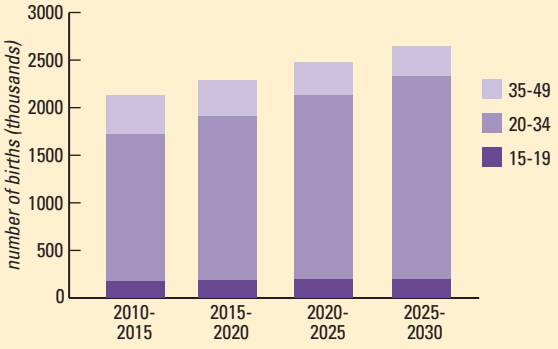
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

South Africa

Compared with most other countries in the region, South Africa has more favourable health indicators, although it retains problems from the apartheid era. Approximately half the population lives in poverty. Infectious diseases are common and the HIV epidemic remains the largest in the world. The total fertility rate is one of the lowest in the region, and contraceptive use has increased significantly. Maternal mortality, however, has almost doubled since 1990, largely due to HIV. The 'National Maternal Health Guidelines' and the 'Saving Mothers: Policy and Management Guidelines' outline care to be provided at the various levels of maternal health service and establish clear referral patterns. Midwifery is a specialty of nursing. Quality of care needs strengthening, particularly in remote areas where additional support is needed to avoid attrition. The successful experience of maternity-led units in the southern provinces shows a cost-effective option, where midwives can practise to their full potential.

COUNTRY INDICATORS*

Total population (000); % urban	50,492; 62
Adolescent population (15-19 yrs) (000); % of total	4,994; 10
Number of women of reproductive age (age 15-49) (000); % of total	13,623; 27
Total fertility rate (children per woman)	2.5
Crude birth rate (per 1,000 population)	22
Births per year (000)	1,090
% of all births registered	78
Number of maternal deaths	4,500
Neonatal mortality rate (per 1,000 live births)	19
Stillbirth rate (per 1,000 births)	21
Number of pregnant women tested for HIV	1,099,712
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	4.9
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	710
Gross secondary school enrolment (male; female) %	93; 97
Literacy rate (age 15 and over) (male; female) %	90; 88

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	410
Proportion of births attended by skilled health personnel (%)	91
Contraceptive prevalence rate (modern methods) (%)	60
Adolescent birth rate (births per 1,000 women age 15-19)	54
Antenatal care coverage (at least one visit; at least four visits) (%)	92; 56
Unmet need for family planning (%)	15
Under-5 mortality rate (per 1,000 live births)	65

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	36,892
Other health professionals with some midwifery competencies[3]	*Unavailable*
General practitioners with some midwifery competencies	13
Obstetricians	1057
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; Yes; Yes
Number of midwifery education institutions (total); number of private	125; 8
Duration of midwifery education programmes (in months)	12 to 48
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	2,667
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	–
Birth complications per day; rural	**452**; 172
Lifetime risk of maternal death	**1 in 100**
Intrapartum stillbirth rate (per 1,000 births)	**10**
Neonatal mortality as % of under-5 mortality	**30**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	72,000
Association(s) affiliated with ICM; ICN	Yes; Yes

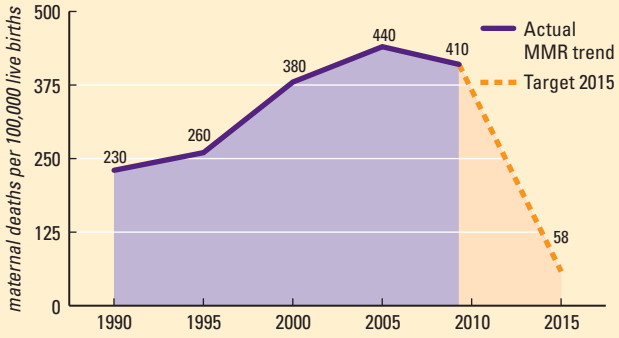
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	No
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

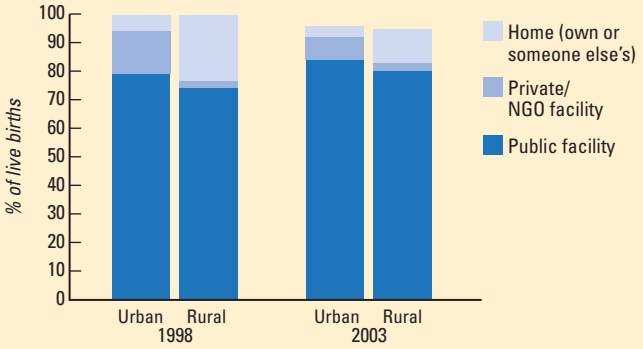
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	430
Number of Comprehensive EmONC facilities	229
Facilities per 1,000 births	–

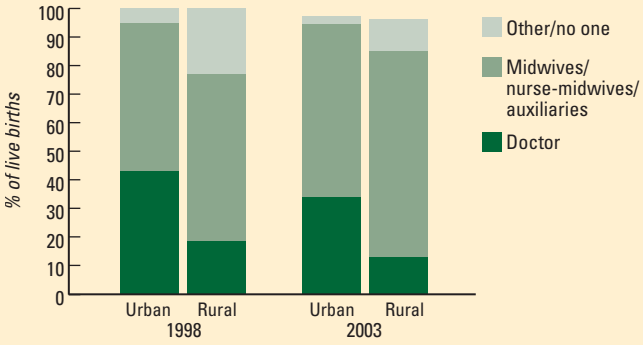
Trends in maternal mortality: 1990–2015



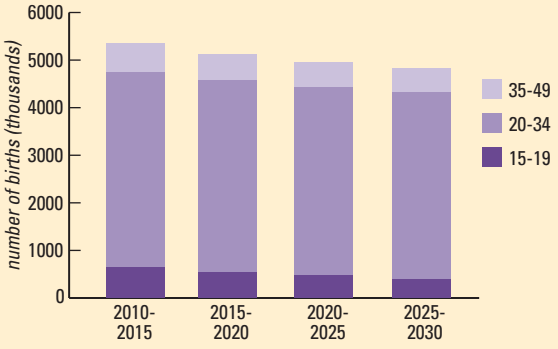
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Sudan

Years of internal conflict have decimated Sudan's infrastructure and the workforce of a once impressive health system. The southern states are about to secede to become the independent Republic of South Sudan. This profile concerns the whole country except the South. The population is two thirds rural and widely dispersed with more than 60 percent living in poverty. Fifty percent of women living in rural areas have no access to emergency obstetric care. Maternal mortality is very high and has not decreased significantly since 1990. The main providers, village midwives, are inadequately trained, unpaid and poorly supported. Rural retention is an acute problem. Midwifery education suffers from lack of competent faculty and poorly resourced schools. In spite of many challenges, Sudan is making significant efforts to prioritize maternal and newborn health services in national policies. A national strategy for scaling-up midwifery has been developed, and a new regulatory framework for midwifery has been established.

COUNTRY INDICATORS*

Total population (000); % urban	43,192; 40
Adolescent population (15-19 yrs) (000); % of total	4,692; 11
Number of women of reproductive age (age 15-49) (000); % of total	10,662; 25
Total fertility rate (children per woman)	4.2
Crude birth rate (per 1,000 population)	31
Births per year (000)	1,295
% of all births registered	33
Number of maternal deaths	9,700
Neonatal mortality rate (per 1,000 live births)	37
Stillbirth rate (per 1,000 births)	24
Number of pregnant women tested for HIV	33,127
Midwives are authorized to administer a core set of life-saving interventions	No
Density of midwives, nurses and doctors per 1,000 population	1.1
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	2,057
Gross secondary school enrolment (male; female) %	40; 36
Literacy rate (age 15 and over) (male; female) %	79; 60

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	750
Proportion of births attended by skilled health personnel (%)	49
Contraceptive prevalence rate (modern methods) (%)	8
Adolescent birth rate (births per 1,000 women age 15-19)	72
Antenatal care coverage (at least one visit; at least four visits) (%)	64; –
Unmet need for family planning (%)	–
Under-5 mortality rate (per 1,000 live births)	109

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	905
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	–
Obstetricians	300
Community health workers with some midwifery training	12,965
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; Yes
Number of midwifery education institutions (total); number of private	36; 0
Duration of midwifery education programmes (in months)	12 to 48
Number of student admissions (first year)	–
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	683
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**1**
Birth complications per day; rural	**586**; 352
Lifetime risk of maternal death	**1 in 32**
Intrapartum stillbirth rate (per 1,000 births)	**11**
Neonatal mortality as % of under-5 mortality	**34**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	No
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	No; No

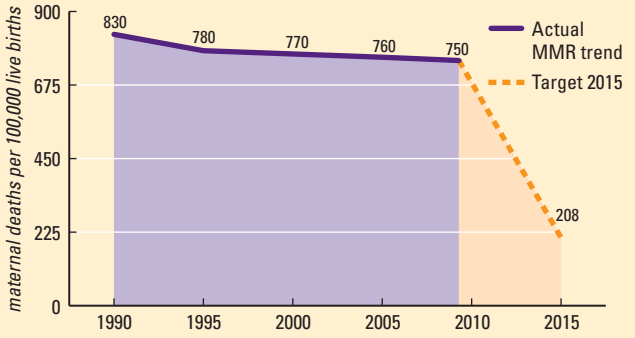
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

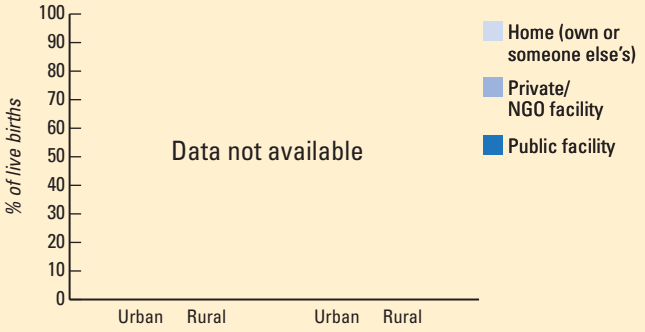
SERVICES

Number of facilities providing essential childbirth care	4,040
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	42
Number of Comprehensive EmONC facilities	135
Facilities per 1,000 births	3

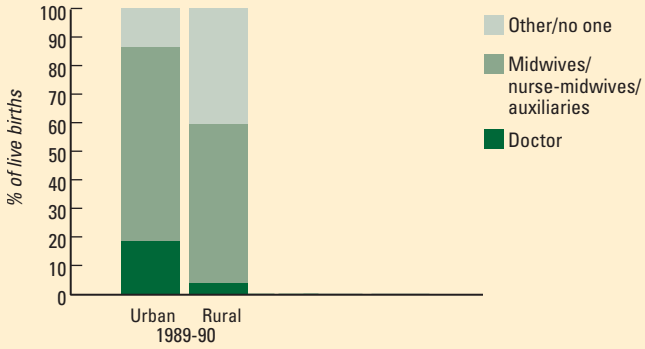
Trends in maternal mortality: 1990–2015



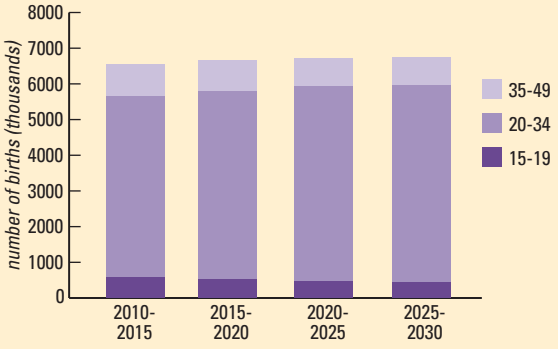
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Tajikistan

Tajikistan was the poorest of the Central Asian republics when it became independent in 1991. A long civil war led to the deterioration of economic and social development, which affected health outcomes. An estimated 22 percent of the population live in poverty. The total fertility rate remains high and contraceptive use is low. Yet, maternal health is making progress, with the halving of the maternal mortality ratio between 1990 and 2008. Midwives are unevenly distributed between urban and rural areas, and between primary care units and hospitals, with notable attrition in the remote postings. Out-of-pocket payments are frequent. Midwifery is taught by medical staff rather than by experienced midwives, and the latter often work as obstetricians' assistants, rather than as autonomous professionals. In 2010, the Ministry of Health reviewed cases of maternal death in order to gain further evidence of key challenges that need to be addressed.

COUNTRY INDICATORS*

Total population (000); % urban	7,075; 26
Adolescent population (15-19 yrs) (000); % of total	848; 12
Number of women of reproductive age (age 15-49) (000); % of total	1,899; 27
Total fertility rate (children per woman)	3.4
Crude birth rate (per 1,000 population)	28
Births per year (000)	191
% of all births registered	–
Number of maternal deaths	120
Neonatal mortality rate (per 1,000 live births)	24
Stillbirth rate (per 1,000 births)	12
Number of pregnant women tested for HIV	76,297
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	7.0
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	187
Gross secondary school enrolment (male; female) %	90; 78
Literacy rate (age 15 and over) (male; female) %	100; 100

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	64
Proportion of births attended by skilled health personnel (%)	88
Contraceptive prevalence rate (modern methods) (%)	38
Adolescent birth rate (births per 1,000 women age 15-19)	27
Antenatal care coverage (at least one visit; at least four visits) (%)	89; 49
Unmet need for family planning (%)	–
Under-5 mortality rate (per 1,000 live births)	64

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	3,898
Other health professionals with some midwifery competencies[3]	*Unavailable*
General practitioners with some midwifery competencies	–
Obstetricians	1,255
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; Yes
Number of midwifery education institutions (total); number of private	23; 0
Duration of midwifery education programmes (in months)	48
Number of student admissions (first year)	3,707
Student admissions per total available student places (%)	85
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	3,230
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	–
Birth complications per day; rural	**84**; 62
Lifetime risk of maternal death	**1 in 430**
Intrapartum stillbirth rate (per 1,000 births)	**2**
Neonatal mortality as % of under-5 mortality	**40**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	520
Association(s) affiliated with ICM; ICN	No; No

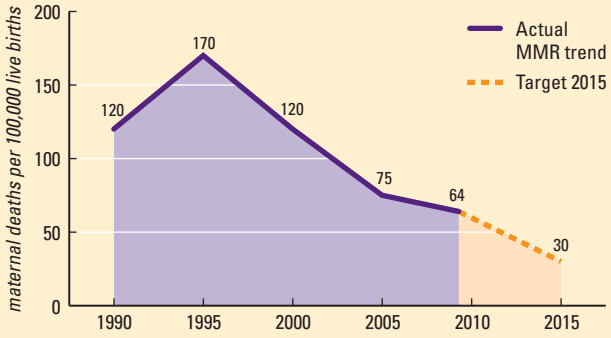
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	No
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

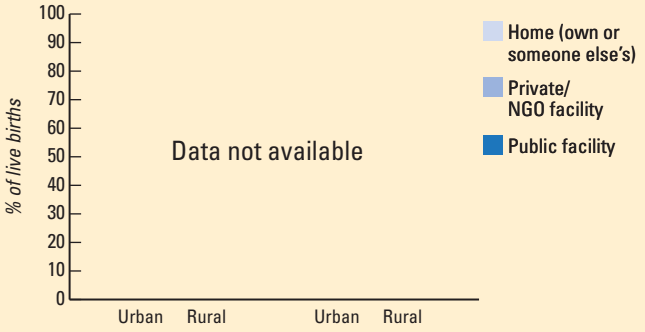
SERVICES

Number of facilities providing essential childbirth care	208
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	106
Number of Comprehensive EmONC facilities	74
Facilities per 1,000 births	1

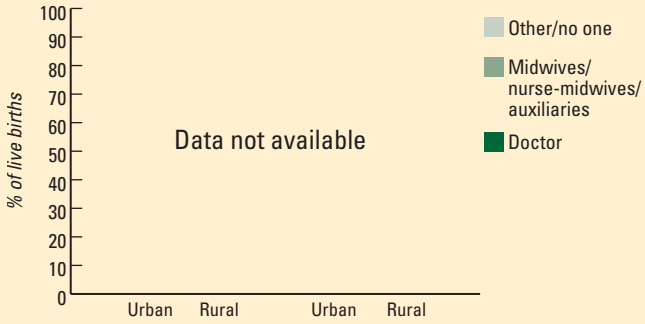
Trends in maternal mortality: 1990–2015



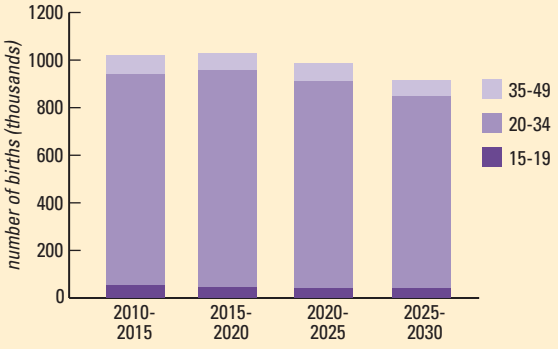
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Timor-Leste

Half of the small but quickly growing population of Timor-Leste continues to live in poverty. Inequitable access to health care is due to geographic and economic factors, and also to lack of health care providers. Health facilities and roads that were severely damaged during the civil war are being rebuilt. Contraceptive use is low and the fertility rate is one of the world's highest. Maternal mortality has declined significantly since 1990, but remains high. The 2004-2015 National Reproductive Health Strategy addresses education of skilled health personnel and access to emergency obstetric and newborn care. A three-year direct-entry midwifery programme is available. Midwifery is recognized as an autonomous profession, and midwives are authorized to practise all essential ICM competencies. The East Timor Midwifery Association is being established in 2011. Scaling up the provision of quality midwifery services requires improved access to facilities and continued political stability.

