© UNICEF/UNI111173/Connell

unicef
for every child

Healthy Mothers, Healthy Babies:

Taking stock of maternal health

© UNICEF/UN0282574

Introduction

The joys and challenges of motherhood – The first time a newborn is placed in her mother's arms is a moment of joy – a joy that every new mother should have the right to experience. But for many pregnant women around the world, this memory will never come to be. Without the right care, becoming a mother can be a stressful and, in the worst cases, tragic, event.

Much progress has been made in ending preventable maternal deaths in the past two decades: The number of women and girls who die each year due to issues related to pregnancy and childbirth has dropped considerably, from 532,000 in 1990 to 303,000 in 2015, a 44 per cent decrease.[1] Still, more than 800 women die every day from pregnancy-related complications.[2] Many more mothers experience injuries or other debilitating outcomes, including postpartum depression and obstetric fistula. Millions of women endure the pain and suffering of a stillbirth or miscarriage, or experience a preterm delivery or early neonatal death. Many struggle with the emotional and financial burdens of a child born with severe disabilities or congenital birth defects.

Women in every country face heartbreaking obstetric outcomes. But the burden of pregnancy-related deaths and disability falls disproportionately on disadvantaged women with less access to care. In terms of geographic distribution, this hardship has largely been borne by women living in sub-Saharan Africa and South Asian countries, where resources are more constrained. Other broader contextual factors – pervasive gender and socioeconomic inequalities, humanitarian or environmental crises – also preclude women from receiving needed care before, during and after pregnancy.

The good news is that many more women are now receiving the services they need to have a healthy pregnancy and positive birth outcome for mother and child. Efforts are underway to improve the quality of maternal health services so that all women are treated with dignity and respect during childbirth and can deliver in adequately equipped and staffed facilities, with basic amenities such as running water and electricity. Women are also increasingly having a voice in how they want to deliver their babies and who they want to support them during childbirth.

These measures, which protect women during this vulnerable time in life, are aligned with UNICEF's Every Child Alive agenda, an urgent appeal to governments, businesses, health care providers, communities and individuals to fulfil the promise of universal health coverage and keep every child alive.

Yet too many mothers continue to needlessly suffer. We must do more to reach all women, working together to end preventable maternal deaths. We must place more value on women's lives.

1,2. World Health Organization, UNICEF, United Nations Population Fund and The World Bank, Trends in Maternal Mortality: 1990 to 2015, WHO, Geneva, 2015.

Healthy pregnancies = A healthy mother and a good start for babies

Pregnancy is a key opportunity to reach women with essential services for their own health and that of their unborn child. This is a time when women are screened and treated as needed for infections and other medical conditions, and when they are counselled on nutrition, both during and after pregnancy. They learn about breastfeeding and other healthy child care practices, and consider family planning, offering women greater control over family size and the timing of any future pregnancies.

But access to essential maternal health services like antenatal care and to health facilities during delivery is not the same for all women (Figures 1A and 1B). Until recently, the recommended minimum number of antenatal care visits was four; that changed to eight in 2016, following the World Health Organization's revised recommendations to reduce perinatal mortality and improve women's experience of care.

Data on this increased number of visits are not yet widely available for comparative analysis, but existing data demonstrate important trends. Women living in urban settings are more likely than those living in rural areas to receive four or more antenatal care visits, while women in the richest households are almost twice as likely to benefit from these important visits than women in the poorest households.
These differences vary across the globe, with the largest gaps (urban-rural and wealthier-poorer women) occurring in regions with lower overall coverage levels of antenatal care, such as South Asia or West and Central Africa (Figure 1A and 1B). In Pakistan, 70 per cent of women in urban areas reported having had four or more antenatal care visits during their last pregnancy compared to 42 per cent among women in rural areas.[3] In India, the difference is threefold (25 per cent among the poorest and 73 per cent among the richest households). Household wealth is a major marker of inequality in terms of coverage of institutional deliveries as well.[4]

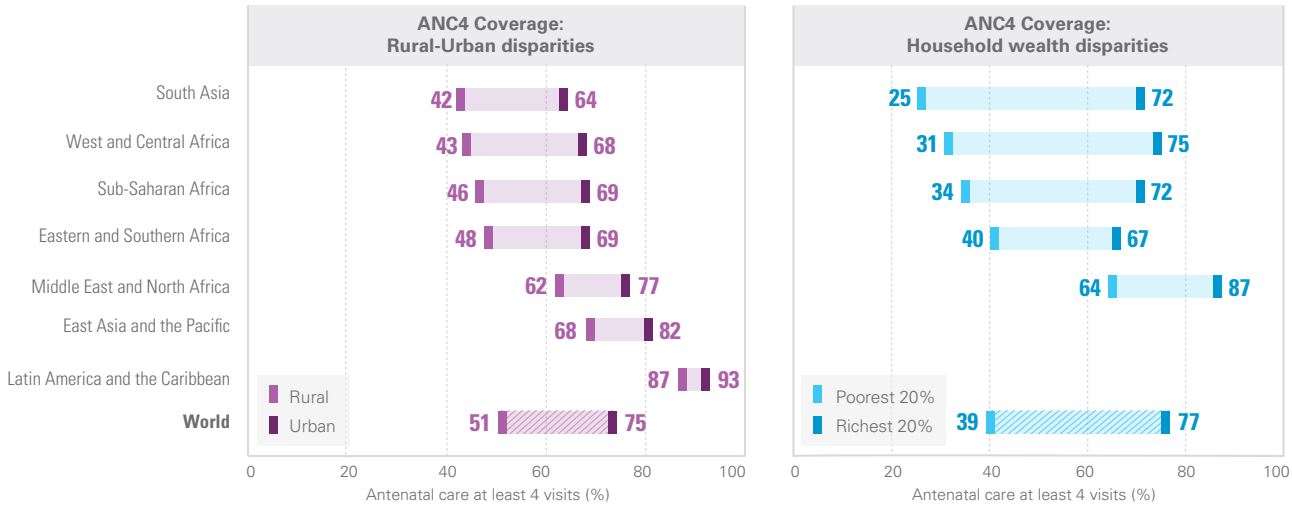
Addressing these persistent equity gaps in access to antenatal care across and within countries needs to be a policy and programmatic imperative, including approaches that address gender inequalities at multiple levels.