COUNTRY INDICATORS*

Total population (000); % urban	1,171; 28
Adolescent population (15-19 yrs) (000); % of total	131; 11
Number of women of reproductive age (age 15-49) (000); % of total	257; 22
Total fertility rate (children per woman)	6.5
Crude birth rate (per 1,000 population)	40
Births per year (000)	43
% of all births registered	53
Number of maternal deaths	160
Neonatal mortality rate (per 1,000 live births)	27
Stillbirth rate (per 1,000 births)	14
Number of pregnant women tested for HIV	71
Midwives are authorized to administer a core set of life-saving interventions	–
Density of midwives, nurses and doctors per 1,000 population	2.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	77
Gross secondary school enrolment (male; female) %	55; 55
Literacy rate (age 15 and over) (male; female) %	–; –

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	370
Proportion of births attended by skilled health personnel (%)	18
Contraceptive prevalence rate (modern methods) (%)	10
Adolescent birth rate (births per 1,000 women age 15-19)	59
Antenatal care coverage (at least one visit; at least four visits) (%)	61; 30
Unmet need for family planning (%)	4
Under-5 mortality rate (per 1,000 live births)	60

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	367
Other health professionals with some midwifery competencies[3]	95
General practitioners with some midwifery competencies	12
Obstetricians	–
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; Yes
Number of midwifery education institutions (total); number of private	2; 0
Duration of midwifery education programmes (in months)	18 to 48
Number of student admissions (first year)	97
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	134
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**8**
Birth complications per day; rural	**19**; 13
Lifetime risk of maternal death	**1 in 44**
Intrapartum stillbirth rate (per 1,000 births)	**4**
Neonatal mortality as % of under-5 mortality	**48**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	–; –

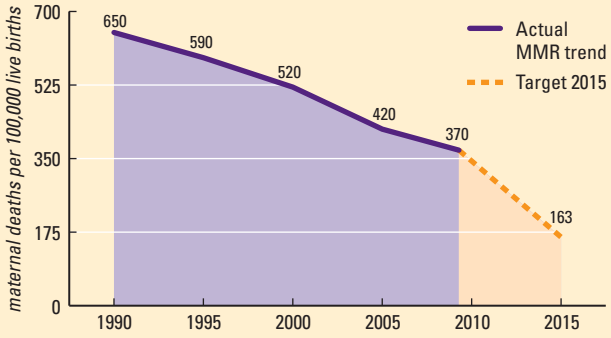
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

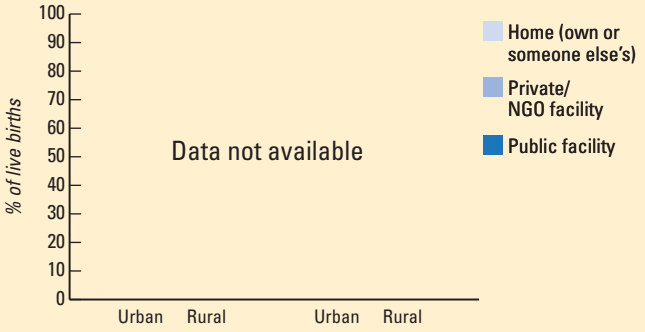
SERVICES

Number of facilities providing essential childbirth care	71
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	62
Number of Comprehensive EmONC facilities	6
Facilities per 1,000 births	2

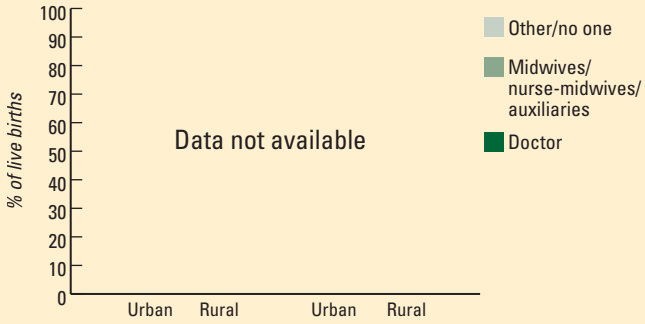
Trends in maternal mortality: 1990–2015



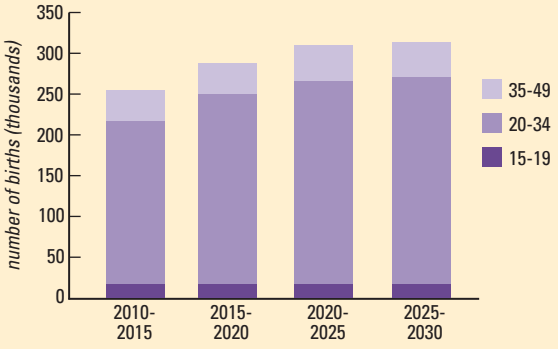
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Togo

Since gaining independence in 1960, Togo has been highly dependent on external assistance. Frequent floods and high food prices are two of the many factors that have hampered development efforts. The country has a relatively young population (40 percent urban) and a high adolescent fertility rate. The status of women is improving, although they are still subject to legal and social restrictions. The maternal mortality ratio has decreased steadily over the years, although it remains high. Most of the midwifery health workforce is in urban areas and there is an acute shortage of midwives and a lack of emergency obstetric care facilities in rural areas. The country has also problems retaining its health workforce, as many health professionals have migrated in recent years. Implementation of a national plan aimed at reducing the maternal death burden has been underway for a few years.

COUNTRY INDICATORS*

Total population (000); % urban	6,780; 43
Adolescent population (15-19 yrs) (000); % of total	735; 11
Number of women of reproductive age (age 15-49) (000); % of total	1,689; 25
Total fertility rate (children per woman)	4.3
Crude birth rate (per 1,000 population)	33
Births per year (000)	211
% of all births registered	78
Number of maternal deaths	740
Neonatal mortality rate (per 1,000 live births)	32
Stillbirth rate (per 1,000 births)	25
Number of pregnant women tested for HIV	42,101
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.3
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	242
Gross secondary school enrolment (male; female) %	54; 28
Literacy rate (age 15 and over) (male; female) %	77; 54

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	350
Proportion of births attended by skilled health personnel (%)	62
Contraceptive prevalence rate (modern methods) (%)	17
Adolescent birth rate (births per 1,000 women age 15-19)	89
Antenatal care coverage (at least one visit; at least four visits) (%)	84; 46
Unmet need for family planning (%)	32
Under-5 mortality rate (per 1,000 live births)	100

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	413
Other health professionals with some midwifery competencies[3]	938
General practitioners with some midwifery competencies	277
Obstetricians	60
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	4;1
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	–
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	840
Number of graduates (2009)	243
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	No
A licence is required to practise midwifery	No
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**2**
Birth complications per day; rural	**95**; 54
Lifetime risk of maternal death	**1 in 67**
Intrapartum stillbirth rate (per 1,000 births)	**12**
Neonatal mortality as % of under-5 mortality	**32**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	2,554
Association(s) affiliated with ICM; ICN	No; Yes

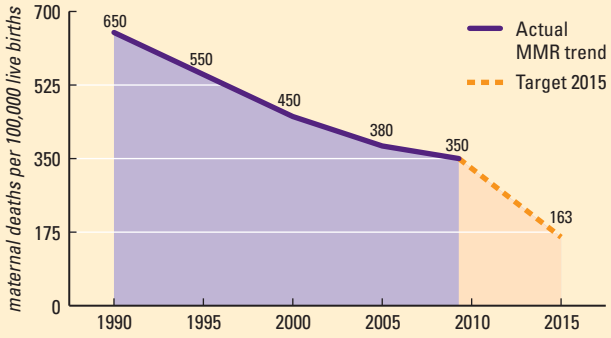
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	–
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	No

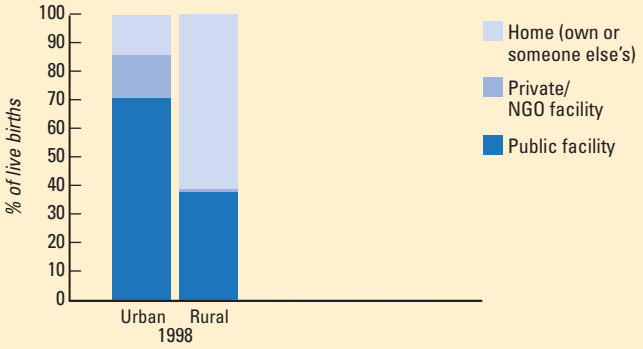
SERVICES

Number of facilities providing essential childbirth care	503
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	120
Number of Comprehensive EmONC facilities	33
Facilities per 1,000 births	2

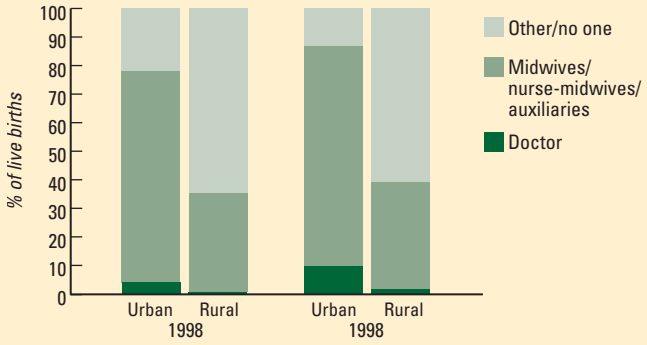
Trends in maternal mortality: 1990–2015



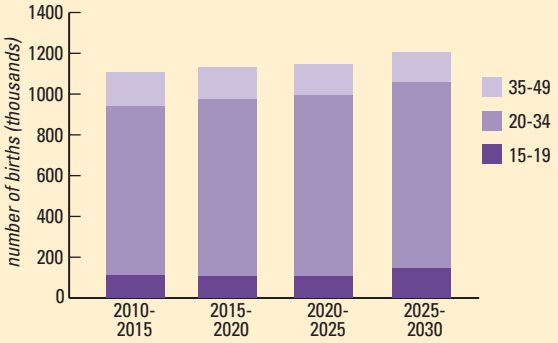
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Uganda

With only 13 percent of the population living in urban areas, Uganda is predominantly rural. The country has a high fertility rate, contraception use is low, and its population is one of the fastest growing in the world. The maternal mortality ratio has declined by 36 percent since 1990, but remains high. The Government has made maternal and child health a development priority, and has launched a road map for the reduction of maternal and newborn mortality. Although there is a general shortage of midwifery tutors, more are being trained. The traditional three-year midwifery education programme is no longer offered in many public education institutions. A new course is being designed for a master's of science in nursing and midwifery. Registered midwives are encouraged to participate in continuing education programmes to upgrade their skills. The Uganda Nurses and Midwives Council is actively promoting midwifery education.

COUNTRY INDICATORS*

Total population (000); % urban	33,796; 13
Adolescent population (15-19 yrs) (000); % of total	3,808; 11
Number of women of reproductive age (age 15-49) (000); % of total	7,345; 22
Total fertility rate (children per woman)	6.3
Crude birth rate (per 1,000 population)	46
Births per year (000)	1,448
% of all births registered	21
Number of maternal deaths	6,300
Neonatal mortality rate (per 1,000 live births)	31
Stillbirth rate (per 1,000 births)	25
Number of pregnant women tested for HIV	968,157
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	1.4
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	2,021
Gross secondary school enrolment (male; female) %	27; 23
Literacy rate (age 15 and over) (male; female) %	82; 67

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	430
Proportion of births attended by skilled health personnel (%)	42
Contraceptive prevalence rate (modern methods) (%)	24
Adolescent birth rate (births per 1,000 women age 15-19)	159
Antenatal care coverage (at least one visit; at least four visits) (%)	94; 47
Unmet need for family planning (%)	41
Under-5 mortality rate (per 1,000 live births)	130

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	9,701
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	–
Obstetricians	144
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; Yes
Number of midwifery education institutions (total); number of private	53; 38
Duration of midwifery education programmes (in months)	18 to 36
Number of student admissions (first year)	1,527
Student admissions per total available student places (%)	>100
Number of students enrolled in all years (2009)	4,605
Number of graduates (2009)	1,453
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**7**
Birth complications per day; rural	**653**; 555
Lifetime risk of maternal death	**1 in 35**
Intrapartum stillbirth rate (per 1,000 births)	**12**
Neonatal mortality as % of under-5 mortality	**24**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	5,154
Association(s) affiliated with ICM; ICN	Yes; Yes

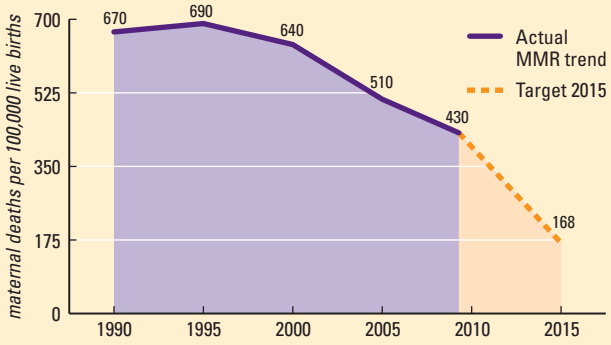
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	No
All maternal and newborn health services are free (public sector)	Partial

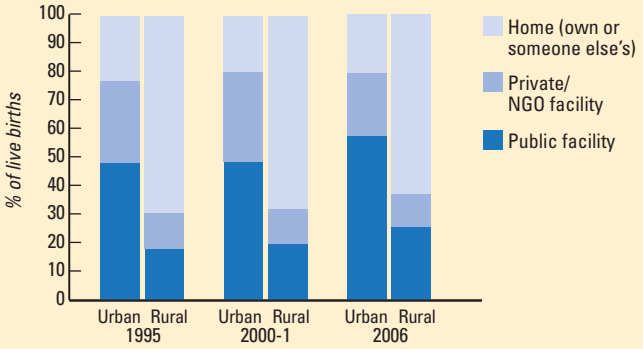
SERVICES

Number of facilities providing essential childbirth care	2,471
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	853
Number of Comprehensive EmONC facilities	164
Facilities per 1,000 births	2

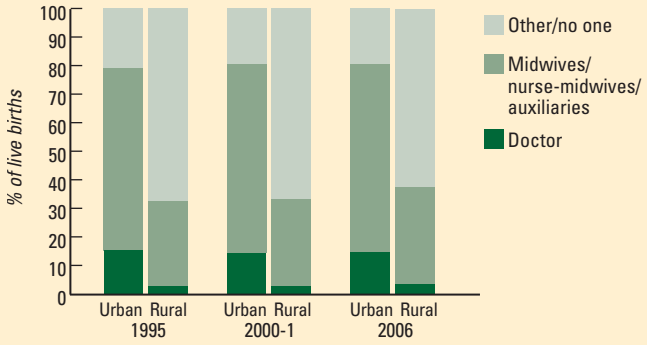
Trends in maternal mortality: 1990–2015



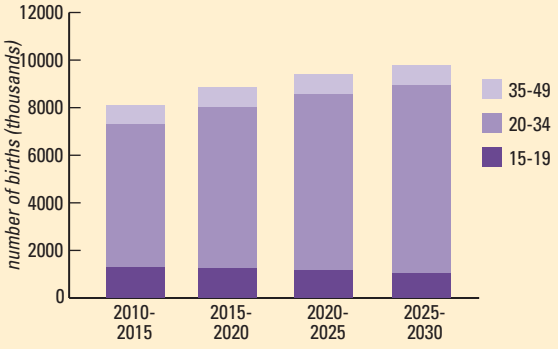
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

United Republic of Tanzania

Tanzania's mostly rural and fast growing population registers a high fertility rate and low contraceptive use. Child health in mainland Tanzania and Zanzibar has improved, but maternal mortality remains very high, with only a moderate reduction since 2005. A high prevalence of HIV contributes to this situation. A policy of free access to maternal health services is in place. The health sector strategic plan specifically addresses the midwifery workforce, and priority is given to increasing the number of birth attendants with life saving skills and other competencies. One part of the plan involves establishing incentives to retain midwives, especially those practising in remote areas. The majority of midwives are nurse-midwives by training. The Tanzania 'Nursing and Midwifery Act 2010' has allowed the start of formal licensing of practitioners and accreditation of training institutions. Innovations to improve the quality of midwifery education are underway, but a lack of skilled faculty constrains their implementation.