Improving women's access to health information, education and income-earning opportunities, for example, can boost a woman's autonomy in the household and her ability to access needed care. In areas where gender norms on permitted interactions between women and men are restrictive, human resource strategies to increase the number of female health care personnel can also improve service access and use.

3. Pakistan, Demographic and Health Survey, 2017-2018.
4. Reanalysis of data from India National Family Health Survey, 2015-2016.

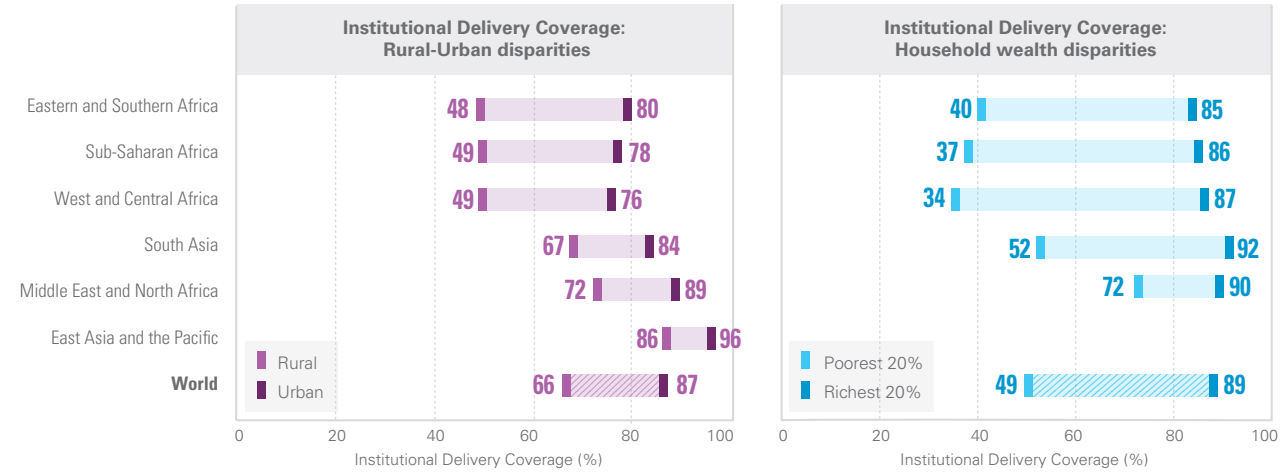
Wealth is an important determinant for coverage of antenatal care and institutional delivery; Asian and African regions present the largest gaps

FIGURE 1A. Percentage of women aged 15 to 49 years that attended ANC at least four times during pregnancy by any provider, by UNICEF region (2013–2018)



Source: UNICEF global databases, 2019, based on MICS and DHS surveys.
Note: Global estimates comprise 80 countries with ANC4 data by residence, covering 90 per cent of the global population, and 50 countries with ANC4 data by household wealth, covering 52 per cent of the global population.

FIGURE 1B. Percentage of births taking place in a health facility, UNICEF regions (2013-2018)



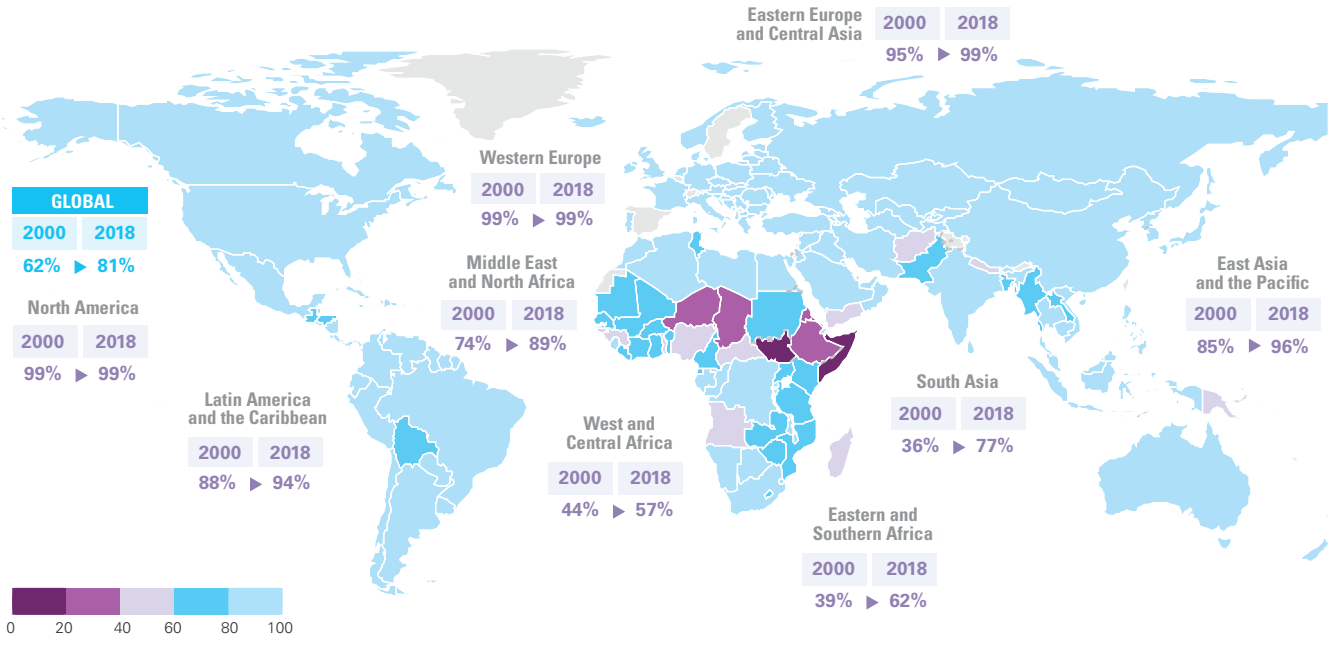
Source: UNICEF global databases, 2018, based on MICS and DHS.
Note: Global estimates comprise 78 countries with institutional delivery data by residence, covering 88 per cent of the global population, and 73 countries with institutional delivery data by wealth, covering 64 per cent of the global population.

A safe delivery is essential for survival

Ensuring that every delivery is attended by a skilled provider – generally speaking, a doctor, nurse or midwife – is one strategy for reducing maternal and newborn morbidity and mortality. The inclusion of skilled birth attendance in the Sustainable Development Goal (SDG) Framework (indicator 3.1.2 under goal 3, target 3.1) is expected to spur efforts to reach universal coverage with skilled delivery care by 2030 and hold us all to account for progress. Although global coverage of skilled birth attendance has shown impressive gains in recent years, wide gaps in coverage across countries persist (Figure 2). Again, the lowest coverage levels tend to be in the poorest countries where maternal mortality levels are highest.