COUNTRY INDICATORS*

Total population (000); % urban	45,040; 26
Adolescent population (15-19 yrs) (000); % of total	4,758; 11
Number of women of reproductive age (age 15-49) (000); % of total	10,271; 23
Total fertility rate (children per woman)	5.6
Crude birth rate (per 1,000 population)	42
Births per year (000)	1,750
% of all births registered	8
Number of maternal deaths	14,000
Neonatal mortality rate (per 1,000 live births)	34
Stillbirth rate (per 1,000 births)	26
Number of pregnant women tested for HIV	1,194,172
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.2
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	1,739
Gross secondary school enrolment (male; female) %	7; 5
Literacy rate (age 15 and over) (male; female) %	79; 66

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	790
Proportion of births attended by skilled health personnel (%)	43
Contraceptive prevalence rate (modern methods) (%)	26
Adolescent birth rate (births per 1,000 women age 15-19)	139
Antenatal care coverage (at least one visit; at least four visits) (%)	76; 62
Unmet need for family planning (%)	22
Under-5 mortality rate (per 1,000 live births)	111

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	2,720
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	–
Obstetricians	140
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; Yes
Number of midwifery education institutions (total); number of private	84; 46
Duration of midwifery education programmes (in months)	12 to 48
Number of student admissions (first year)	–
Student admissions per total available student places (%)	>100
Number of students enrolled in all years (2009)	4,095
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**2**
Birth complications per day; rural	**758**; 531
Lifetime risk of maternal death	**1 in 23**
Intrapartum stillbirth rate (per 1,000 births)	**12**
Neonatal mortality as % of under-5 mortality	**31**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	4,965
Association(s) affiliated with ICM; ICN	Yes; Yes

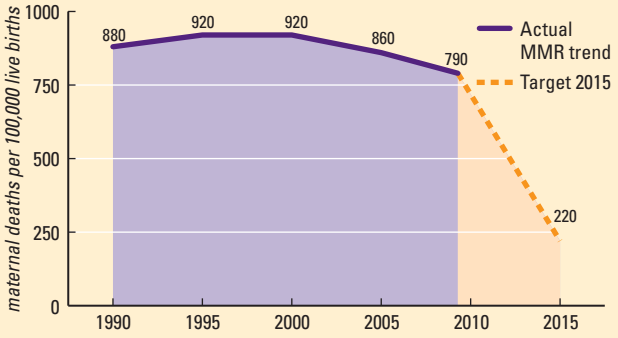
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	No
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Partial

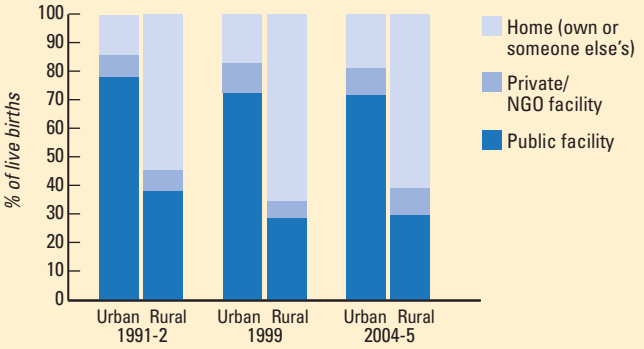
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	*Unavailable*
Number of Comprehensive EmONC facilities	*Unavailable*
Facilities per 1,000 births	–

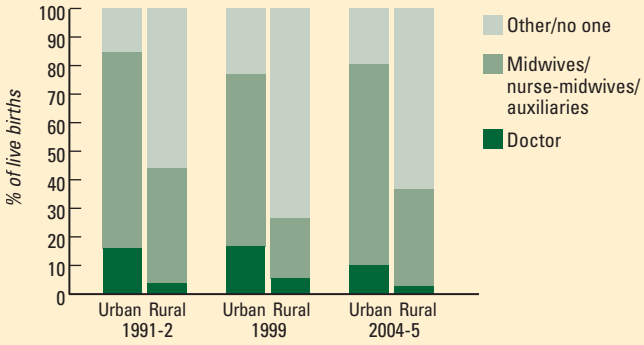
Trends in maternal mortality: 1990–2015



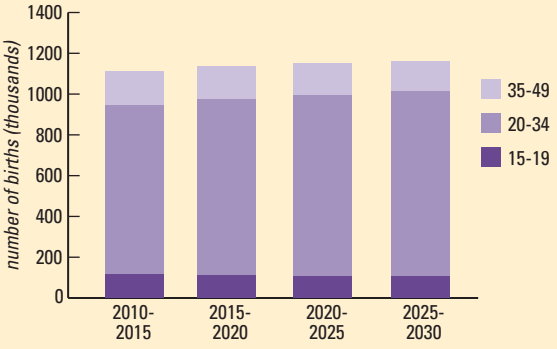
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Uzbekistan

Uzbekistan, the most populous country in Central Asia, faces high levels of unemployment. Forty-six percent of the population lives in poverty, and current concerns include economic stagnation and internal conflicts. Social discontent and large-scale emigration, particularly of young qualified people, are also problematic. There are regional disparities in income and in the use of basic health services. Maternal mortality has not declined significantly since 1995. A national policy for maternal and newborn health services has been developed, and a policy for the provision of free maternal and child health care services is in place. Midwifery is considered as a specialty of nursing. A two-level system for midwifery education has been introduced with the aim of improving the quality of midwifery services, and the new curriculum includes ICM competencies. The division of responsibilities and tasks between obstetricians and midwives during delivery is reportedly unclear and presents a challenge in the work environment.

COUNTRY INDICATORS*

Total population (000); % urban	27,794; 36
Adolescent population (15-19 yrs) (000); % of total	3,182; 11
Number of women of reproductive age (age 15-49) (000); % of total	7,944; 29
Total fertility rate (children per woman)	2.6
Crude birth rate (per 1,000 population)	22
Births per year (000)	551
% of all births registered	100
Number of maternal deaths	170
Neonatal mortality rate (per 1,000 live births)	17
Stillbirth rate (per 1,000 births)	6
Number of pregnant women tested for HIV	414,346
Midwives are authorized to administer a core set of life-saving interventions	–
Density of midwives, nurses and doctors per 1,000 population	13.4
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	–
Gross secondary school enrolment (male; female) %	102; 101
Literacy rate (age 15 and over) (male; female) %	100; 99

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	30
Proportion of births attended by skilled health personnel (%)	100
Contraceptive prevalence rate (modern methods) (%)	65
Adolescent birth rate (births per 1,000 women age 15-19)	26
Antenatal care coverage (at least one visit; at least four visits) (%)	99; 79
Unmet need for family planning (%)	14
Under-5 mortality rate (per 1,000 live births)	38

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	24,100
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	–
Obstetricians	5,000
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; No; Yes
Number of midwifery education institutions (total); number of private	98; 0
Duration of midwifery education programmes (in months)	36
Number of student admissions (first year)	4,000
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	4,000
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	–
Birth complications per day; rural	**265**; 169
Lifetime risk of maternal death	**1 in 1400**
Intrapartum stillbirth rate (per 1,000 births)	**1**
Neonatal mortality as % of under-5 mortality	**48**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	150,000
Association(s) affiliated with ICM; ICN	No; –

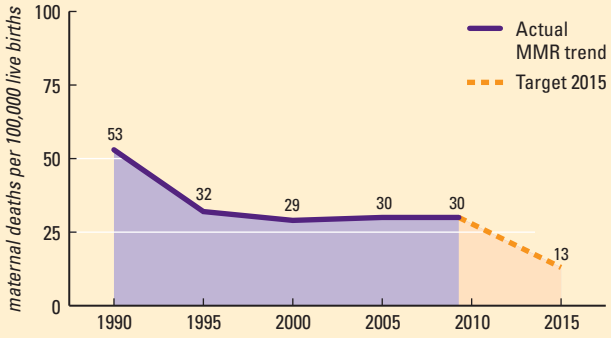
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	No
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	No
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Partial

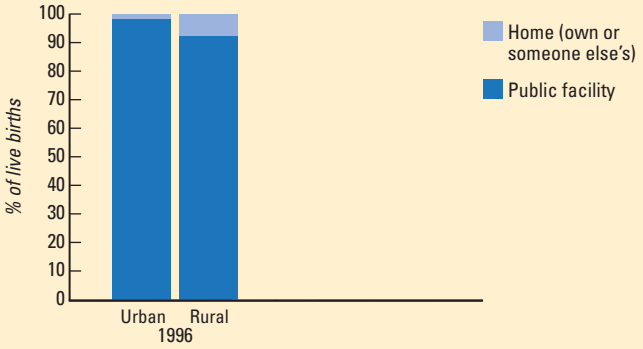
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	240
Number of Comprehensive EmONC facilities	220
Facilities per 1,000 births	–

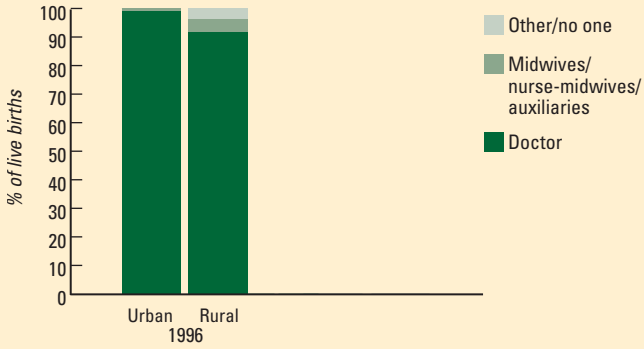
Trends in maternal mortality: 1990–2015



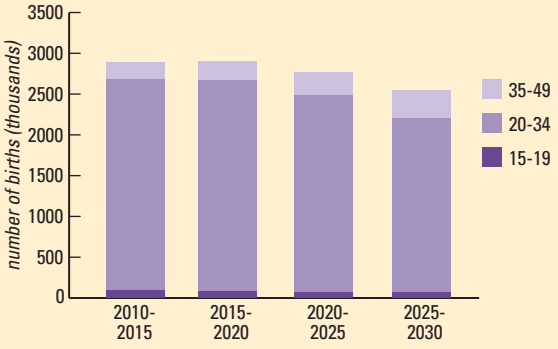
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Viet Nam

Densely populated, Viet Nam is experiencing rapid economic growth, which has led to higher living standards and significant rural-to-urban migration. A vigorous population policy has led to a significant fertility decline in the past 20 years, accompanied by improvements in health indicators. Maternal mortality has decreased 66 percent since 1990, and the country will meet its MDG 5 target. However, maternal mortality remains significantly higher in remote regions with ethnic minorities. Further progress is expected with full implementation of the maternal and newborn health programme in these areas. The country has several midwifery schools and a strong midwifery workforce. A new three-year direct-entry programme was established three years ago. A new decree makes licensing compulsory for all health professionals. Enhanced collaboration between education institutions and training sites and between school faculty and mentors in health facilities would contribute to strengthening the educational programmes.

COUNTRY INDICATORS*

Total population (000); % urban	89,029; 30
Adolescent population (15-19 yrs) (000); % of total	9,044; 10
Number of women of reproductive age (age 15-49) (000); % of total	25,325; 28
Total fertility rate (children per woman)	2.1
Crude birth rate (per 1,000 population)	17
Births per year (000)	1,498
% of all births registered	88
Number of maternal deaths	840
Neonatal mortality rate (per 1,000 live births)	12
Stillbirth rate (per 1,000 births)	14
Number of pregnant women tested for HIV	480,814
Midwives are authorized to administer a core set of life-saving interventions	–
Density of midwives, nurses and doctors per 1,000 population	2.2
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	1,012
Gross secondary school enrolment (male; female) %	70; 64
Literacy rate (age 15 and over) (male; female) %	95; 90

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	56
Proportion of births attended by skilled health personnel (%)	88
Contraceptive prevalence rate (modern methods) (%)	80
Adolescent birth rate (births per 1,000 women age 15-19)	35
Antenatal care coverage (at least one visit; at least four visits) (%)	91; 29
Unmet need for family planning (%)	5
Under-5 mortality rate (per 1,000 live births)	24

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	35,162
Other health professionals with some midwifery competencies[3]	1,801
General practitioners with some midwifery competencies	–
Obstetricians	5,000
Community health workers with some midwifery training	101,508
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	72; 0
Duration of midwifery education programmes (in months)	–
Number of student admissions (first year)	1,649
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	3,912
Number of graduates (2009)	1,644
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	No
A licence is required to practise midwifery	No
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	–
Birth complications per day; rural	**658**; 461
Lifetime risk of maternal death	**1 in 850**
Intrapartum stillbirth rate (per 1,000 births)	**4**
Neonatal mortality as % of under-5 mortality	**52**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	Yes; No

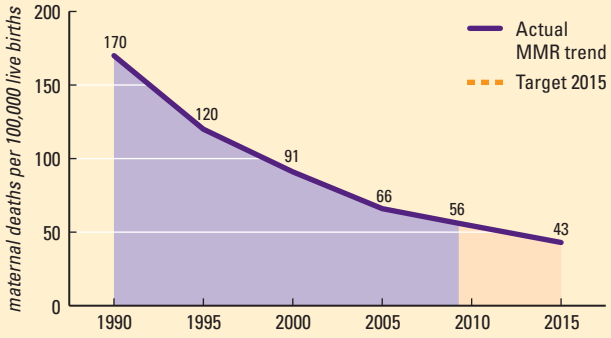
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	No
Systematic maternal death audits and reviews	Partial
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	No
All maternal and newborn health services are free (public sector)	Yes

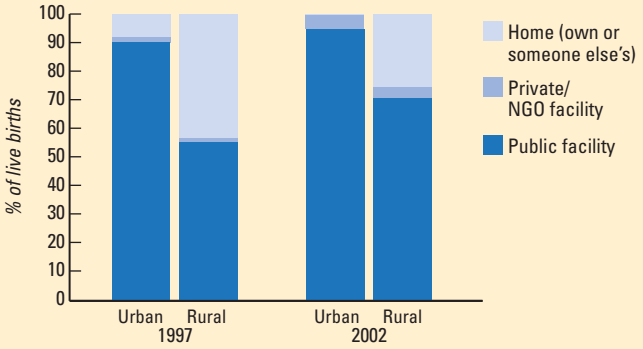
SERVICES

Number of facilities providing essential childbirth care	11,085
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	10,324
Number of Comprehensive EmONC facilities	591
Facilities per 1,000 births	7

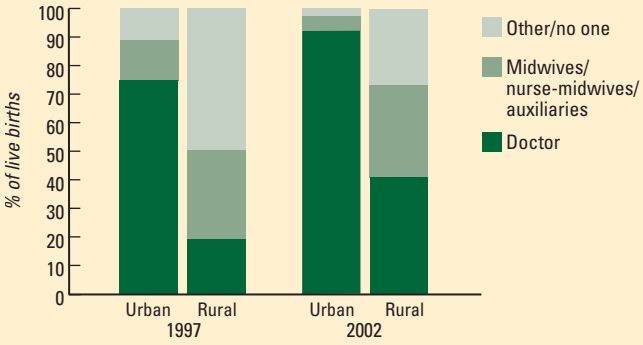
Trends in maternal mortality: 1990–2015



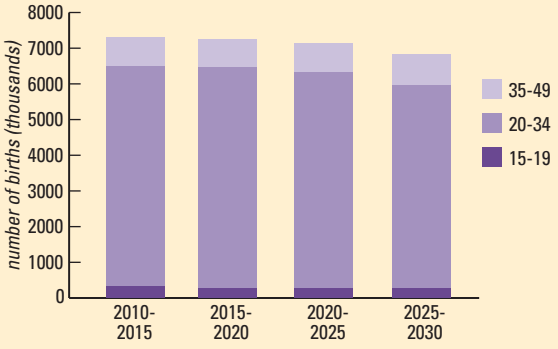
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Yemen

In Yemen, one of the world's least developed countries, nearly 42 percent of the population lives in poverty and 75 percent lives in rural areas. The total fertility rate is among the highest in the world. Approximately 44 percent of the population is under age 15, a reflection of the country's high population growth rate. Women's illiteracy is high. The country has made progress towards the health-related MDGs, and the maternal mortality ratio has been reduced by 61 percent since 1990. However, skilled attendance at birth remains low. The first priority of the national policy for maternal, newborn and child health is to strengthen qualified human resources, mainly the midwifery workforce in both the community and health facilities. Two direct-entry education programmes produce community midwives and facility-based midwives. The policy emphasizes meeting the needs of women, newborns and children in remote areas, but implementation will require stability.

COUNTRY INDICATORS*

Total population (000); % urban	24,256; 32
Adolescent population (15-19 yrs) (000); % of total	2,896; 12
Number of women of reproductive age (age 15-49) (000); % of total	5,763; 24
Total fertility rate (children per woman)	5.2
Crude birth rate (per 1,000 population)	37
Births per year (000)	840
% of all births registered	22
Number of maternal deaths	1,800
Neonatal mortality rate (per 1,000 live births)	29
Stillbirth rate (per 1,000 births)	23
Number of pregnant women tested for HIV	4,211
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	1.0
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	2,222
Gross secondary school enrolment (male; female) %	61; 30
Literacy rate (age 15 and over) (male; female) %	79; 43

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	210
Proportion of births attended by skilled health personnel (%)	36
Contraceptive prevalence rate (modern methods) (%)	28
Adolescent birth rate (births per 1,000 women age 15-19)	80
Antenatal care coverage (at least one visit; at least four visits) (%)	47; 11
Unmet need for family planning (%)	39
Under-5 mortality rate (per 1,000 live births)	70

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	4287
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	205
Obstetricians	–
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	–

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; No; No
Number of midwifery education institutions (total); number of private	22; 0
Duration of midwifery education programmes (in months)	24 to 36
Number of student admissions (first year)	293
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	288
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	–
Midwives hold a protected title	–
A recognized definition of a professional midwife exists	No
A government body regulates midwifery practice	–
A licence is required to practise midwifery	–
Midwives are authorized to prescribe life-saving medications	No

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**5**
Birth complications per day; rural	**399**; 272
Lifetime risk of maternal death	**1 in 91**
Intrapartum stillbirth rate (per 1,000 births)	**4**
Neonatal mortality as % of under-5 mortality	**44**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	–; –

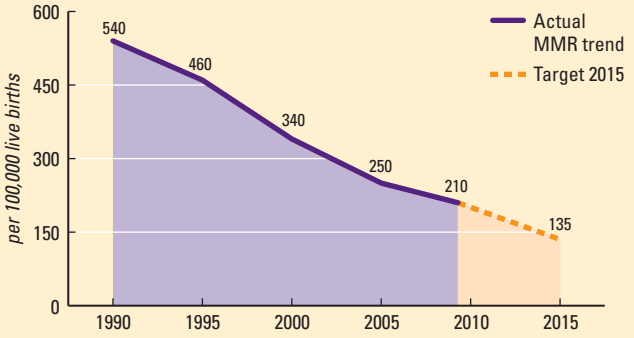
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	–
The national health workforce plan specifically addresses midwifery	–
Compulsory notification of maternal deaths	No
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	No
All maternal and newborn health services are free (public sector)	Partial

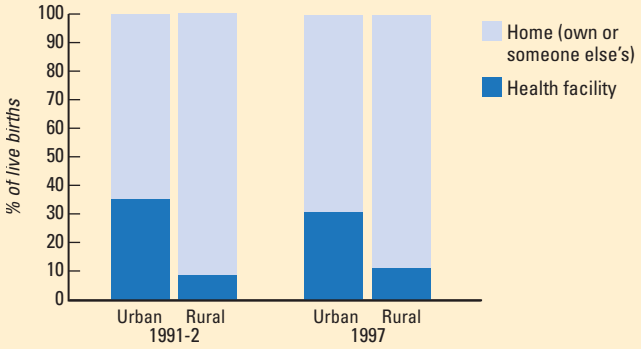
SERVICES

Number of facilities providing essential childbirth care	–
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	520
Number of Comprehensive EmONC facilities	67
Facilities per 1,000 births	–

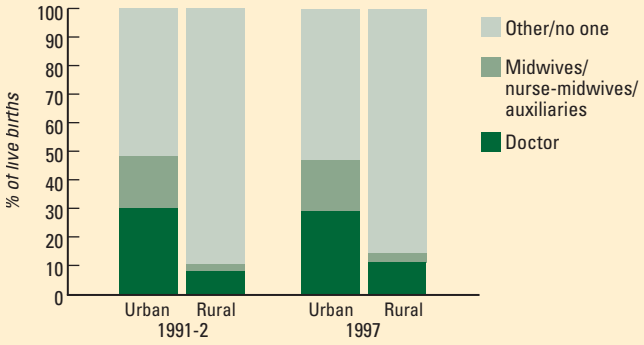
Trends in maternal mortality: 1990–2015



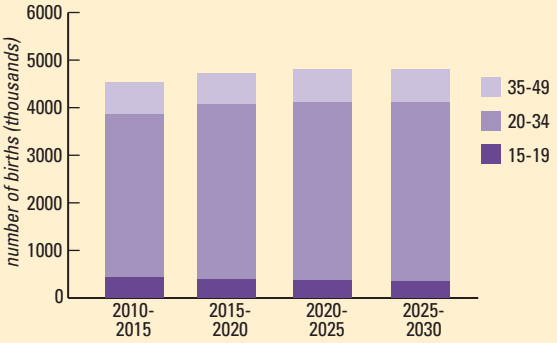
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Zambia

Landlocked in southern Africa, Zambia has reached a degree of stability in the past decade, after years of unrest following independence. Although contraceptive use has risen significantly, the total fertility rate and the adolescent fertility rate are very high. HIV/AIDS prevalence is also very high, and 37 percent of maternal deaths are due to HIV. Maternal mortality has increased dramatically since the 1990s, and remains high. Improving maternal and newborn health has become a political priority. The 2010 national human resources for health plan expresses the Government's commitment to increase the number of midwives and the quality of their education. A new direct-entry programme has been implemented. A new professional association is being developed. Career opportunities for the midwifery workforce in the fields of teaching and research are being developed. Midwives play a key role in HIV prevention and care, including prevention of mother-to-child transmission.