Despite accelerated recent progress, millions of births occur annually without a skilled attendant

FIGURE 2. Percentage of births assisted by a skilled attendant, by country (2013–2018)



Source: Joint UNICEF/WHO database, 2019, of skilled health personnel, based on population-based national household survey data and routine health systems.
Notes: Includes data on institutional births for countries in which data on skilled attendance at birth was not available; the boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Uneven access to emergency care

A caesarean section, or C-section, can be a life-saving intervention and is an essential part of comprehensive emergency obstetric care, preventing maternal and perinatal mortality and morbidity when medically justified. Changes in medical and insurance practices, greater numbers of women delivering in facilities, and increases in the average age of first childbirth around the world have contributed to a trend towards excessively high C-section rates. Mounting evidence suggests that when not medically indicated, C-sections result in both poorer short- and long-term health outcomes for mother and baby in comparison to vaginal deliveries.[5]

Globally, around 29.7 million C-section deliveries occurred in 2015 – almost double the number in 2000 (around 16 million) – an increase from 12 to 21 per cent.[6]

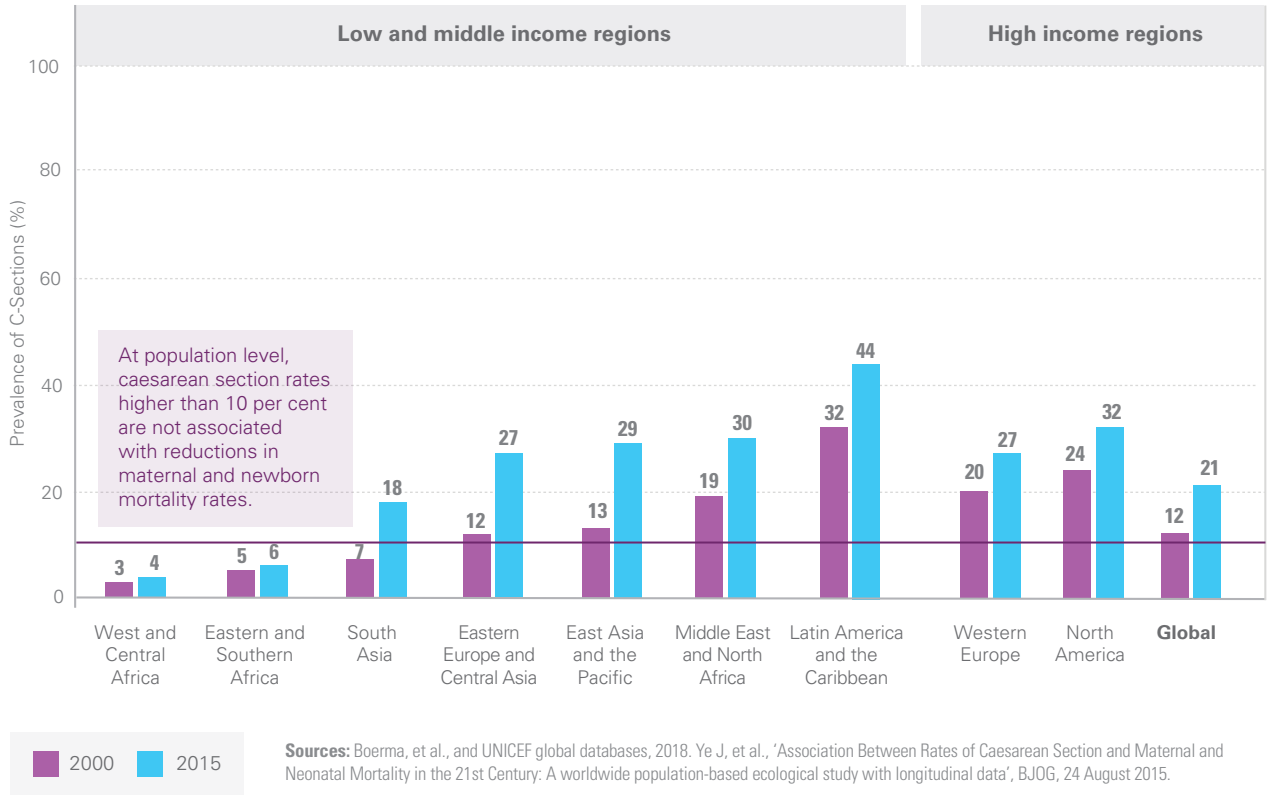
Although C-section deliveries have increased in all regions, the amount of increase and level of use vary globally (Figure 3). In Latin America and the Caribbean, for example, C-sections accounted for 44 per cent of all deliveries in 2015, more than 10 times higher than the percentage in West and Central Africa (close to 4 per cent). Latin America and the Caribbean's excessively high average suggests over-medicalization of childbirth; conversely, the low percentage of C-sections in West and Central Africa is alarming, suggesting a dire lack of access to this potentially life-saving intervention.

Rates of C-section also vary across different population groups of women. In low- and middle-income countries, these deliveries were almost five times more frequent among the richest women compared to the poorest. The ultimate programmatic aim is to ensure that all women who need a C-section have access to the procedure, and that C-sections are undertaken only when medically indicated[7].

5,6. Boerma, Ties, et al., 'Global Epidemiology of Use of and Disparities in Caesarean Sections', Optimising Caesarean Section Use series, The Lancet, vol. 392, no. 10155, 13 October 2018, pp. 1341-1348.
7. World Health Organization, 2015 WHO Statement on Caesarean Section Rates. Geneva 2015.

C-section deliveries have increased in all regions, with wide variations globally

FIGURE 3. Percentage of births delivered by C-section, by UNICEF region (2000 and 2015)[8]



Sources: Boerma, et al., and UNICEF global databases, 2018. Ye J, et al., 'Association Between Rates of Caesarean Section and Maternal and Neonatal Mortality in the 21st Century: A worldwide population-based ecological study with longitudinal data', BJOG, 24 August 2015.

Adolescent mothers

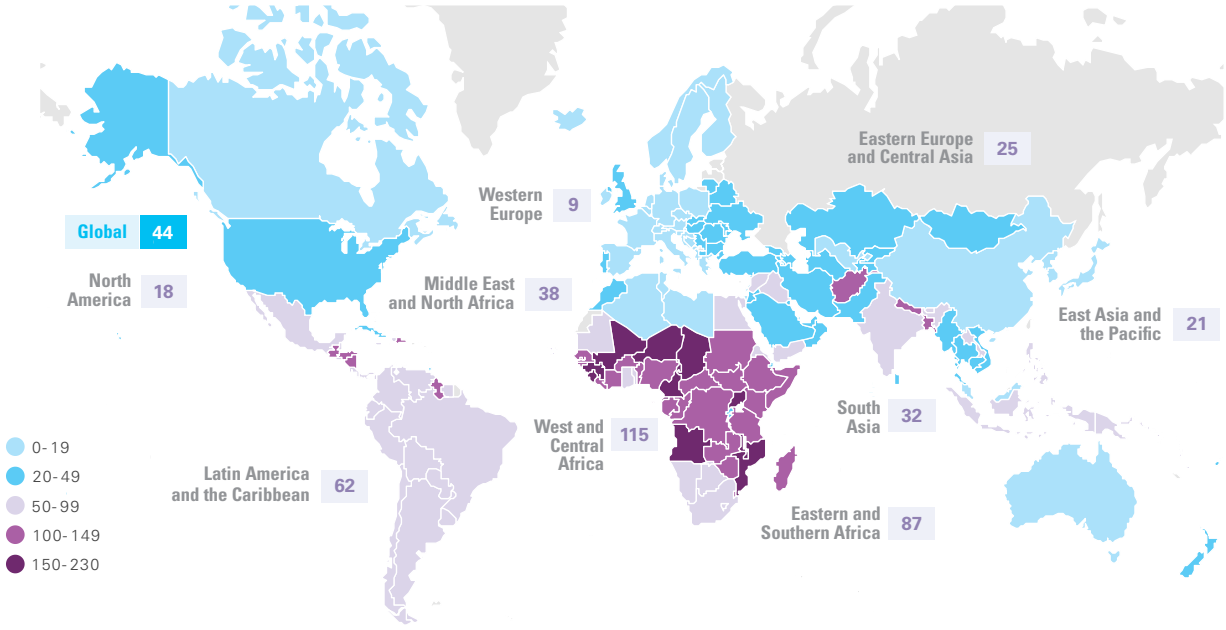
Adolescence is a vulnerable phase in human development as it represents the transition from childhood to physical and psychological maturity. It is a period in which gender norms consolidate, often to the disadvantage of girls, as the onset of puberty can be a signal for constraining girls' movement, schooling, sexuality and exposure to life outside the home. In some regions, adolescent girls face social pressures to marry and bear children. And, in other contexts, adolescent girls experience pressure to engage in sex, sometimes resulting in an unintended pregnancy.

Globally, maternal conditions are the top cause of mortality among girls aged 15 to 19.[9] Because adolescent girls are still growing themselves, they are at greater risk of complications if they become pregnant; those aged 10 to 14 are particularly at risk of poor obstetrical outcomes. Sub-Saharan Africa is the region with the highest burden of adolescent birth rate: 27 sub-Saharan countries have adolescent birth rates at or exceeding 120 births per 1,000 girls aged 15 to 19 (Figure 4). An important step toward protecting these young women's lives is the inclusion of the adolescent birth rate in the SDG framework (indicator 3.7.2 under goal 3, target 3.7), which should serve as a catalyst for countries to increase efforts to reduce pregnancies among this vulnerable age group.

9. World Health Organization, Global Health Estimates 2015: Deaths by cause, age, sex, by country and by region, 2000–2015, Geneva, 2016.

The highest rates of early childbearing are found in sub-Saharan African countries

FIGURE 4. Adolescent birth rate by country and by region, number of annual births per 1,000 adolescents aged 15 to 19 (2018)



Source: SDG global database, 2018, based on national level data compiled by UNFPA/UN Population Division.
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Child marriage* is strongly linked to early childbirth

Marriage before the age of 18 deprives girls of the agency to chart their own course in life. Girls in this situation commonly face social isolation, interruption of schooling and limited socioeconomic opportunities and adolescent pregnancy. (Figure 5)

Over the past decade, the proportion of young women who were married as children decreased by 15 per cent, from one in four (25 per cent) to approximately one in five (21 per cent). Still, approximately 650 million girls and women alive today were married before turning 18.

While the global reduction is to be celebrated, no region is on track to meet the SDG target of eliminating child marriage by 2030.[10] Many girls remain at risk, particularly those from poor households and in rural areas. In West and Central Africa – the region with the highest prevalence of child marriage – 4 in 10 women aged 20 to 24 were married or in union before age 18.[11]

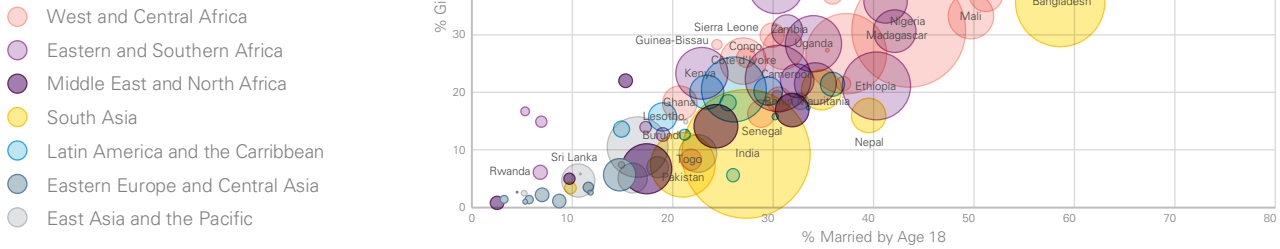
10,11. United Nations Children's Fund, Child Marriage: Latest trends and future prospects, UNICEF, New York, 2018.

* Child marriage includes both formal marriage and informal unions before the age of 18

Child marriage is highly associated with early childbearing

FIGURE 5. Percentage of women aged 20 to 24 years who were first married or in union before age 18 and percentage of women aged 20 to 24 years who gave birth before age 18, by UNICEF region (latest available data, 2013-2018)

How to read this graph:
Each bubble represents a country. The size of each bubble represents the number of estimated births in the country in 2018. The linear increasing trend indicates a strong association between child marriage and early childbearing.