COUNTRY INDICATORS*

Total population (000); % urban	13,257; 36
Adolescent population (15-19 yrs) (000); % of total	1,442; 11
Number of women of reproductive age (age 15-49) (000); % of total	2,940; 22
Total fertility rate (children per woman)	5.8
Crude birth rate (per 1,000 population)	43
Births per year (000)	539
% of all births registered	10
Number of maternal deaths	2600
Neonatal mortality rate (per 1,000 live births)	35
Stillbirth rate (per 1,000 births)	26
Number of pregnant women tested for HIV	532,484
Midwives are authorized to administer a core set of life-saving interventions	Yes
Density of midwives, nurses and doctors per 1,000 population	0.8
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	603
Gross secondary school enrolment (male; female) %	50; 41
Literacy rate (age 15 and over) (male; female) %	81; 61

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	470
Proportion of births attended by skilled health personnel (%)	47
Contraceptive prevalence rate (modern methods) (%)	41
Adolescent birth rate (births per 1,000 women age 15-19)	151
Antenatal care coverage (at least one visit; at least four visits) (%)	94; 60
Unmet need for family planning (%)	27
Under-5 mortality rate (per 1,000 live births)	145

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	2,821
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	911
Obstetricians	*Unavailable*
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	Yes

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	Yes; Yes; No
Number of midwifery education institutions (total); number of private	15; 0
Duration of midwifery education programmes (in months)	24 to 48
Number of student admissions (first year)	210
Student admissions per total available student places (%)	100
Number of students enrolled in all years (2009)	–
Number of graduates (2009)	–
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	Yes
Midwives hold a protected title	Yes
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	**5**
Birth complications per day; rural	**246**; 157
Lifetime risk of maternal death	**1 in 38**
Intrapartum stillbirth rate (per 1,000 births)	**12**
Neonatal mortality as % of under-5 mortality	**25**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	200
Association(s) affiliated with ICM; ICN	No; Yes

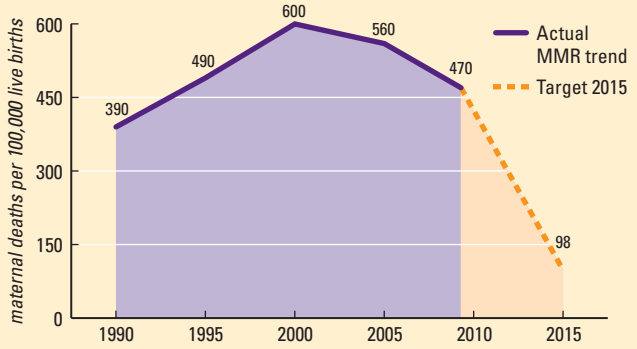
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	Yes
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	No
Systematic maternal death audits and reviews	No
Confidential enquiry for maternal deaths	No
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	Yes

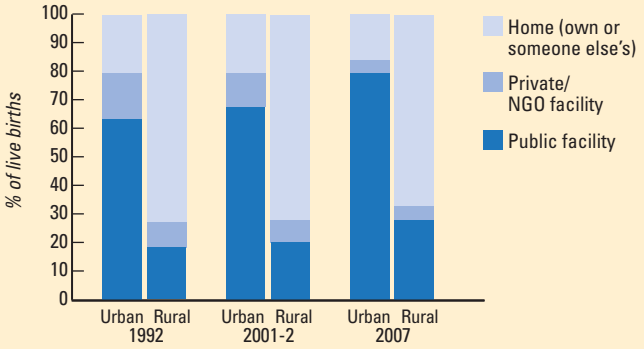
SERVICES

Number of facilities providing essential childbirth care	–
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	212
Number of Comprehensive EmONC facilities	1,330
Facilities per 1,000 births	–

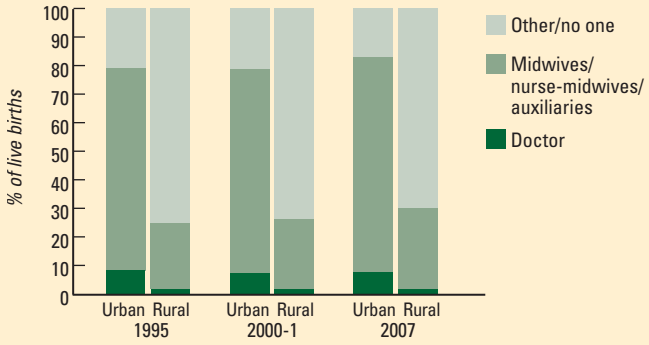
Trends in maternal mortality: 1990–2015



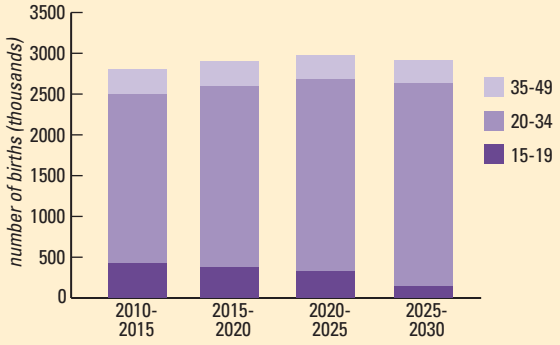
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

Zimbabwe

Zimbabwe's economy, basic services and health system started to deteriorate in the 1990s, and the humanitarian situation remains critical. The lack of safe drinking water and adequate sanitation has led to cholera outbreaks and food shortages. Heavily hit by the HIV epidemic, the population growth rate is slow due to short life expectancy at birth. Use of contraceptive methods has risen, and HIV prevalence is starting to decline. However, maternal mortality has doubled since 1990, and more than half of all maternal deaths are linked to HIV. Maternal and newborn health is an essential component in Zimbabwe's health policy. In a context of the scarcity of resources, addressing staff shortages and increasing retention are among the key priorities. Midwifery is considered a specialty of nursing rather than an autonomous profession. Understaffing in midwifery schools affects the quality of the support and supervision available to students. Midwifery associations are advocating improvements in the work environment.

COUNTRY INDICATORS*

Total population (000); % urban	12,644; 38
Adolescent population (15-19 yrs) (000); % of total	1,656; 13
Number of women of reproductive age (age 15-49) (000); % of total	3,246; 26
Total fertility rate (children per woman)	3.4
Crude birth rate (per 1,000 population)	30
Births per year (000)	377
% of all births registered	74
Number of maternal deaths	3,000
Neonatal mortality rate (per 1,000 live births)	29
Stillbirth rate (per 1,000 births)	20
Number of pregnant women tested for HIV	175,223
Midwives are authorized to administer a core set of life-saving interventions	Partial
Density of midwives, nurses and doctors per 1,000 population	0.9
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	360
Gross secondary school enrolment (male; female) %	43; 39
Literacy rate (age 15 and over) (male; female) %	94; 89

MDG INDICATORS

Maternal mortality ratio (per 100,000 live births)	790
Proportion of births attended by skilled health personnel (%)	80
Contraceptive prevalence rate (modern methods) (%)	60
Adolescent birth rate (births per 1,000 women age 15-19)	101
Antenatal care coverage (at least one visit; at least four visits) (%)	–; –
Unmet need for family planning (%)	13
Under-5 mortality rate (per 1,000 live births)	93

MIDWIFERY WORKFORCE[1]

Midwives (including nurse-midwives)[2]	8,244
Other health professionals with some midwifery competencies[3]	–
General practitioners with some midwifery competencies	768
Obstetricians	16
Community health workers with some midwifery training	–
A live registry of licensed midwives exists	No

MIDWIFERY EDUCATION

Midwifery education programmes (direct entry; combined; sequential)	No; No; Yes
Number of midwifery education institutions (total); number of private	17; 0
Duration of midwifery education programmes (in months)	12
Number of student admissions (first year)	247
Student admissions per total available student places (%)	–
Number of students enrolled in all years (2009)	300
Number of graduates (2009)	227
Midwifery education programmes are accredited	Yes

REGULATION

Legislation exists recognizing midwifery as an autonomous profession	No
Midwives hold a protected title	No
A recognized definition of a professional midwife exists	Yes
A government body regulates midwifery practice	Yes
A licence is required to practise midwifery	Yes
Midwives are authorized to prescribe life-saving medications	Yes

MIDWIFERY BAROMETER

Midwives per 1,000 live births	–
Birth complications per day; rural	**166**; 103
Lifetime risk of maternal death	**1 in 42**
Intrapartum stillbirth rate (per 1,000 births)	**9**
Neonatal mortality as % of under-5 mortality	**32**

PROFESSIONAL ASSOCIATIONS

A midwives association exists	Yes
Number of midwifery professionals represented by an association	–
Association(s) affiliated with ICM; ICN	Yes; No

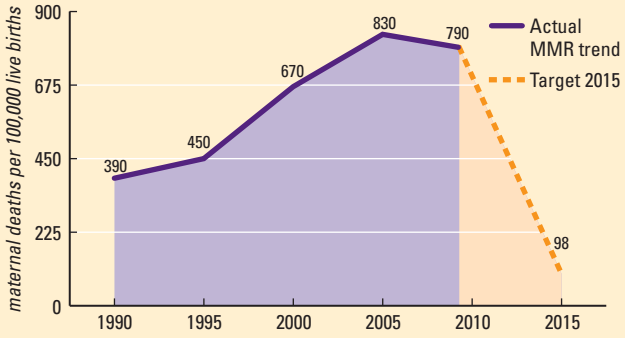
POLICIES

A national maternal and newborn health plan exists that includes the midwifery workforce	No
The plan is costed	Yes
The national health workforce plan specifically addresses midwifery	Yes
Compulsory notification of maternal deaths	Yes
Systematic maternal death audits and reviews	Yes
Confidential enquiry for maternal deaths	Yes
Compulsory registration of all births	Yes
All maternal and newborn health services are free (public sector)	--

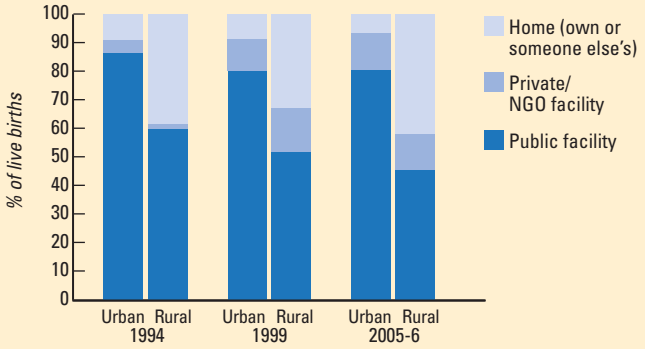
SERVICES

Number of facilities providing essential childbirth care	*Unavailable*
Number of Basic Emergency Obstetric and Newborn Care (EmONC) facilities	*Unavailable*
Number of Comprehensive EmONC facilities	64
Facilities per 1,000 births	–

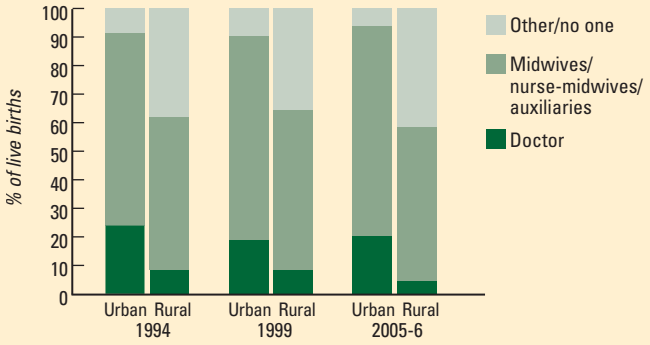
Trends in maternal mortality: 1990–2015



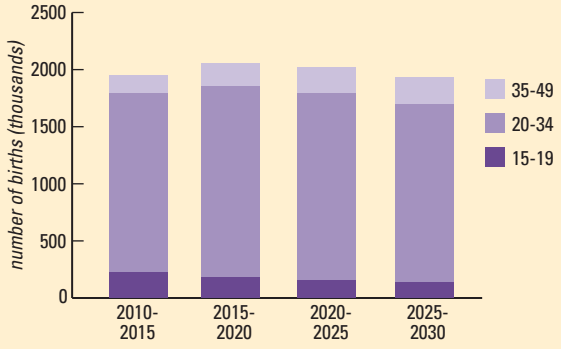
Where women give birth: urban vs. rural



Who attends births: urban vs. rural



Projected number of births, by age of mother



Explanatory notes: *Annex 2 provides a complete list of source data. All data sources are from 2008 unless otherwise stated. Where country respondents stated that data were not available, the term 'Unavailable' is used. In all other instances, '–' is used to denote a nil response or data that requires further verification. 1. 2008 estimates based on country data returns and the WHO Global Atlas of the Health Workforce. 2. Includes midwives, nurse-midwives and nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife. 3. Auxiliary midwives and auxiliary nurse-midwives.

STATE OF THE WORLD'S MIDWIFERY COUNTRY SURVEY RESPONDENTS

Special thanks go to the heads of UNFPA country offices, and their staff, for facilitating the task of collecting responses to the country survey. All contributions are greatly appreciated. The following list includes the names of the respondents that wished to be acknowledged. All efforts have been made to make this list as extensive as possible. Sincere apologies are extended to any respondents that have unintentionally been missed.

Afghanistan: Feroza Mushtary, Arie Hoekman, Tahir Ghaznavi

Bangladesh: Roshoun Ara Begum, Anna Af Ugglas Nygren, Shuriya Begum, Hashina Begum

Benin: Anatole Dougbe, Arlette Akoueikou, Laurence O. Monteiro, Marie-Elise Dossou, René Darate Madopa, Sidonie Acclassato, Vincent Faby, Yollande Johnson, Bokossa Euloge, Philomène Sansuamou, Quenum P. Alban, Marcelle H. Totchenou

Bhutan: Diki Wangmo, Kinga Pemo, Nima Sangay, Pem Zam, Tandin Pemo

Bolivia (Plurinational State of): Alberto Castro, Elmer Balderrama, Haydee Padilla, Jaime Nadal, Lilian Calderon, Ana Maria Maldonado, Elva Olivera

Botswana: Aisha Camara Drammeh, Boitumelo Thipe, G.V. Molefe, Greetha Fernga, K. Maupo, Kabo Tautona, Kebafe Segosebe, Khumo Modisemang, Letsema Oagile, Lucy Maribe, M. Madziba, Motshedisi Sabone, O. Mathala, Sarah M. Masale, T. Kgosiesele

Burkina Faso: Claire Coulidiaty, Djénéba Sanon, Nobila Sawadogo, Kadidiatou Carine Gnangao, Ilboudo Ramata Edwige, Honorine Kabre/Yabre, Ouedraogo Moussa, Ouedraogo Bénao, Cécile Somda, Aoua Zerbo, Brigitte Thiombiano

Burundi: Sylvain Misago, J. Berchmans Barumbanze, Jérôme Nderagakura, Sophie Ngendakubwayo, Bernadette Nkanira, Rose Simone Ndayiziga, Yolande Magonyagi

Cambodia: Phom Sam Song, Tung Rathavy, Kathryn Hinchliff, Sam Sochea, Sokun Sok

Cameroon: Engozo Anne, Philomène Mbassi, Odette Etame, Lucas Mbofung, John Yap

Central African Republic: Eugene Serdouma, Fleurie Mamadou-Yaya, Gilbert Dimanche Nzil'koue, Rose Folokette, Soumouk Aguide, Suzanne Onambele

Chad: Djalbord Fatimatou Mahamat, Maï Service Toussikreo, Lam Taokissam

Comoros: Abdelkader Said Ali, Mahamoud Said, Sett Fatima Tadjiddine

Côte D'Ivoire: Affoué N'guessan, Aminata Kangouté, Drogon Monique, Edith Boni-Ouattara, Eliane Dogore, Gansa Antoinette, Genevieve Saki-Nekouressi, Helene Gnonsahié, Josephine Loba, Kouamé Hortanse, Liagui Hamadou Ouattara, Mamadou Ball, Monique Assoumou, Ouattara Liagui Hamadou, Tiemoko Oulaï Mahoua Tidé Bamba