Source: UNICEF global databases, 2018, based on MICS and DHS, and United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects: The 2017 revision.

Once married or in union, social pressures to bear children can be intense. Often married to older husbands, girls can find it extremely difficult to assert their wishes, particularly when it comes to negotiating safe sexual practices and the use of family planning methods. This leaves them vulnerable to sexually transmitted infections, along with early pregnancy. Typically, women who marry early tend to have more children than women who marry after the age of 18. West and Central Africa is the region with the highest global prevalence of child marriage. In Cameroon, Chad and Gambia, more than 60 per cent of women aged 20-24 who married before their fifteenth birthday had three or more children compared to less than 10 per cent of women of the same age who married as adults (Figure 6).

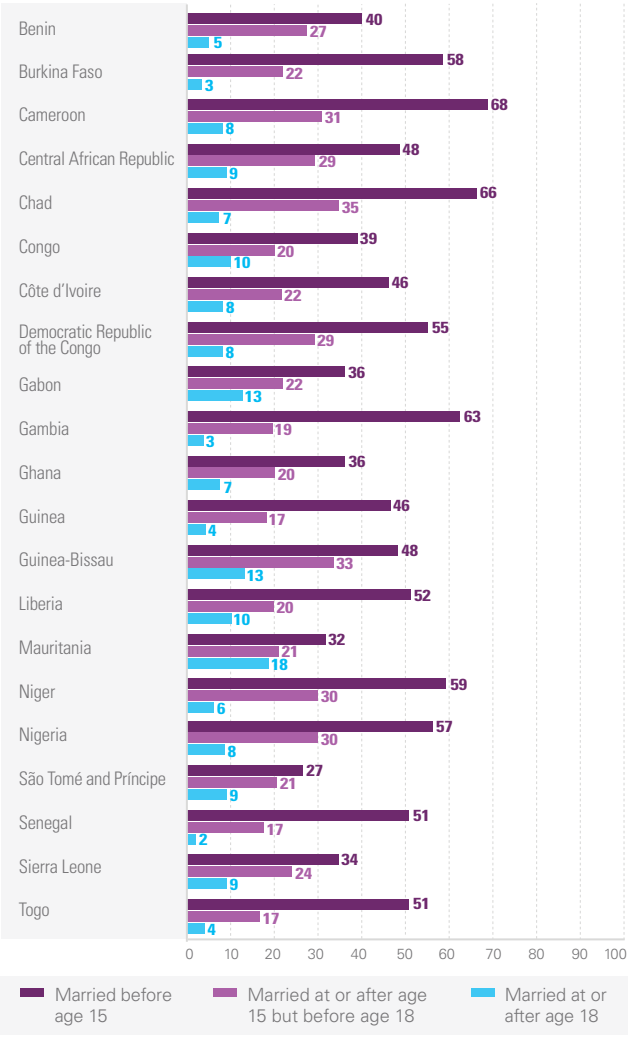
Child brides are less likely to receive proper medical care while pregnant or to deliver in a facility compared to women who married as adults. In Bangladesh, Ethiopia, Nepal and Niger, for example, women who married as adults were at least twice as likely to have delivered their babies in a health facility compared to women who married before age 15.[12]

Young women in sub-Saharan Africa experience both the highest rate of child marriage (38 per cent)[13] and of childbearing (28 per cent of girls aged 20 to 24 have had a live birth before age 18).

Early childbearing has intergenerational effects. Across countries in West and Central Africa, children born to adolescent girls face a higher risk of dying before their fifth birthday and of stunting compared to children born to women aged 20 or older.[14]

Child brides are more likely to have more children while still young compared to women who marry as adults

FIGURE 6. Percentage of women aged 20 to 24 who have had three or more children, by age at first marriage or union, in West and Central Africa (2010-2017)



Source: UNICEF global databases 2018, based on DHS and MICS, 2010-2017.
Note: The values for São Tomé and Príncipe should be interpreted with caution as the value for 'married before age 15' is based on a small denominator (26 to 49 unweighted cases).

12. UNICEF, 'Ending Child Marriage: Progress and prospects', UNICEF, New York, 2014.
13. UNICEF, The State of the World's Children, 2017.
14. Based on data from UNICEF global databases, 2018, presented in UNICEF, 'Adolescent Girls' Health and Well-being in West and Central Africa', 2019.

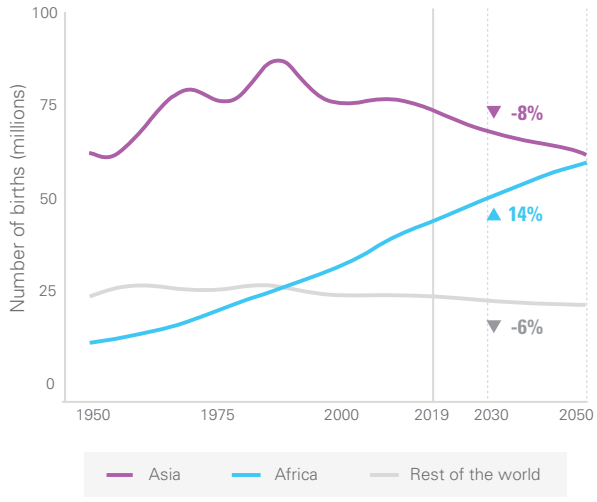
Population change and impact on maternal and newborn health services

Changes in fertility patterns and population growth have implications for the number of maternal and newborn health services a country must provide. Countries experiencing fertility declines, for example, will eventually have fewer women reaching childbearing age which, in turn, will reduce the overall number of maternal and newborn services the health care system needs to provide. However, changes in the mix of women delivering as countries undergo the obstetric transition (gradually shifting from a pattern of high to low fertility, high to low maternal mortality, and from direct to indirect causes of maternal deaths) and as more women begin childbearing later in life can increase the burden on health systems to provide sufficient services for complicated deliveries.

Again, this pattern varies around the globe: while most regions are projected to experience a decline of 7 per cent (-8 per cent for Asia and -6 per cent for the rest of the world) in the number of annual births between 2019 and 2030, Africa will see a 14 per cent increase. The annual number of births in Africa quadrupled between 1950 and today, and by the middle of the 21st century around 42 per cent of births globally are expected to occur in Africa. The share of births occurring in Africa is projected to outpace the share in Asia just after 2050.

While births are declining in much of the world, births in Africa have almost quadrupled since 1950

FIGURE 7. Estimated and projected number of births, by region (1950-2050)

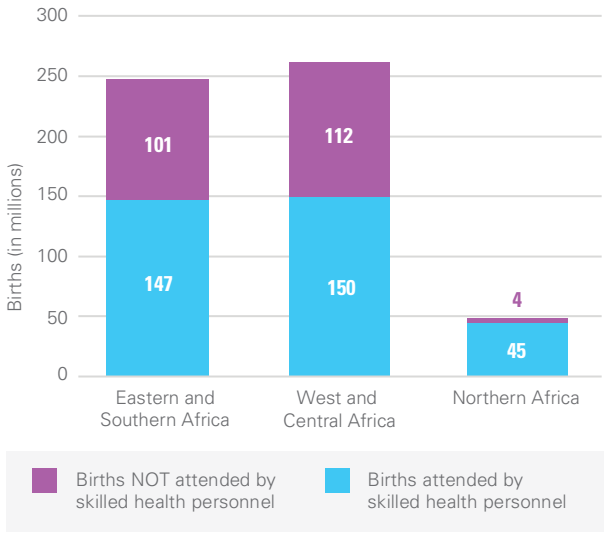


Source: United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects: The 2017 revision. (medium fertility variant).

Based on projected number of births and current coverage levels of skilled birth attendants in Africa, 19 million births will not be attended in 2030. When viewed in cumulative terms, the figures are significantly greater: if current levels of intervention coverage persist, then about 217 million births will not be attended by skilled health personnel between 2019 and 2030. Almost all of these non-attended births (97 percent) will happen in sub-Saharan Africa. To meet the needs of pregnant women, African countries must increase investments in training skilled birth attendant and in adequately equipping health facilities for childbirth services. Without such efforts, many more lives will be lost and there will be many more missed opportunities to improving the health of women and their babies.

If population trends and intervention coverage levels stay the same, more than 200 million births in sub-Saharan Africa will not be attended by a skilled attendant between now and 2030.

FIGURE 8. Cumulative births in millions by skilled birth attendants in Africa in total, by UNICEF region (2019-2030)



Source: Based on UNICEF global databases and United Nations, Department of Economic and Social Affairs, Population Division, World Population Prospects: The 2017 revision.

Human resources for health

Doctors, nurses and midwives provide the core frontline skilled personnel for health systems. WHO standards call for a minimum of 44.5 doctors, nurses and midwives per 10,000 population.[15] In 2017, the world's richest countries had a density almost three times this threshold (116). For sub-Saharan Africa, in 2017 this value was 12 per 10,000 population with almost no change since 2010.[16]

As of 2017, Africa had an estimated combined health workforce of 1.9 million doctors, nurses and midwives – 3.7 million short of the total 5.6 million needed if each country were to meet the WHO minimum standard. Given Africa's demographic outlook, the region will need to quadruple its existing health workforce over the next decade to 7.6 million in order to reach the WHO standard by 2030.[17]

Despite an increase of the estimated size of the health workforce in sub-Saharan Africa from 877,000 to 1.1 million between 2010 and 2017, the region stagnated at an average density of 12 doctors, nurses and midwives per 10,000 inhabitants. The health workforce remains four times below the recommended standard (Figure 9). In contrast, other regions showed progress during this period; East Asia and the Pacific reached the minimum standard during the 2013 to 2017 time period. This is a proxy measure for the provision of maternal health services, and a strong indicator of the strength of systems and commitment of the government to the health of its citizens.

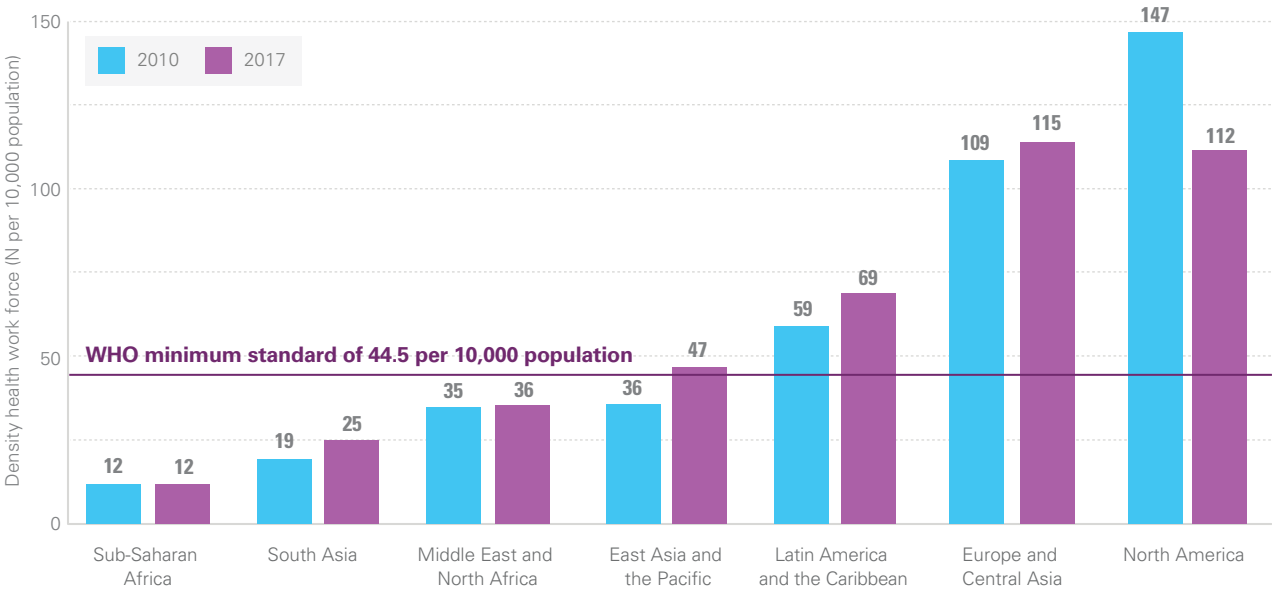
The SDG agenda recognizes universal health coverage as key to achieving all other health targets. SDG 3, target 3c, aims to "substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States". Across regions, countries have made progress in increasing the provision of health personnel. However, countries with the highest level of maternal and neonatal mortality are still below the minimum standard (Figure 9).

Despite significant progress, there is a need to boost political will and mobilize resources to increase the density of workforce in countries that are still below the minimum standard, as part of broader efforts to strengthen and adequately finance health systems. And, more effort is also needed in many countries to address gender imbalances in the health workforce.