Democratic Republic of the Congo: Christophe Kitsita, Brigitte Kini, Dr. Salumu, Henriette Eke Otshitshi, Abili Malunga, Josue Desire Bapitani Basuana, Freddy Kahodi, Komba Djeko, Patrice Samukungu, Norbert Basosila Lolofo, Passy Laini, Pierre Shamwol, Samukungu Mawanga, Yabili Malunga, Koudaogo Ouedraogo, Antoinette Kingwaya

Djibouti: Issa Kane, Mounira Ali, Aicha Djama

Ethiopia: Dorothy Lazaro, Dr. Muna, Entisar Ahmed, Muna Abdullah

Gabon: Bora Kawende, Yolande Vierin Nzame, Aline Piedecocq Deffry, Rachel Ibinga Koula, Yvonne Lydia Mokossa

Gambia: Bintou Suso, Omar.F. S. Ceesay, Momodou Lamin Darboe, Abdoulie Bah, Musa. M. M. Sowe, Sainey Sanneh, Dawda Ceesay, Thomas A.B. King, Michelle N. Sarr, Saihou Sanneh, Beatrice Haffner

Ghana: George Kumi Kyeremeh, Frederica Hanson

Guinea: Kadiatou Sy, Aissatou Toure, Apolinaire Delamou, Assy Camara, Boubacar Sall, Goma Onivogui, Maimouna Diallo, Samba Dioumessy, Hadja Mariama Diop Sylla, Kadiatou Keita, Mariétou Sow, Adama Manian Condé

Guinea-Bissau: Alfa Umaro, Antonieta Martins, Candida Lopes, Maram Mane, Albino Mário Basafim, Maria Aramata Injai, Nilza Fonseca

Guyana: Shamdeo Persaud, Constance Tinnie-Wayne, Derven Patrick, Donneth Kellman, Beverley Barnett, Gloria Saygon, Grace Bond, Janice Woolford, Joan Stewart, Mandy Lafleur, Maria Francois, Narine Singh, Noel Holder, Ruth Benjamin, Tarramattie Barker, Tracy Gentle

Haiti: Almaïda Augustin Aurémil, Marie Quettely Chevalier, Marie Rachelle Pierre, Rodeny Ifrène Gabriel, Michel Brun, Agnes Jacobs

India: Sunanda Gupta, Sanjay Gupte, Yasmin Zaveri Roy, Dinesh Argawal

Indonesia: Lucas Hermawan, Melania Hidayat, Asmadi Jaya, Jezhekial Panjaitan, Mr. Masfuri, Ms. Fahrina, Harni Koesno, Rustini Floranita, Ms. Yumiarti

Kenya: Joyce Lavussa, Shiphrah Kuria, Elizabeth Oywer, Lucy Gitonga, Mary Onsomu, Mary Gathitu

Lao People's Democratic Republic: Della Sherratt, Tanja Vesivalo

Liberia: Cecelia Morris, Philderald Pratt, Lucy Barh, Maybe Garmai Livingstone, Jacob Lawuobahsumo, Olive Hunter

Madagascar: Louisette Régine Rahantanirina, Amélie Jeannine Raharinirina, Omega Ranorolala, Edwige Ravaomanana, Stella Aimée Ravelonarivo, Amélie Rasoaniaretana Tatavy, Eugene Kongnyuy

Malawi: Address Malata, Dorothy Ngoma, Evelyn Chilemba, Fannie Kachale, Juliana M. Lunguzi, Kondwani Mkandawire, Martha Mondiwa

Mali: Dicko Fatoumata Mäïga, Haou Diallo, Koumare Diouma Camara, Seckou Diarra, Oumou Keita

Mauritania: Ahmed Ould Mohamedou, Demba Amadou Mbow, Amina Ndiaye, Mohamed Ould Cheibany, Papa Yakham Diagne, Salem Naji Ould Moussa, Thierno Ousmane Coulibaly

Morocco: Rouahi Nabila, Fatima Ouasmani, Hanane Masbah, Harrizi, Khadija Habibi, Lamia Allam, Mennana Boukalouche, Mahomed Lardi

Mozambique: Alicia Carbonell, Olga, Atalia Da Cruz, Carlos Bambo, Nazir Amade, Evelia Marole, Lenia Sitoe, Amir Modan

Myanmar: W. San Yi, Win Myint, Thwe Thwe Win

Nepal: Kiran Bajracharya, Tara Pokhrel, Dr. Marasini, Shilu Aryal, Indra Rai, Ishwori Devi Shrestha, Kiran Bajracharya, Kristina Castell, Ms Krishna Devi Prajapati, Tara Pokhrel

Nicaragua: Aleyda Paz Rivera, Cruz Bertilda Olivas Palacios, Darlene Omeir Taylor, Darling Chávez Madrigal, Elvis Ramón Soto, José Humberto Mario Aguilar, Juan Francisco Rocha López, Margarita Guevara Doña, María Luisa Castilla Espinoza, Miguel Estopiñán, Paula Nubia Orozco, Roger Montes Flores, Wendy Idiáquez Mendoza, Zeneyda Quiroz Flores

Niger: Aissata Abdou, Basso Oumarou, Nassirou Ousmane, Yaroh Asma Gali, M. Boubacar Tchiombiano, M. Moussa Hassane Massalatchi, Hadjia Rakia Kanta, Maiga Aissa Ali Diallo, Oumarou Zoulahatou Mata, Rakia Maifada, Zaratou Gao Oumarou, Madi Nayama

Nigeria: Alice Chukwuocha, Ayua George, Bolaji Oladejo, Christiana Ijeghede, Joko Ibrahim, Kofo Koyejo, Olatokunbo Olanipekun, Olubunmi Asa, Onuekwusi Nkiru, Rosemary Nnamdi-Okagbue, Anas-Kolo

Pakistan: Farooq Akhtar, Mobasher Malik, Imtiaz Kamal

Papua New Guinea: Gilbert Hiawalyer, Lahui Geita, Mary Kililo

Rwanda: Consolee Maribori, Julie Kimonyo, Lilian Magera, Uwayezu Agnes, Alphonse Munyakazi, Daphrose Nyirasafali, Félix Sayinzoga, Andre Gitembagara, Mary Murebwayire, Sylvie Gaju

Senegal: Selly Kane, Marième Fall

Sierra Leone: Joan H. E. Shepherd, Hannah Valcarcel (Coker), Pity F. Kanu, Peter Sikane

Somalia: Fouzia Mohamed Ismail, Ahmed Qule

South Africa: Mickey Masasa, Carol Mohamed, Meisie Lerutla

Sudan: Sheikh El Din Ibrahim, Anas Jabir, Wifag Mabrouk

Southern Sudan: Chuol Giek Nyuot, Robert Loba, Ulrika Rehnstrom, Alexander Dimiti, Bilha Achieng Achieng, Fikru Abebe, Gillian Butts-Garnett, Janet Michael, Petronella Wawa, Samson Paul Baba, Sophia Nyame

Tajikstan: Nargis Rakhimova, Karl Kulessa, Raquel Wexler

Timor-Leste: Hayfa El Amin, Lidia Comes, Basilio Martins Pinta, Duarte Ximenes, Marcelo Amaral, Isabel Gomes, Isabelita Madeira Soares, Natalia De Araujo

Togo: Ablavi Ketemepi, Epse Folly, Adjowa Héloïse D'Alméida, Akouété Ayéssou, Kassouta N'tapi, Kokou Kekeh, Tété Guedehoussou, Yawo Degbey, Bassan Lamboni, Manzama Esso Blouloufei, Tchaa Kadjanta, Yawo Mensah Damessi, Kafui Gblokpor Epse Aledji

Uganda: Alice Nabuloli , Barbara Mukasa, Charles Isabirye, Hitimana Lukanika , Jacinto Amandua, Jennifer Wanyana, Irene Akena, Ismail Ndifuna, John Wakida, Juliet Nassiwa Twesigye, Mary Namusisi, Miriam Sentongo, Patrick Bateganya, Primo Madra, Janet Jackson

United Republic of Tanzania: Amalberga Kasangala, Koheleth Winani, Eunice Chege, Gustav Moyo, Mary Hadley, Ndementria Vermand, Rita Noronha, Theopista John, Vumilia Bettuel Mmari, Jokha Juma, Julitta Onabanjo, Felsiter Bwana, Rita Noronha

Uzbekistan: Barno Zuhurova, Feruza Fazilova, Ilmira Anarbaeva, Mohir Ahmedov, Nigora Karabaeva, Ravshan Azimov, Rikhsi Salikhodjaeva

Viet Nam: Dat Van Duong, Huyen Thi Thanh Le, Ornella Lincetto

Yemen: Bothaina Attal, Aziz Al Kaff, Mona Almudhwahi, Najiba Al-Shawafi, Sameera Taher, Soad Kassem, Samira Taher, Aziz Al Kaff, Najiba Abdulghani

Zambia: Mirriam Libetwa, Bertha Chipepo, Christopher Mulenda, Chrstine Mutati, David Mbewe, Eleanor J. Msidi, Reuben Kamoto Mbewe, Annie Nakambale Mwale, Esther Jembe Chikopela, Janness Namusokwe Chilumba, Julia Muyunda Shachakanza, Kapulu Kadimba Chishimba, Ruth Bweupe, Elisabeth Kalunga

Zimbabwe: Agnes Makoni, Edwin Mpeta, Grace Danda, Linda Gwazai, M.N. Mothobi, Margaret Nyandoro, Basile Tambashe

REFERENCES AND NOTES

INTRODUCTION

1. UN Secretary-General. Global Strategy for Women's and Children's Health. New York: United Nations, 2010.
2. UN. The Millennium Developments Goals Report 2010. New York: United Nations, 2010.
3. Commission on Social Determinants of Health. Achieving health equity: from root causes to fair outcomes. Interim statement. Geneva: World Health Organization, 2007.
4. WHO, UNICEF, UNFPA and the World Bank. Trends in maternal mortality: 1990–2008. Geneva: World Health Organization, 2010.
5. WHO. Packages of interventions for family planning, safe abortion care, maternal, newborn and child health. Geneva: World Health Organization, 2010.
6. Lawn J, Cousens S, Zupan J for the Lancet Neonatal Survival Steering Team. 4 million neonatal deaths: When? Where? Why? ***Lancet*** 2005; 365: 891–900.
7. Cousens S, Blencowe H, Stanton C, et al. National, regional, and worldwide estimates of stillbirth rates in 2009 with trends since 1995: A systematic analysis. ***Lancet*** 2011; 377: 1319–1330.
8. Stillbirths: An executive summary for The Lancet's series. April 14, 2011. Available at http://download.thelancet.com/flatcontentassets/series/stillbirths.pdf
9. WHO, UNICEF, UNFPA and the World Bank. Trends in maternal mortality: 1990–2008. Geneva: World Health Organization, 2010.
10. Stillbirths: An executive summary for ***The Lancet's*** series. 14 April 2011. Available at http://download.thelancet.com/flatcontentassets/series/stillbirths.pdf
11. World Health Report 2005 – make every mother and child count. Geneva: World Health Organization, 2005.
12. ***The Lancet*** Maternal Survival Series. 30 September 2006. Available at http://www.thelancet.com/series/maternal-survival
13. WHO-UNFPA-UNICEF-World Bank. Joint statement on maternal and newborn health. 25 September 2008. Available at http://www.unfpa.org/webdav/site/global/shared/safemotherhood/docs/jointstatement_mnh.pdf
14. Bhutta ZA, Lassi ZS, Mansoor N. The systematic review on human resources for health interventions to improve maternal health outcomes: Evidence from developing countries. Pakistan: Aga Khan University, 2010.
15. WHO. Monitoring emergency obstetric care: a handbook. Geneva: World Health Organization, 2009.
16. WHO. Packages of interventions for family planning, safe abortion care, maternal, newborn and child health. Geneva: World Health Organization, 2010.
17. Ronsmans C, Chowdhury ME, Dasgupta SK, et al. Effect of parent's death on child survival in rural Bangladesh: a cohort study. ***Lancet*** 2010; 375: 2024-2031.
18. Bartlett LA, Mawji S, Whitehead S, et al, and the Afghan Maternal Mortality Study Team. Where giving birth is a forecast of death: Maternal mortality in four districts of Afghanistan, 1999-2002. Lancet 2005; 365: 864–870.
19. At the time of printing this report, both resolutions are scheduled for consideration at the World Health Assembly in May 2011.
20. WHA42.27, WHA45.5, WHA47.9, WHA48.8 and WHA49.1. WHA54.12 and WHA59.27.
21. WHO-UNFPA-UNICEF-World Bank. Joint country support for accelerated implementation of maternal and newborn continuum of care. 22 July 2008. Available at http://www.who.int/mediacentre/news/statements/2008/who_unfpa_unicef_joint_country_support.pdf
22. FIGO–ICM Study Group. Maternity care in the world: International survey of midwifery practice and training. Oxford: Pergamon Press, 1966.
23. Available at http://www.unfpa.org/public/lang/en/news/events/pid/5248
24. Available at http://www.un.org/sg/hf/Global_StategyEN.pdf
25. Further information available at http://www.everywomaneverychild.org/
26. At the time of printing this report, this work is under development with the support of the United Nations MDG Advocacy Group.
27. World Health Report 2006 – working together for health. Geneva: World Health Organization, 2006.
28. UN Department of Economic and Social Affairs. Population Division. World Population Prospects 2010 Data Revision. Available at http://esa.un.org/unpd/wpp/index.htm
29. Calculations adapted from: 1) WHO. Trends in maternal mortality: 1990-2008. Geneva: World Health Organization, 2010; 2) Cousens S, Blencowe H, Stanton C, et al. National, regional, and worldwide estimates of stillbirth rates in 2009 with trends since 1995: a systematic analysis. ***Lancet*** 2011; 377: 1319–1330; 3) Oestergaard MZ, Inoue M, Yoshida S, et al. on behalf of the United Nations Interagency Group for Child Mortality Estimation and the Child Health Epidemiology Reference Group. Neonatal mortality rates for 193 countries. Brief methods overview and 2009 results. World Health Statistics, 2011. Geneva: World Health Organization, 2011; and 4) Lawn JE, Blencowe H, Pattinson R, et al, for The Lancet's Stillbirths Series steering committee. Stillbirths: Where? When? Why? How to make the data count? ***Lancet*** 2011; 377: 1448-1463.

PART 1

1. Loudon I. Death in childbirth: an international study of maternal care and maternal mortality 1800-1950. Oxford: Clarendon Press, 1992.
2. Pathmanathan I, Liljestrand J, Martins JM, et al. Investing in maternal health: Learning from Malaysia and Sri Lanka. Washington DC: The World Bank, 2003.
3. Koblinsky MA (ed). Reducing maternal mortality: Learning from Bolivia, China, Egypt, Honduras, Indonesia, Jamaica, and Zimbabwe. Washington DC: The World Bank, 2003.
4. White P, Levin L. The potential of private sector midwives in reaching Millennium Development Goals. Bethesda, MD: Private Sector Partnerships-One project, Abt Associates Inc, 2006.
5. Rolfe B, Leshabari S, Rutta F and Murray SF. The crisis in human resources for health care and the potential of a 'retired' workforce: case study of the independent midwifery sector in Tanzania. ***Health Policy and Planning*** 2008; 23: 137–149.
6. Madhavan S, Bishai D, Stanton C, Harding A. Engaging the private sector in maternal and neonatal health in low and middle income countries. Future Health Systems Working Paper 12, 2010. Available at http://www.futurehealthsystems.org/publications/workingpapers/workingpaper12.pdf
7. Making pregnancy safer: the critical role of the skilled attendant. A joint statement by WHO, ICM and FIGO. Geneva: World Health Organization, 2004.
8. Harvey SA, Ayabaca P, Bucagu M, et al. Skilled birth attendant competence: an initial assessment in four countries, and implications for the Safe Motherhood movement. ***International Journal of Gynecology and Obstetrics*** 2004; 87: 203–210.
9. Harvey SA, Blandón YC, McCaw-Binns A, et al. Are skilled birth attendants really skilled? A measurement method, some disturbing results and a potential way forward. ***Bulletin of the World Health Organization*** 2007; 85: 783–790.
10. Ariff S, Soofi SB, Sadiq K, et al. Evaluation of health workforce competence in maternal and neonatal issues in public health sector of Pakistan: An assessment of their training needs. ***BMC Health Services Research*** 2010; 10:319.
11. Hussein J, Bell J, Nazzar A, et al. The skilled attendance index: proposal for a new measure of skilled attendance at delivery. ***Reproductive Health Matters*** 2004; 12:160–170.
12. Countdown Working Group on Health Policy and Health Systems. Assessment of the health system and policy environment as a critical complement to tracking intervention coverage for maternal, newborn, and child health. ***Lancet*** 2008; 371: 1284–1293.
13. Fullerton JT, Gherissi A, Johnson PG and Thompson JB. Competence and competency: core concepts for international midwifery practice. ***Intl Journal of Childbirth*** 2011; 1: 4–12.
14. WHO. Sexual and reproductive health core competencies in primary care: attitudes, knowledge, ethics, human rights, leadership, management, teamwork, community work, education, counselling, clinical settings, service, provision. Geneva: World Health Organization, 2011.
15. WHO is currently developing recommendations on optimizing health workers' roles to attain

MDG 4 & 5, due for release in 2012.

16. Ranson MK, Chopra M, Munro S, et al. Establishing human resources for health priorities in developing countries using and participatory methodology. Geneva: Alliance for Health Policy and Systems Research/World Health Organization, 2008.

17. WHO. Packages of interventions for family planning, safe abortion care, maternal, newborn and child Health. Geneva: World Health Organization, 2010.

18. ICM. Essential competencies for basic midwifery practice 2010. Available at http://www.internationalmidwives.org/Portals/5/2011/Global%20Standards/Essential%20Competencies%20ENG.pdf

19. ibid.

20. Maclean GD. The challenge of preparing and enabling 'skilled attendants' to promote safer childbirth. ***Midwifery*** 2003; 19: 163-169.

21. WHO MPS on behalf of PMNCH Priority Action 4. Mapping of maternal and newborn health recommendations in national health policies in 24 countries. Geneva: World Health Organization, 2010.