15. WHO, 'Global Strategy on Human Resources for Health: Workforce 2030', 2016.
16. Calculation based on WHO's Global Health Observatory data, 2019. Latest available data on health workforce between 2013 and 2017.
17. Calculation based on Global Health Observatory data, 2019. Latest available data on health workforce between 2013 and 2017. For countries with missing data, size of health workforce was estimated based on average weighted health workforce density of countries with available data in the region. Values for 2017 based on 2013 to 2017 density and 2017 estimated population.

In sub-Saharan Africa, the health workforce remains four times below the recommended WHO standard

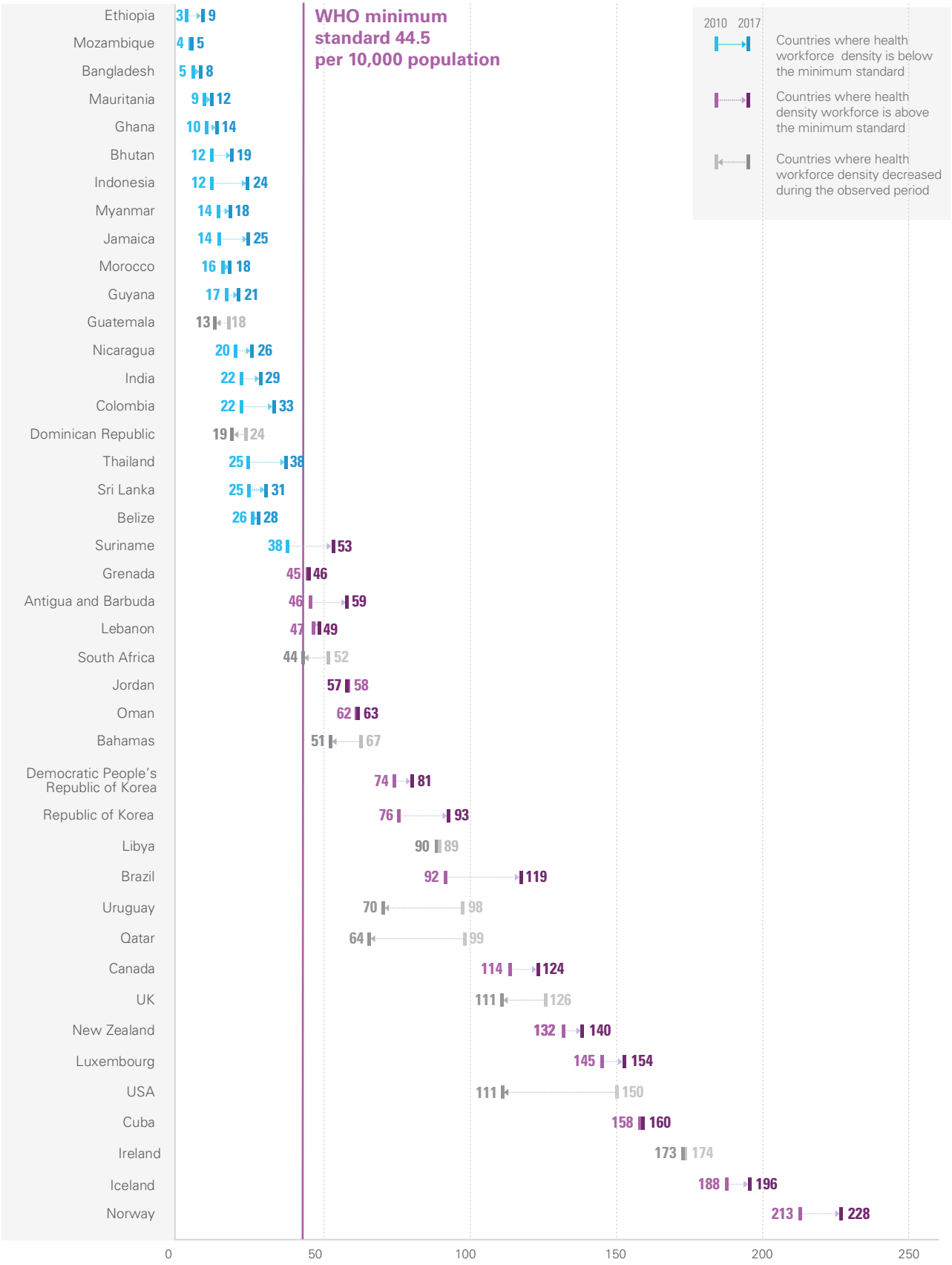
FIGURE 9. Density of doctors, nurses and midwives per 10,000 population, by UNICEF region (2006-2010 and 2013-2017)



Source: Calculation based on the 2018 update, Global Health Workforce Statistics, World Health Organization, Geneva.

The coverage of health personnel has increased in many countries, but those with the highest level of maternal and neonatal mortality are still below the minimum standard

FIGURE 10. Density of doctors, nurses and midwives per 10,000 population, countries with available data for periods 2006-2010 and 2013-2017.



Source: Calculation based on the 2018 update, Global Health Workforce Statistics, World Health Organization, Geneva (http://www.who.int/hrh/statistics/hwfstats/).

The high cost of having a baby

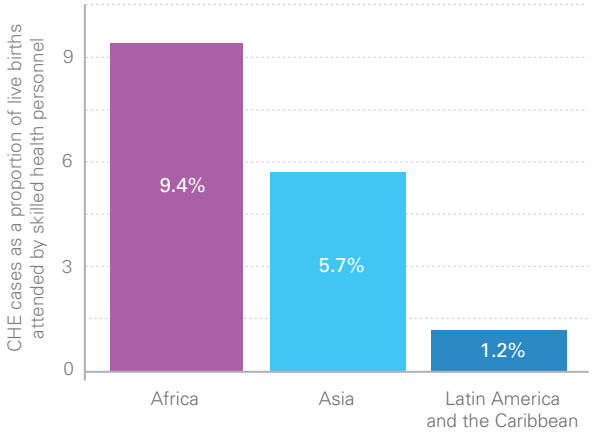
The financial consequences of having a baby can be severe. Annually, at least 5.1 million households are estimated to incur major financial hardship – or catastrophic health expenditure – due to health services for antenatal care and delivery in Africa, Asia, and Latin America and the Caribbean. Health spending is considered catastrophic if it exceeds 40 per cent of a household's (non-essential) non-food spending. Nearly two thirds of the households that experienced major financial hardship are located in Asia (Figure 11).

Measured as a share of deliveries attended by a skilled health professional, however, financial hardship affects nearly twice as many deliveries in Africa (9.4 per cent) as in Asia (5.7 per cent) and eight as many as in Latin America and the Caribbean (1.2 per cent). The substantial costs of maternal health care may deter pregnant women, or family members when women are deprived agency to make their own health care decisions, from seeking needed health services, potentially endangering mothers and their babies

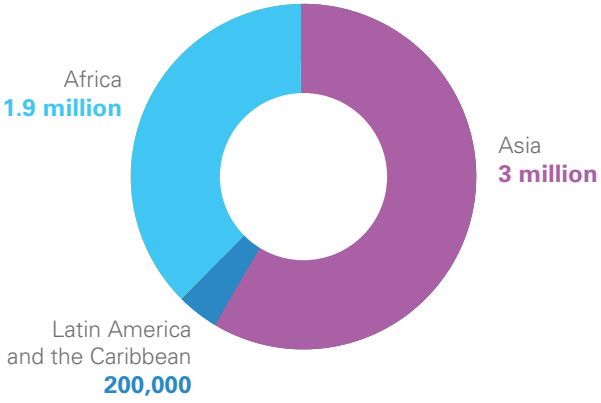
At least 5.1 million households incur catastrophic health expenditure (CHE) due to health services for antenatal care and delivery in Africa, Asia, and Latin America and the Caribbean

FIGURE 11. Catastrophic health expenditure due to attended live births and maternal health services, 2010

Share of live births attended by skilled health personnel that resulted in Catastrophic health expenditure



Catastrophic Health expenditure due to maternal health services



Source: CHE cases due to maternal health services based on an analysis of Haakenstad, Annie, et al., 2019, and Wagstaff, Adam, et al., 2017; live births data sourced from the United Nations Population Division, 2017; data on the proportion of births attended by a skilled personal from UNICEF's global databases 2019.
Note: Catastrophic health expenditure (CHE) is defined as health spending on antenatal care and/or delivery health services that surpasses 40 per cent of a household's non-food expenditure.

Call to action

Countries and their partners need to use available evidence on the number and leading causes of maternal deaths, demographic trends, and on the strength of the health system including human resources when designing costed national plans for maternal and newborn health.

Policies that ensure all women have access to affordable, high quality maternal health services, and that improve the status of women are also essential for ending preventable maternal deaths and improving the lives of mothers and their babies.

We must work together to make UNICEF's Every Child Alive agenda a reality. This includes:

Invest financial resources in health systems beginning at the community level

Universal Health Coverage is one of the surest ways to secure every child's right to survive and thrive. But to make this a reality UNICEF calls on governments to increase investments in health systems, whether that be through Overseas Development Assistance or through domestic investments in the health of their own citizens through expanded domestic budgets for health. Investments in health should begin at the community level, promoting the expansion of strong primary health care that supports and formally recognizes the important role of community health workers.

Recruit, train and monitor health personnel to support quality care during pregnancy and delivery, and for improved newborn and child health and nutrition

WHO has forecast an 18 million shortfall of health care workers by 2030. Investment in health workers not only has positive health outcomes, there are economic benefits as well with a 10:1 return on investment. Strong primary health care requires sufficient numbers of trained health workers based at the community level. UNICEF calls for investment in the recruitment and training of health workers in quality care, particularly midwives and nurses, to provide life-saving services, including emergency obstetric care, breastfeeding support, prevention of mother-to-child transmission of HIV, immunizations, and nutrition care and counselling, among others.

Establish clean, functional health centres close to where women and children live

Health centres come in many forms such as community health posts, local hospitals, or referral centres. In low-income countries, around 25 per cent of babies are born in community-level facilities that are inadequately equipped, and often lacking electricity or clean water. UNICEF calls for health facilities to be equipped with water, sanitation and hygiene (WASH) facilities and sustainable electricity sources to ensure their ability to provide basic, routine services, including obstetric services.

Equip primary health facilities with the drugs, supplies and equipment needed to save maternal, newborn and child lives

Ensuring that primary health facilities have a complete and steady supply of essential medicines and commodities is critical to improving the health and nutrition of women, newborns, adolescents and children, and ensuring Universal Health Coverage. UNICEF calls for policies, funding and support to be in place to ensure that these medicines are approved for use in-country along with reliable systems for supply, distribution, storage and maintenance of key drugs, products and equipment. Innovations to improve prevention, diagnosis and treatment of health challenges are also needed to accelerate efforts to reduce morbidity and mortality.

Empower adolescent girls and women to demand and access quality health services

Empowering women and adolescent girls to make the best decisions for themselves and their families, and treating them with dignity and respect during pregnancy, birth and beyond are critical components of quality care. UNICEF calls for the meaningful engagement of adolescent girls in planning, monitoring, management and evaluation of health-related programmes, services and policies. Efforts to increase adolescent girls' education must also be prioritized as this prevents early marriage and pregnancy, and results in improvements to the health of girls and women and of their future children.

Register all births, newborn deaths and stillbirths

Globally, 71 per cent of all births are registered, but in low-income countries this figure drops to 40 per cent. Where stillbirths are concerned, levels of registration are even lower, a serious concern. UNICEF calls for all births, newborn deaths and stillbirths to be registered. Birth registration is not only the right of every child, it also enables governments and development agencies to plan effectively, and to ensure parents receive the services and benefits to which they are entitled. Capturing stillbirth data in these figures will improve understanding of causes of death, and increase survival rates of viable newborns. Using this data to then set targets, particularly to reduce stillbirths, will help drive action.

unicef
for every child

Data and Analytics Section, Division of Data, Research and Policy Division in collaboration with the Maternal Newborn and Adolescent Health Unit, Health Section, Programme Division, UNICEF, New York, 2019

The CHE analysis was prepared by Annie Haakenstad based on Haakenstad et al., 2019 and Wagstaff et al. 2017.

3 United Nations Plaza, New York, NY 10017, USA
Tel: +1 (212) 326-7000
E-mail: data@unicef.org | Website: data.unicef.org

Suggested citation: United Nations Children's Fund, *Healthy Mothers, Healthy Babies: Taking stock of maternal health* New York, May 2019. rev. 2019.