22. WHO. Global standards for the initial education of professional nurses and midwives (WHO/HRH/HPN/08.6). Geneva: World Health Organization, 2009.

23. ICM. Global standards for midwifery education 2010. Available at http://www.internationalmidwives.org/Portals/5/2011/Global%20Standards/MIDWIFERY%20EDUCATION%20PREFACE%20&%20STANDARDS%20ENG.pdf

24. ibid.

25. International Covenant on Economic, Social and Cultural Rights. Article 10. 1976.

26. Fullerton JT, Gherissi A, Johnson PG and Thompson JB. Competence and competency: core concepts for international midwifery practice. ***Intl Journal of Childbirth*** 2011; 1: 4–12.

27. ICM. Global standards for midwifery regulation 2011. Available at http://www.internationalmidwives.org/Portals/5/2011/Global%20Standards/GLOBAL%20STANDARDS%20FOR%20MIDWIFERY%20REGULATION%20ENG.pdf

28. The Partnership for Maternal, Newborn & Child Health. Workshop on healthcare professional associations and their role in achieving MDGs 4 and 5. Meeting report. Ouagadougou, Burkina Faso: PMNCH, 20008.

29. UN Secretary-General. Global Strategy for Women's and Children's Health. New York, September 2010. Available at http://www.un.org/sg/hf/Global_StategyEN.pdf

30. Riley PL, Zuber A, Vindigni S, et al. Information systems to monitor human resources for health: a systematic review. Forthcoming.

31. Broek A, Gedik F, Del Poz M, et al. Policies and practices of countries that are experiencing a crisis in human resources for health: tracking survey. Human Resources for Health Observer, 6. Geneva: World Health Organization, 2010.

32. WHA59.23 Rapid scaling up of health workforce production http://apps.who.int/gb/ebwha/pdf_files/WHA59-REC1/e/Resolutions-en.pdf (page 30).

33. WHA57.19 International migration of health personnel: a challenge for health systems in developing countries http://apps.who.int/gb/ebwha/pdf_files/WHA57/A57_R19-en.pdf

34. WHA63.16 WHO global code of practice on the international recruitment of health personnel http://apps.who.int/gb/ebwha/pdf_files/WHA63-REC1/WHA63_REC1-P2-en.pdf (page 31);

35. Riley PL, Vindigini SM, Arudo J, et al. Developing a nursing database in Kenya. ***Health Services Research*** 2007; 42: 3.

36. Spero JC, McQuide PA, Matte R. Tracking and monitoring the health workforce: A new human resources information systems (HRIS) in Uganda. ***Human Resources for Health*** 2011; 9: 6.

37. UNICEF. State of the World's Children 2009. New York: UNICEF, 2009.

38. Ronsmans C, Graham WJ on behalf of The Lancet Maternal Survival Series steering group. Maternal Mortality: who, when, where, and why. ***Lancet*** 2006; 368: 1189–1200.

39. Lawn JE, Kinney M, Lee ACC, et al. Reducing intrapartum-related deaths: Can the health system deliver. ***Intl Journal of Gynecology and Obstetrics*** 2009; 107: S123–S142.

40. Bhutta ZA et al. Countdown to 2015 decade report (2000-2010): Taking stock of maternal, newborn, and child survival. ***Lancet*** 2010; 375: 2032–2044.

41. Burden, determinants and functioning health systems, RMNCH evidence series, DFID. Available at http://www.dfid.gov.uk/Global-Issues/Emerging-policy/Reproductive-maternal-newborn-health/?tab=2

42. Mahler H. The safe motherhood initiative: a call to action. ***Lancet*** 1987; 365: 668–670.

43. Framework for action on interprofessional education & collaborative practice. Health Professions Network Nursing and Midwifery Office. Geneva: World Health Organization, 2010.

44. WHO. Sexual and reproductive health core competencies in primary care. Geneva: World Health Organization, 2011.

45. Fauveau V, Sherratt DR, de Bernis L. Human resources for maternal health: multi-purpose or specialists? ***Human Resources for Health*** 2008; 6: 21.

46. Lassi ZS, Haider BA, Bhutta ZA. Community-based intervention packages for reducing maternal and neonatal morbidity and mortality and improving neonatal outcomes. ***Cochrane Database of Systematic*** Reviews 2010; Issue 11. Art. No.: CD007754.

47. Bhutta ZA, Memon ZA, Soofi S, et al. Implementing community-based perinatal care: results from a pilot study in rural Pakistan. ***Bulletin of the World Health Organization.*** 2008; 86: 452–459.

48. Making pregnancy safer: the critical role of the skilled attendant. A joint statement by WHO, ICM and FIGO. Geneva: World Health Organization, 2004: 8–9.

49. Chen PCY. Social background, customs and tradition. In: Wallace HM, Ebrahim GJ (eds). Maternal and child health around the world. London: Macmillan, 1981:71–75.

50. Sibley M, Sipe A, Armelagos GJ, et al. Traditional birth attendant training effectiveness: A meta-analysis. Academy for Educational Development, SARA Project, 2002.

51. World Health Report 2005 – make every mother and child count. Geneva: World Health Organization, 2005.

52. Nyanza S. Traditional birth attendants in rural Gambia: beyond health to social cohesion. ***African Journal of Reproductive Health*** 2007; 11: 43–56.

53. WHO, UNFPA, UNICEF, AMDD. Monitoring emergency obstetric care: A handbook. Geneva: World Health Organization, 2009.

54. A basic emergency obstetric and newborn care facility is designated as a first level of referral in case of complications. It is limited to medical interventions, excluding surgery, and staffed by midwives and sometimes a doctor (GP). It is able to provide seven signal functions: administer parenteral antibiotics; administer uterotonic drugs (i.e. parenteral oxytocin); administer parenteral anticonvulsants for pre-eclampsia and eclampsia; manually remove the placenta; remove retained products (e.g. manual vacuum aspiration); perform assisted vaginal delivery; perform basic newborn resuscitation.

55. Comprehensive emergency obstetric and newborn care facility (second level, to deal with complications requiring surgery in addition to medical interventions, with midwives and obstetricians, and anaesthesiologist, and sometimes a paediatrician). Includes the seven signal function listed above and two additional functions: blood transfusion and caesarean section.

56. WHO-UNFPA-UNICEF-AMDD. Monitoring emergency obstetric care: a handbook. Geneva: World Health Organization, 2009.

57. Supported by the Averting Maternal Death and Disability program based in the Mailman School of Public Health at Columbia University in New York City.

58. Edwards G, Byrom S (eds). Essential midwifery practice: public health. Oxford: Blackwell Publishing, 2007.

59. Hatem M, Sandall J, Devane D, et al. Midwife-led versus other models of care for childbearing women. ***Cochrane Database of Systematic Reviews***, Issue 4. Art. No.: CD004667.

60. Sandall J, Homer C, Sadeler E, et al. Staffing in maternity units: Getting the right people in the right place at the right time. The King's Fund, 2011.

61. Wiysonge CS. Midwife-led versus other models of care for childbearing women: RHL commentary.

The WHO Reproductive Health Library. Geneva: World Health Organization, 2009.

62. Rosskam E, Pariyo G, Hounton S, Aiga H. Midwifery workforce management and innovation. A background paper prepared for ***The State of the World's Midwifery 2011***. Unpublished, 2011.

63. Fauveau V, Sherrat D, de Bernis L. Human resources for maternal health: multi-purpose or specialists? ***Human Resources for Health*** 2008; 6: 21.

64. Increasing access to health workers in remote and rural areas through improved retention: global policy recommendations. Geneva: World Health Organization, 2010.

65. UNFPA-ICM. Investing in midwives and others with midwifery skills to save the lives of mothers and newborns and improve their health. A UNFPA-ICM joint initiative to support the call for a decade of action for human resources for health made at the World Health Assembly 2006.

66. Matthews Z, Brookes M, Stones W, Hosssain MB. Village in the city: Autonomy and maternal health seeking among slum populations of Mumbai. In: Kishor S (ed). A focus on gender: Collected papers on gender using DHS data. Calverton, Maryland USA: ORC Macro, 2005.

67. Temin M, Levine R. Start with a girl: A new agenda for global health. A girls count report on adolescent girls. Washington, D.C.: Centre for Global Development, 2009.

68. WHO. Women and health: today's evidence tomorrow's agenda. Geneva: World Health Organization, 2009.

69. Kirrin-Gill MS, Pande R, Malhotra A. Women deliver for development. ***Lancet*** 2007; 370: 1347–1357.

70. Gwatkin DR, Bhuyia A, Victoria CG. Making health systems more equitable. ***Lancet*** 2004; 364: 1273–1280.

71. Knutsson A. To the best of your knowledge and for the good of your neighbour. A study of traditional birth attendants in Addis Ababa, Ethiopia. Gothenburg: Acta Universitatis Gothoburgensis, 2004.

72. Jaffré Y, Olivier de Sardan JP (eds). Une médecine inhospitalière. Les difficiles relations entre soignants et soignés dans cinq capitales d'Afrique de l'Ouest. Paris: APAD-Karthala, 2003.

73. Behruzi R, Hatem M, Goulet L, et al . Humanized birth in high risk pregnancy: Barriers and facilitating factors. ***Medical Health Care Philosophy*** 2010; 13: 49–58.

74. Behruzi R, Hatem M, Fraser W, et al. Facilitators and barriers in the humanization of childbirth practice in Japan. ***BMC Pregnancy and Childbirth*** 2010; 10:25.

75. Hodnett ED, Gates S, Hofmeyr GJ, Sakala C. Continuous support for women during childbirth. ***Cochrane Database of Systematic Reviews*** 2007; Issue 4. Art. No.: CD003766.

76. Cultural adaptation of maternity services. UNICEF, 2007. Humanization of Childbirth, JICA & Brazil MOH, 1996-2001. FCI Health Care Improvement project, Ecuador, 2007.

77. Doyal L. What makes women sick? Gender and the political economy of health. New Brunswick: Rutgers University Press, 1995.

78. Andaleeb SS. Service quality perceptions and patient satisfaction: a study of hospitals in a developing country. ***Soc Sc. & Med*** 2001; 52: 1359–1370.

79. Petterson KO, Christensson K, Gomes de Freitas EG, Johansson E. Adaptation of healthcare seeking behaviour during childbirth. Focus group discussions with women living in the suburban areas of Luanda, Angola. ***Health Care for Women International*** 2004; 25: 3.

80. Browser D, Hill K. Exploring evidence for disrespect and abuse in facility-based childbirth: Report of a landscape analysis. USAID TRAction Project, Harvard School of Public Health, University Research Co., 2010.

81. WHO. Maternity waiting homes: a review of experience. Geneva: World Health Organization, 1996.

82. Thomas D. Review of the equity and access programme. Kathmandu: SSMP, 2008.

83. Rosato M, Laverick G, Howard-Grabman L, et al. Community participation: Lessons for maternal, newborn, and child health. ***Lancet*** 2008; 372: 962 –971.

84. Kerber K, de Graft JE, Bhutta ZA, et al. Continuum of care for maternal, newborn, and child health: From slogan to service delivery. ***Lancet*** 2007; 370: 1358 –1369.

PART 2

1. National data included country statistics, reports and published literature. A brief description of the survey is presented in the Introduction. Collaborating partners contributed to technical analyses and the preparation of background papers.

2. See Annex 3 for methodology and estimates.

3. World Health Report 2005 – make every mother and child count. Geneva: World Health Organization, 2005.

4. Campbell J, Oulton JA, McPake B and Buchan J. Removing user fees? Engage the health workforce. ***Lancet*** 2009; 374: 1966.

5. Lim SS, Dandona L, Hoisington JA, et al. A conditional cash transfer programme to increase births in health facilities: an impact evaluation. ***Lancet*** 2010; 375: 2009–2023.

6. Fauveau V. New indicator of quality of emergency obstetric and newborn care. ***Lancet*** 2007; 370: 1310.

7. Hodges S, Koblinksy M, Say L, Bailey P, Fauveau V. Maternal health global benchmark indicators: Time for review? September 2010.

8. Reported by Togo respondents.

9. Afghanistan, Guyana, Liberia, Myanmar, Pakistan, Somalia and Zambia.

10. Bhutan, Guyana, Kenya, Lao People's Democratic Republic, Papua New Guinea, Sudan and Zimbabwe.

11. The ICM Global Standards for Midwifery Education (2010) does not address combined nursing and midwifery programmes.

12. Necochea E, Bossemeyer D. Standards-based management and recognition: A field guide. JHPIEGO, 2005.

13. Antibiotics, anticonvulsants and uterotonic drugs can be used to provide life-saving treatment for sepsis, eclampsia and postpartum haemorrhage, respectively. These are three of the main causes of maternal death and severe morbidity.

PART 3

1. Loudon I. Death in childbirth: An international study of maternal care and maternal mortality 1800–1950. Oxford: Clarendon Press, 1992.

2. Development and use of the Lives Saved Tool (LiST): A model to estimate the impact of scaling up proven interventions on maternal, neonatal and child mortality. ***International Journal of Epidemiology*** 2010; 39: (suppl 1).

3. Fox, MJ, Martorell R, van den Broek N, Walker N (eds). Technical inputs, enhancements and applications of the Lives Saved Tool (LiST). ***BMC Public Health*** 2011; 11: (Suppl 3).

4. Commission on Information and Accountability for Women's and Children's Health. Keeping promises, measuring results. Final report. May 2011.

BACKGROUND PAPERS ON REGIONAL, NATIONAL AND TECHNICAL THEMES

This icon refers to the background papers on regional, national and technical themes. The full list of over 70 contributions is available below. Each of the background papers is available on the accompanying CD-ROM and online at www.stateoftheworldsmidwifery.com.

1. Arulkumaran S. Organization of midwifery services in Sri Lanka

2. Associação Portuguesa dos Enfermeiros Obstetras. Overview of midwifery in Portugal

3. Columbia R and Wexler R. Midwifery in Eastern Europe and Central Asia

4. Hilda B. The State of Chile's Midwifery

5. Labandera A. Midwifery in South America

6. Lie S. Maternal and newborn health in Norway

7. Nordfjell A. 300 years of midwifery in Sweden

8. Panayiotou N and Hadgigeorgiou E. Midwifery in Cyprus

9. Seguranyes G. The state of midwifery in Spain

10. Sherrat D. A history of midwifery

11. Sherrat D. Midwifery in Lao People's Democratic Republic

12. da Silva AM and Cerejeira I. Midwifery in Portugal

13. Teurnier F. La sage femme en France

14. Uz MH and Bassir M. The midwifery profession in Iran

15. Zammit N and Borg Xuereb R. Overview of midwifery in Malta
16. Toure K. 2010 Global Strategy commitments pertaining to midwives and others with midwifery competencies
17. Fauveau V. The key is not numbers, it's quality!
18. Cummings R, Chiwawa E and Williams S. Zimbabwe: improving midwifery skills in rural areas
19. Stevenson D and Campbell J. Translating policy into practice: lessons from Zambia
20. Carr C, Currie S and Shalla U. Pre-service midwifery education in Tanzania
21. Friedman H. How much does it cost to educate midwives?
22. Friedman H and Liang M. Costs of pre-service midwifery education
23. Ghérissi A, Brown JM and El-Adawy M. Midwifery education in North Africa and the Middle East
24. Ghérissi A. Tunisia's evolving midwifery education programme
25. ten Hoope-Bender P. Transformative Education
26. Lal G. South Sudan launches three-year direct entry diploma in midwifery
27. Lugina H and Maclean G. Promoting midwifery research in Africa
28. Sebikali B and Murphy C. Strengthening pre-service education system for midwives and nurses in Mali and Rwanda
29. Stilwell B and Arscott-Mills S. Training auxiliary nurse midwives in Jharkhand State, India
30. Carr C. Re-establishing midwifery in Afghanistan: supportive regulatory and accreditation structures
31. Colegio de Obstetras del Perú. Sistema Nacional de Desarrollo Profesional de Obstetricia - SINADEPRO
32. International Council of Nurses. Nature and scope of practice of nurse-midwives
33. Moyo N. ICM Guidelines on how to use the Member Association Capacity Assessment Tool (MACAT)
34. Toure K. Regional workshops bolster professional associations
35. Boucar M. Niger: improving the quality of maternal care
36. Brunne V. Midwives in the AIDS response
37. Farooq S. Reproductive health and the political conflict in Somalia
38. Hurley L. Auxiliary midwives use active management of third stage labour to improve safe delivery in
39. Namusisi M. Testimony from a midwife in Uganda
40. Carr C. Role of midwives in newborn resuscitation
41. Sharma V. Delivery of midwifery services in South Sudan
42. Sing C, Tang PL and Sham A. Continuous midwifery care team in Kwong Wah Hospital, Hong Kong
43. Azfar P. Midwives and gender in Afghanistan
44. Campbell F. Addressing maternal mortality in Afghanistan
45. Colegio de Obstetras del Perú. Parto vertical en el Perú: contribuye a mejorar la salud y reducir la mortalidad materna
46. Gandhi M, Bedford J and Williams S. Ethiopia: the effect of cultural context on uptake of facility birth
47. Hancart Petitet P. Traditional midwives and the reduction of maternal mortality
48. Jaffré Y. Popular conceptions of childbirth, matron practices and midwife training
49. Clow S. Out-of-hospital midwifery units in the Cape Peninsula, South Africa
50. Fung S. Midwife-led Initiatives: Midwife Clinic (CCDS), Princess Margaret Hospital, Hong Kong
51. International Confederation of Midwives. Midwife-led Initiatives - Mamatoto
52. Occhinero T. Midwifery led care in Nunavik, Canada
53. Dao B, Zerbo A and Hounton S. Burkino Faso: Master's degree in midwifery key to career development
54. Dolea C. WHO – global policy recommendations on increasing access to health workers in remote and rural areas through improved retention
55. van Lerberghe W. Maternal health benchmarks
56. Oulton J. Needed: positive practice environments
57. Pakenham-Walsh N, Jacob S et al. Meeting the information and learning needs of midwives
58. Prual A. Déclaration obligatoire et investigation des morts maternlles au Maroc
59. Rosskam E, Pariyo G, Hounton S and Aiga H. Midwifery workforce management and innovation
60. Spero J and McQuide P. Data show high level of attrition in Uganda
61. Windau T. Stories of midwives from around the world
62. Edwards G. United Arab Emirates: a survey of women's views about midwifery
63. Smith J, Azfar P and Currie S. Midwifery as women's empowerment in Afghanistan
64. Ganges F. Midwives and civil society: The White Ribbon Alliance experience
65. Baravilala W. Midwifery in the Pacific
66. Dennis-Antwi JA. The State of Midwifery in English Speaking Africa
67. Hussein J. Who is a midwife? A South Asian perspective
68. Ibinga Koula R and Ghérissi A. Midwifery in francophone African countries
69. Lewis D. Midwifery in the Caribbean
70. Mathai S and Sherratt D. Midwifery in Asia
71. Matthews Z. State of the World's Midwifery 2011 - Regional analysis paper
72. Land S. Achieving skilled attendance in the Americas through strengthening midwifery and nursing.

ANNEX 1: ABBREVIATIONS, ACRONYMS AND GLOSSARY

Accreditation: A formal system to evaluate a health worker's competence to perform safely and effectively within the scope of practice, assessed against specific criteria. The term can also be applied to an institution, such as a training school, that has been officially recognized for meeting specific criteria or standards.

Association (or Society or College): An organized body of persons engaged in a common professional practice, sharing information, career-advancement objectives, in-service training, advocacy and other activities. It usually defends the interests of the profession and the professionals.

Auxiliary midwives: Health professionals who assist in the provision of maternal health care, particularly during childbirth, and possess some of the competencies in midwifery while not being fully qualified/licensed (in India they are licensed).

Certificate of good standing: Document issued by a Council, Board or regulatory institution, providing evidence that the professional is fit to practice, has not been found guilty of unprofessional conduct, and is not under investigation for any misconduct.

Code of ethics: The rules or standards governing the conduct of a person or the conduct of the members of a profession.

Community health workers in midwifery: Community-based health promoters assisting professionals in the practice of midwifery, particularly in helping women to seek and receive qualified assistance to ensure safer pregnancy, childbirth and postnatal care. In some countries this group includes trained traditional birth attendants.

Competencies: The set of knowledge, skills, attitude, behaviour and practical experience required/necessary to carry out the professional practice in an appropriate and efficient manner and according to established standards. The *Essential Competencies for Basic Midwifery Practice* refer to those jointly established by the International Confederation of Midwives (ICM) and the WHO.

Council or Board: The authority responsible for regulation and licensing of a specific profession and ensuring that the public is protected against incompetent or unethical practitioners. The entity can be public, private or mixed in composition and is authorized by law or by government to regulate the profession in the interest of the users.

Emergency Obstetric and Newborn Care facilities – Basic (BEmONC): Peripheral health facilities with maternity services that regularly practice the seven basic signal functions: parenteral administration of antibiotics, anticonvulsants, oxytocics, manual removal of placenta, manual vacuum aspiration for retained products, assisted instrumental delivery by vacuum extractor, newborn resuscitation with mask. The functions include stabilization of mothers and newborns with complications before and during transfer to hospital.

Emergency Obstetric and Newborn Care facilities – Comprehensive (CEmONC): Health facilities with maternity services that regularly practice the seven BEmONC signal functions listed above *plus* two additional signal functions: emergency surgery (caesarean section) and safe blood transfusion (can also include advanced newborn resuscitation).

MDG 5: One of eight Millennium Development Goals (MDGs) adopted by world leaders at the Millennium Summit at the United Nations in 2000, with the global aim of reaching equitable development by 2015. MDG 5 is to improve maternal health by reducing maternal mortality by three quarters of its 1990 value, and by ensuring skilled birth attendance for all. In 2005 the international community added a second target to MDG 5: universal access to reproductive health.

Maternal and newborn health (MNH): For the purpose of this report and in accordance with the H4+ consensus (WHO, UNFPA, UNICEF, World Bank, UNAIDS), MNH is the health of women during pregnancy, labour, childbirth and the postpartum period. It also includes the health and survival of the foetus during labour and of the newborn within the first few hours and days, a period during which the newborn is mostly taken care of by the professional birth attendant (and in privileged circumstances the neonatologist). This operational definition differentiates from the health of the neonate, spanning the period from birth till the end of the fourth week after birth (neonatal health, neonatal mortality).

ABBREVIATIONS AND ACRONYMS

BEmONC..... Basic Emergency Obstetric and Newborn Care

CEmONC..... Comprehensive Emergency Obstetric and Newborn Care

CHW..... community health worker

DHS..... Demographic and Health Survey

EmONC..... Emergency Obstetric and Newborn Care

FIGO..... International Federation of Gynecology and Obstetrics

HRH..... human resources for health

ICM..... International Confederation of Midwives

ICN..... International Council of Nurses

LiST..... Lives Saved Tool

MDG..... Millennium Development Goal

MNH..... maternal and newborn health

NGO..... non-governmental organization

PMNCH..... Partnership for Maternal, Newborn and Child Health

PMNS..... Peninsula Maternal and Neonatal Service

SBA..... skilled birth attendant

SoWMy..... The State of the World's Midwifery 2011

TBA..... traditional birth attendant

UN..... United Nations

UNFPA..... United Nations Population Fund

UNICEF..... United Nations Children's Fund

WHO..... World Health Organization

Midwife: A person who meets the ICM *Definition of the Midwife* who has been educated and trained to proficiency in the *ICM Essential Competencies for Basic Midwifery Practice*, demonstrating competency in the practice of midwifery and is legally permitted to use this title. The competencies of the midwife extend to the areas of reproductive health and general health promotion, prevention and counselling, and female empowerment.

Midwifery: The art and science of assisting a woman before, during labour and birth, and postpartum. While this definition is restricted to the process of childbirth, it is globally recognized that midwifery encompasses a much broader set of activities, including all aspects of reproductive health.

Midwifery workforce: The health professionals whose primary function includes health services provided to women during pregnancy, labour and birth, as well as postpartum care for mothers and newborns. The definition includes midwives and others competent in the practice of midwifery, such as nurse-midwives and doctors with relevant competence (and in certain countries, auxiliary nurse midwives). These professionals are also referred to using the term *skilled birth attendants*.

Regulation: Act of controlling professional practice in accordance with laws, policies, standards, and ethics. It can apply to education, practice, management of the profession, career advancement, etc.

Skills: Abilities learned through training or acquired by experience to perform specific actions or tasks. Usually associated with individual tasks or techniques, particularly requiring the use of the hands or body.

Union: A form of professional association that can gather more than one type of health worker, generally independent from government, whose purpose is to defend the interests of the workers. In some countries, the professional association is called a Union.

ANNEX 2: DATA DICTIONARY

Indicator	Indicator definition	Data source
MIDWIFERY BAROMETER		
Midwives per 1,000 live births	Number of midwives (including nurse-midwives and nurses with full midwifery competencies), expressed as a ratio relative to every 1,000 live births per year in the given country.	The State of the World's Midwifery Report Country Survey/WHO Global Atlas of the Health Workforce/UN Population Division
Birth (obstetric and newborn) complications expected per day (estimated); rural	An estimate of the number of obstetric and newborn complications that the country should expect to face and manage every day based on the number of births and the assumption that, on average, 15% of all pregnancies and births present a serious complication to be managed by a midwife or a doctor in order to avoid passage (transformation, aggravation) to death or disability.	UNFPA 2011 (unpublished)
Lifetime risk of maternal death	Probability of maternal death during a woman's reproductive life, expressed in terms of odds.	WHO, UNICEF, UNFPA, World Bank – Trends in Maternal Mortality: 1990 to 2008
Intrapartum stillbirth rate (per 1,000 births)	Number of intrapartum stillbirths (foetal deaths after the onset of labour), expressed as a ratio relative to every 1,000 births per year in the given country.	*The Lancet's* Stillbirths Series, 2011
Neonatal mortality as % of under-5 mortality	Percentage of neonatal mortality rate relative to the under-5 mortality rate.	WHO/UNICEF – Countdown to 2015 Decade Report (2000-2010)
CHARTS AND GRAPHS		
Trends in maternal mortality (per 100,000 live births): 1990-2015	Maternal mortality ratio per 100,000 live births during specified time period, with projection to 2015 being 25% of the 1990 value (according to MDG 5 target to reduce by three quarters).	WHO, UNICEF, UNFPA, World Bank – Trends in Maternal Mortality: 1990 to 2008
Where women give birth: urban vs. rural	Distribution of live births by place of delivery and urban/rural strata.	Demographic and Health Surveys
Who attends births: urban vs. rural	Distribution of live births by type of assistance during delivery and urban/rural strata.	Demographic and Health Surveys
Projected number of births, by age of mother	Projected number of births (medium variant) over a given period, classified by age group of mother. Refers to five-year periods running from 1 July to 30 June of the initial and final years. Data are presented in thousands.	Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat/ World Population Prospects: The 2008 Revision
COUNTRY INDICATORS		
Total population (000)	De facto population in a country, area or region as of 1 July of the year indicated. Figures are presented in thousands.	World Population Prospects: The 2008 Revision
% urban	Percentage of de facto population living in areas classified as urban according to the criteria used by each area or country. Data refer to 1 July of the year indicated.	World Population Prospects: The 2008 Revision
Adolescent population (age 15-19) (000); % of total population	De facto population aged 15-19 in a country, area or region as of 1 July of the year indicated. Figures are presented in thousands.	World Population Prospects: The 2008 Revision
Number of women of reproductive age (age 15-49) (000); % of total population	De facto female population aged 15-49 in a country, area or region as of 1 July of the year indicated. Figures are presented in thousands.	World Population Prospects: The 2008 Revision
Total fertility rate (children per woman)	The average number of children a woman would have during her reproductive years if she bore children at the rate estimated for different age groups in the specified time period.	World Population Prospects: The 2008 Revision
Crude birth rate (per 1,000 population)	Number of live births over a given period divided by the person-years lived by the population over that period. It is expressed as number of births per 1,000 population.	World Population Prospects: The 2008 Revision
Births per year (000)	Average annual number of births over a given period. Refers to five-year periods running from 1 July to 30 June of the initial and final years. Data are presented in thousands.	World Population Prospects: The 2008 Revision
% of all births registered	Percentage of children under five (registered at the moment of the survey) whose birth certificate was seen by the interviewer or whose mother or caretaker says the birth has been registered.	UNICEF, State of the World's Children Report 2009 (MICS, DHS, other national surveys and vital registration systems)
Number of maternal deaths	Number of annual maternal deaths in a given country (described as the death of a woman while pregnant or within 42 days after the termination of pregnancy, irrespective of the duration of pregnancy and site of birth, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes).	WHO, UNICEF, UNFPA, World Bank – Trends in Maternal Mortality: 1990 to 2008
Neonatal mortality rate (per 1,000 live births)	Number of deaths during the first 28 completed days of life per 1,000 live births in a given year.	WHO World Health Statistics 2011
Stillbirth rate (per 1,000 births)	Rate of foetal deaths in utero between 28th week of gestation and delivery.	*The Lancet's* Stillbirths Series, 2011
Number of pregnant women tested for HIV	Number of pregnant women who were tested for HIV and received their results – during pregnancy, during labour and delivery and during the postpartum period (<72 hours), including those with previously known HIV status.	WHO/UNAIDS/UNICEF Towards Universal Access – Progress Report 2010
Midwives are authorized to administer a core set of life-saving interventions	National policy adopted authorizing midwives to administer the following seven BEmONC functions: parental antibiotics; parental oxytocics; parental anticonvulsants; manual removal of placenta; removal of retained products of conception; assisted vaginal delivery; newborn resuscitation.	Special data compiled by WHO for WHO/ UNICEF – Countdown to 2015 Decade Report (2000-2010)
Density of midwives, nurses and doctors per 1,000 population	Total numbers of midwives, nurses and doctors relative to the overall population. (2.3 has been recognized as a threshold for acceptable density.)	WHO Global Health Workforce Atlas
Estimated workforce shortage to attain 95% skilled birth attendance by 2015	Estimation of the total number of skilled birth attendants that need to be added to the health workforce in order to attain coverage of 95% of births by the year 2015.	WHO, Making Pregnancy Safer – Human Resource Projection Tool for maternal and newborn health

Indicator	Indicator definition	Data source
Gross secondary school enrolment (male; female) (%)	Number of children enrolled in secondary school, regardless of age, expressed as a percentage of the total number of children of official secondary school age.	The State of the World's Children 2011, UNICEF, Table 5
Literacy rate (age 15 and over) (male; female) (%)	Percentage of people aged 15 and over who can, with understanding, read and write a short, simple statement on their everyday life.	UN – The Millennium Development Goals Report 2010
MDG INDICATORS		
Maternal mortality ratio (per 100,000 live births)	Number of maternal deaths per 100,000 live births during a specified time period, usually one year.	WHO, UNICEF, UNFPA, WB – Trends in Maternal Mortality: 1990 to 2008
Proportion of births attended by skilled health personnel (%)	Percentage of live births attended by skilled health personnel in a given period of time.	UN – The Millennium Development Goals Report 2010
Contraceptive prevalence rate (modern methods) (%)	Percentage of women married or in-union aged 15 to 49 who are currently using, or whose sexual partner is using, at least one modern method of contraception, regardless of the method used.	UN – The Millennium Development Goals Report 2010
Adolescent birth rate (births per 1,000 women age 15-19)	The annual number of births to women 15 to 19 years of age per 1,000 women in that age group. It represents the risk of childbearing among adolescent women.	UN – The Millennium Development Goals Report 2010
Antenatal care coverage (at least one visit; at least four visits) (%)	Percentage of women who used antenatal care provided by skilled health personnel for reasons related to pregnancy at least once during pregnancy, and at least four times during pregnancy, as a percentage of live births in a given time period.	UN – The Millennium Development Goals Report 2010
Unmet need for family planning (%)	The number of women with unmet need for family planning expressed as a percentage of women of reproductive age who are married or in a union. Women with unmet need are those who are fecund and sexually active but are not using any method of contraception, and report not wanting any more children or wanting to delay the birth of their next child.	United Nations, Department of Economic and Social Affairs, Population Division (2011). *World Contraceptive Use 2010* (POP/DB/CP/Rev2010).
Under-5 mortality rate (per 1,000 live births)	Probability of dying between birth and exactly five years of age expressed per 1,000 live births.	UN – The Millennium Development Goals Report 2010
MIDWIFERY WORKFORCE		
Midwives (including nurse-midwives)	Number of midwives in a given country; includes nurse-midwives and estimates of nurses with midwifery competencies. These figures do not necessarily reflect the number of practising midwives or the ICM definition of a midwife.	The State of the World's Midwifery Report Country Survey/WHO Global Atlas of the Health Workforce
Other health professionals with some midwifery competencies	Number of auxiliaries attending births in facilities in a given country (includes auxiliary nurse-midwives).	The State of the World's Midwifery Report Country Survey/WHO Global Atlas of the Health Workforce
General practitioners with some midwifery competencies	Number of general practitioners with some midwifery competencies in a given country.	The State of the World's Midwifery Report Country Survey
Obstetricians	Number of obstetricians in a given country.	The State of the World's Midwifery Report Country Survey
Community health workers with some midwifery training	Number of community health workers trained in some midwifery skills in a given country.	The State of the World's Midwifery Report Country Survey
A live registry of licensed midwives exists	A national register of licensed midwifery professionals is available in a "live" electronic information system (i.e. records are updated at least monthly).	The State of the World's Midwifery Report Country Survey
MIDWIFERY EDUCATION		
Midwifery education programmes (direct entry; combined; sequential)	Existence of direct entry programmes for midwifery education (i.e. solely for midwifery and not part of other studies, such as nursing programmes), regardless of whether offered by public or private institutions; existence of combined nursing and midwifery education programmes regardless of whether offered by public or private institutions; existence of sequential educational programmes – midwifery education following nursing – regardless of whether offered by public or private institutions.	The State of the World's Midwifery Report Country Survey
Number of midwifery education institutions (total); number of private	Total number of education institutions with a programme of midwifery education at any point in 2010; number of private educational institutions with a programme of midwifery education at any point in 2010.	The State of the World's Midwifery Report Country Survey
Duration of midwifery education programmes (in months)	The number of months of study for midwifery education (including theoretical and practical). The range relates to the duration of direct entry, combined and sequential programmes.	The State of the World's Midwifery Report Country Survey
Number of student admissions (first year)	The total number of enrolments for the first year of all midwifery education programmes regardless of whether they are direct entry, combined or sequential nursing/midwifery programmes and whether they are offered by public or private institutions. Figures pertain to new enrolments commencing studies in 2009.	The State of the World's Midwifery Report Country Survey
Student admissions per total available student places (%)	Percentage of the sum of the number of students enrolled in all of the midwifery education programmes (across all years) relative to the sum of the total of number of student places available in all of the midwifery education programmes (across all years).	The State of the World's Midwifery Report Country Survey
Number of students enrolled in all years (2009)	Total of number of students enrolled in all of the midwifery education programmes. Figures pertain to all years of study following first year enrolments in 2009.	The State of the World's Midwifery Report Country Survey
Number of graduates (2009)	Total of number of students graduating from all of the midwifery education programmes in 2009.	The State of the World's Midwifery Report Country Survey
Midwifery education programmes are accredited	All midwifery education programmes are accredited by the government or a government-authorized agency.	The State of the World's Midwifery Report Country Survey

ANNEX 2: DATA DICTIONARY

Indicator	Indicator definition	Data source
REGULATION		
Legislation exists recognizing midwifery as an autonomous profession	National legislation that recognizes midwifery as an autonomous, regulated profession exists in the given country.	The State of the World's Midwifery Report Country Survey
Midwives hold a protected title	A specific specialist title for midwives (and others with midwifery competencies) as a cadre exists in the given country.	The State of the World's Midwifery Report Country Survey
A recognized definition of a professional midwife exists	A government-approved definition of a professional midwife is officially recognised in the given country.	The State of the World's Midwifery Report Country Survey
A government body regulates midwifery practice	A government-approved body to regulate midwifery exists and operates in the given country.	The State of the World's Midwifery Report Country Survey
A licence is required to practise midwifery	A government-approved system to grant licences to midwifery professionals (prior to initiating practice) exists in the given country.	The State of the World's Midwifery Report Country Survey
Midwives are authorized to prescribe life-saving medications	Midwives and others with midwifery competencies are authorized to prescribe life-saving medicines such as anticonvulsants, oxytocics and antibiotics on their own authority to treat women in antenatal, intrapartum and postpartum stages.	The State of the World's Midwifery Report Country Survey
PROFESSIONAL ASSOCIATIONS		
A midwives association exists	A professional association specifically relating to midwifery professionals is registered in the given country.	The State of the World's Midwifery Report Country Survey
Number of midwifery professionals represented by an association	Number of midwifery professionals represented in professional associations that they are eligible to join.	The State of the World's Midwifery Report Country Survey
Association(s) affiliated with ICM; ICN	Health-related national professional association(s) that midwifery professionals are eligible to join is/are affiliated with the International Confederation of Midwives (ICM) or the International Council of Nurses (ICN)	The State of the World's Midwifery Report Country Survey
POLICIES		
A national maternal and newborn health plan exists that includes the midwifery workforce	A national plan (or strategy) for maternal and newborn health interventions is available.	The State of the World's Midwifery Report Country Survey
The plan is costed	A national plan (or strategy) for maternal and newborn health interventions is available and has been costed.	The State of the World's Midwifery Report Country Survey
The national health workforce plan specifically addresses midwifery	A national human resources for health plan (or strategy) is available and specifically addresses the midwifery workforce.	The State of the World's Midwifery Report Country Survey
Compulsory notification of maternal deaths	National policy adopted requiring health professionals to notify any maternal death.	The State of the World's Midwifery Report Country Survey
Systematic maternal death audits and reviews	National policy adopted including a process to audit and review maternal deaths.	The State of the World's Midwifery Report Country Survey
Confidential enquiry for maternal deaths	National policy adopted to audit and review maternal deaths including a confidential enquiry process.	The State of the World's Midwifery Report Country Survey
Compulsory registration of all births	National policy adopted requiring compulsory registration of all births.	The State of the World's Midwifery Report Country Survey
All maternal and newborn health services are free (public sector)	National policy for free access to maternal and newborn health services is in operation in the public sector.	The State of the World's Midwifery Report Country Survey
SERVICES		
Total number of facilities providing essential childbirth care	Total number of facilities where childbirth takes place, including those that hold BEmONC or CEmONC status.	The State of the World's Midwifery Report Country Survey
Number of Basic Emergency Obstetric and Newborn Care (BEmONC) facilities	Number of peripheral health facilities with a maternity unit that regularly practice the seven basic signal functions: parenteral administration of antibiotics, parenteral administration of anticonvulsants, parenteral administration of oxytocics, manual removal of placenta, manual vacuum aspiration for retained products, assisted instrumental delivery by vacuum extractor, and newborn resuscitation with mask. The basic functions include stabilization of mothers and newborns with complications before and during transfer to higher-level hospital.	The State of the World's Midwifery Report Country Survey
Number of Comprehensive Emergency Obstetric and Newborn Care (CEmONC) facilities	Number of health facilities with maternity services that regularly practice the seven BEmONC signal functions plus two additional signal functions: emergency surgery (e.g. caesarean section) and safe blood transfusion (can also include advanced newborn resuscitation).	The State of the World's Midwifery Report Country Survey
Facilities per 1,000 births	Number of BEmONC, CEmONC and other facilities performing births relative to the number of births per year.	The State of the World's Midwifery Report Country Survey/UN Population Division

Missing midwives. Gap calculation

Country	Number of midwifery personnel 2010 (adjusted upwards for 5% attrition)	Number of estimated midwifery personnel 2015 (adjusted downwards for 5% attrition)	Gap
Afghanistan	2,214	9,573	7,359
Benin	1,224	2,408	1,185
Burkina Faso	3,504	4,944	1,441
Burundi	1,103	1,912	809
Cambodia	1,913	2,481	567
Cameroon	116	4,542	4,426
Central African Republic	485	992	506
Chad	209	3,515	3,306
Côte d'Ivoire	2,425	4,794	2,368
Democratic Republic of Congo	5,470	20,055	14,585
Djibouti	130	154	24
Ethiopia	1,310	20,799	19,489
Gambia	260	418	158
Ghana	3,591	5,050	1,459
Guinea	381	2,675	2,294
Guinea-Bissau	155	446	291
Haiti	165	1,740	1,575
Lao People's Democratic Republic	326	1,137	811
Liberia	391	1,022	630
Madagascar	2,821	4,634	1,813
Malawi	2,355	4,220	1,865
Mali	1,500	3,701	2,201
Mauritania	333	700	368
Morocco	2,819	4,131	1,312
Mozambique	2,799	5,559	2,761
Nepal	2,731	4,760	2,029
Niger	648	5,936	5,288
Papua New Guinea	277	1,350	1,073
Rwanda	1,570	2,831	1,262
Senegal	941	3,086	2,146
Sierre Leone	105	1,532	1,427
Somalia	408	2,780	2,372
Sudan	860	8,321	7,462
Togo	392	1,418	1,026
Uganda	9,216	10,711	1,495
United Republic of Tanzania	2,584	12,525	9,941
Yemen	4,073	5,860	1,787
Zambia	2,680	3,651	971
Total gap			**111,880**

OBJECTIVE

To estimate the midwifery workforce gap to reach the MDG5 target of skilled birth attendance by 2015 in 58 countries.

Working definition

The midwifery workforce gap is defined as the number of additional midwifery workforce needed to achieve 95 percent SBA coverage by 2015 in the 58 countries.

Assumptions

The gap analysis assumes that all births, complicated or not, must be assisted by midwifery personnel. Doctors or other health professionals such as mid-level providers will be required for about 5%-15% of births which may face complications, in addition to the midwifery personnel. These professionals are not considered in this estimate. This gap analysis assumes that all midwives perform at an optimum level, estimated by WHO to be 175 births per year per midwife (WHO 2005). For simplicity, this performance benchmark is adjusted to 6 midwives per 1,000 births a year in the SoWMy Report.

Gap analysis

The gap was defined as the difference between the estimated number of midwives needed to cover 95 percent of births in 2015, at a productivity estimate of 6 midwives per 1,000 births per year, and the baseline number of midwives reported in SoWMy Survey.

Defining the baseline data (2010)

In 2011, SoWMy survey collected data on the number and types of practising midwifery personnel. Among the fifty eight countries that responded to the survey, 52 answered the midwifery personnel related questions. For the 6 respondents that did not report midwifery workforce figures, the WHO Global Atlas of the Health Workforce 2010 update was used as the source of information.

Estimating the number of midwives needed (2015)

The number of midwifery workforce needed by 2015 was calculated based on ensuring that 95 percent of all estimated births in 2015 (UN, 2009) in the 58 SoWMy countries were covered by midwives (6 midwives needed per 1,000 births in any given year).

To adjust for attrition, the estimated need of midwifery workforce by 2015 was adjusted upwards by 5 percent. Conversely, the baseline number of midwives reported in SoWMy Survey was adjusted downwards by 5 percent to account for attrition.

Therefore, the gap was measured as the difference between the adjusted 2015 number of midwives and the adjusted 2010 baseline number.

References:

Global Atlas of the Health Workforce, 2010. www.who.int/globalatlas

World Health Report 2005. Make every mother and child count. WHO Geneva (2005)

United Nations, Department of Economic and Social Affairs, Population Division (2009). World Population Prospects: The 2008 Revision, CD-ROM Edition.

ANNEX 4: LIVES SAVED ANALYSIS

Country	Maternal deaths baseline (2015)	Maternal deaths averted			Foetal deaths baseline (2015)	Foetal deaths averted			Neonatal deaths baseline (2015)	Neonatal deaths averted			Combined deaths baseline (2015)	Total combined deaths averted		
		Pragmatic (%)	Universal (%)	Universal (number)		Pragmatic (%)	Universal (%)	Universal (number)		Pragmatic (%)	Universal (%)	Universal (number)		Pragmatic (%)	Universal (%)	Universal (number)
Afghanistan	23000	11	54	12500	62500	10	45	28500	84000	13	56	47000	169500	12	52	88000
Bangladesh	13500	14	46	6000	124500	13	35	43500	125000	15	55	69500	263000	14	45	119000
Benin	1500	10	68	1000	10500	9	58	6000	13000	10	62	8000	25000	10	61	15000
Bhutan	1500	17	52	1000	20500	17	46	9500	28500	21	56	16000	50500	19	52	26500
Bolivia (Plurinational State of)	500	36	64	500	4500	32	49	2500	7000	37	57	4000	12000	35	54	7000
Botswana	<500	33	53	<500	1000	29	36	500	1000	32	50	500	2000	30	43	1000
Burkina Faso	4500	16	76	3500	22000	14	70	15500	27000	19	71	19000	53500	17	71	38000
Burundi	3500	13	51	2000	8500	12	41	3500	14500	14	53	7500	26500	13	49	13000
Cambodia	1500	18	52	500	10500	15	34	3500	14000	19	52	7500	26000	17	44	11500
Cameroon	5500	16	68	3500	20000	14	60	12000	26000	18	65	17000	51500	16	63	32500
Central African Republic	1500	23	46	500	5000	20	37	2000	8500	22	52	4500	15000	21	46	7000
Chad	7500	12	78	6000	20500	11	74	15000	25500	13	76	19500	53500	12	76	40500
Comoros	3000	17	72	2000	18500	15	67	12500	35000	20	74	26000	56500	18	71	40500
Côte D'Ivoire	4000	24	55	2500	25000	20	45	11500	34000	26	60	20500	63000	24	54	34500
Democratic Republic of the Congo	24500	23	51	12500	88000	19	39	34000	156500	25	52	82000	269000	23	48	128500
Djibouti	<500	20	55	<500	500	18	40	<500	1000	20	53	500	1500	20	49	1000
Ethiopia	20500	18	57	11500	124000	16	48	59500	157000	18	62	97500	301500	17	56	168500
Gabon	<500	24	52	<500	1000	18	42	500	1500	21	56	500	2500	20	50	1000
Gambia	500	26	53	<500	1500	21	44	1000	2500	27	60	1500	4500	25	53	2500
Ghana	3000	10	69	2000	19000	9	60	11500	25500	11	61	15500	47500	10	61	29000
Guinea	3500	12	64	2000	13000	12	56	7500	20000	13	67	13500	36500	12	63	23000
Guinea Bissau	1000	16	56	500	2500	14	46	1000	3000	18	59	2000	6500	16	53	3500
Guyana	<500	13	47	<500	<500	10	24	<500	1000	17	55	500	1000	15	48	500
Haiti	1000	18	72	500	7500	16	58	4500	8000	19	66	5000	16500	18	63	10000
India	75000	25	53	40000	912500	23	43	391000	1164500	27	54	624000	2152000	25	49	1055000
Indonesia	11000	24	38	4500	69500	14	19	13500	85500	30	40	34500	166000	22	31	52500
Kenya	10000	21	73	7500	37000	18	66	24500	59000	25	73	43000	106000	22	70	75000
Lao People's Democratic Republic	1000	15	57	500	4500	13	45	2000	4000	16	60	2500	9500	15	53	5000
Liberia	2000	18	74	1500	4500	15	66	3000	10500	22	73	8000	17000	19	71	12500
Madagascar	4000	19	62	2500	18500	18	52	10000	34000	21	61	20500	56500	20	58	33000
Malawi	4000	16	78	3500	19500	15	73	14500	21500	21	72	15500	45000	18	73	33500
Mali	5000	24	63	3000	21000	21	57	12000	27500	27	63	17000	53500	25	60	32000
Mauritania	500	31	57	500	3500	28	48	1500	4500	34	61	3000	8500	31	56	5000
Morocco	1000	21	45	500	13500	14	28	4000	16000	27	43	7000	30500	21	37	11500
Mozambique	6000	26	58	3500	31500	23	49	15500	44000	29	58	25500	81500	26	55	44500
Myanmar	2500	10	45	1000	23000	7	29	6500	48500	14	58	28500	74000	12	49	36000
Nepal	3500	21	54	2000	20500	21	46	9500	25500	23	58	15000	49500	22	53	26500
Nicaragua	<500	17	54	<500	2000	16	43	1000	2000	19	50	1000	4500	18	47	2000
Niger	8000	10	77	6000	27000	9	73	19500	29000	10	73	21000	64000	10	73	46500
Nigeria	62500	17	77	48000	241500	14	71	172000	338500	20	74	252000	642500	18	74	472000
Pakistan	17500	19	68	12000	255500	17	62	158000	344000	23	72	246500	617000	21	67	416500
Papua New Guinea	500	17	52	500	6000	16	36	2000	5500	11	58	3000	12000	14	47	5500
Rwanda	3000	16	73	2000	12000	14	68	8000	17500	17	70	12000	32500	16	69	22000
Senegal	2500	26	62	1500	14500	23	50	7000	17000	31	63	10500	34000	27	57	19000
Sierra Leone	2500	17	54	1500	8000	16	43	3500	10500	23	58	6000	21000	20	51	11000
Somalia	5500	30	53	3000	12500	29	44	5500	26000	28	58	15000	44000	29	53	23500
South Africa	5000	20	45	2500	21000	16	32	7000	23000	17	39	9000	49000	17	37	18500
Sudan	12000	20	51	6000	44000	19	40	18000	58500	23	59	34500	114500	21	51	58500
Tajikistan	<500	23	47	<500	4000	17	37	1500	5000	24	55	3000	9500	21	47	4500
Timor-Leste	18000	40	61	14000	48000	37	48	34000	70000	41	70	51500	136000	40	64	99500
Togo	<500	19	46	<500	1000	17	34	500	2500	20	51	2000	15500	19	44	7000
Uganda	1000	30	58	500	6000	29	49	2000	8500	28	56	4000	15500	29	53	6500
United Republic of Tanzania	8500	18	77	5000	53500	14	71	26000	57500	19	74	32000	119500	17	73	63000
Uzbekistan	<500	36	47	<500	1500	28	32	500	3000	31	46	1500	4500	30	41	2000
Viet Nam	1000	15	24	500	15500	4	12	2000	16500	13	32	5000	33000	9	22	7500
Yemen	2500	15	59	1500	31500	13	48	15000	34000	21	67	23000	68000	17	58	39500
Zambia	3500	17	73	2500	15500	15	67	10500	24000	18	69	16500	43000	17	68	29500
Zimbabwe	4500	43	59	2500	10500	41	49	5500	14500	42	56	8000	29500	42	54	16000
Total	**410000**	**20**	**61**	**250500**	**2623500**	**18**	**49**	**1290500**	**3471000**	**23**	**60**	**2086500**	**6503500**	**21**	**56**	**3627500**

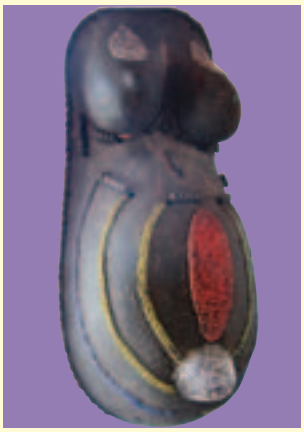
EXPLANATORY NOTES

The baseline number of deaths for the year 2015 are calculated based upon population trends and projections from the UN population division. However, they have been modified with a few assumptions. 1) We assumed that that the current fertility rates were maintained through 2015; and 2) we assumed that the most recent maternal mortality ratios, stillbirth rates and neonatal mortaltiy rates were constant and unchanged. LiST itself assumes that the drivers of mortality work through coverage of health interventions, thus there is no decline in mortality over time except through coverage changes.

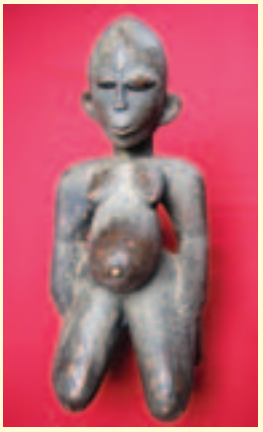
The calculation of the number of deaths averted is based on changes in coverage of contraception, as well as the preconceptual, antenatal, delivery care and postnatal care that is part of the competencies that midwives are expected to have. The interventions included were contraception and post-abortion care; syphilis detection and treatment, multiple micronutrient supplementation, management of hypertension, diabetes and malaria, during the antenatal period; antibiotics for premature rupture of membranes, labor and delivery management, as well as referral to a BEmONC or CEmONC facility (as a proxy for the skills of a midwife at delivery), active management of the third stage of labor, magnesium sulfate for eclampsia, neonatal resuscitation during childbirth; and breastfeeding promotion and preventive postnatal care after delivery.

Coverage was increased linearly for all interventions by the amount needed to match the change in labor and delivery management that was needed to achieve the target midwifery coverage (10% for current coverage < 10%; 25% for current coverage <20%; 50% for current coverage < 40% and 75%/90% for current BEmONC >40%). Total fertility rate was forced to remain above 2.0 while coverage of all other interventions was capped at 99%.

References: International Journal of Epidemiology Supplement April 2010; BMC Public Health Supplement April 2011.



In spite of unfortunate tragedies and suffering, maternity is also beautiful. It has been celebrated through the ages in folk cultures, religions and art. Midwives are often represented.



All photos by Vincent Fauveau (except tall African figure at far left from Elisa Gleize) and are available at: www.art-and-pregnancy.com.

Printed on recycled paper.

In an effort to keep printing costs down, almost all United Nations Population Fund publications are made available for free online in electronic format, as PDF and Word documents. Requests for printed publications will be handled based on availability and should be directed to: publication@unfpa.org

Supported by:

Coordinated by UNFPA
605 Third Avenue
New York, NY 10016
www.stateoftheworldsmidwifery.com

ISBN: 978-0-89714-995-2
E/4,000/2011