Cross-country analysis of strategies for achieving progress towards global goals for women’s and children’s health

Syed Masud Ahmed, Lal B Rawal, Sadia A Chowdhury, John Murray, Sharon Arscott-Mills, Susan Jack, Rachael Hinton, Prima M Alam & Shyama Kuruvilla

Objective To identify how 10 low- and middle-income countries achieved accelerated progress, ahead of comparable countries, towards meeting millennium development goals 4 and 5A to reduce child and maternal mortality.

Methods We synthesized findings from multistakeholder dialogues and country policy reports conducted previously for the Success Factors studies in 10 countries: Bangladesh, Cambodia, China, Egypt, Ethiopia, the Lao People’s Democratic Republic, Nepal, Peru, Rwanda and Viet Nam. A framework approach was used to analyse and synthesize the data from the country reports, resulting in descriptive or explanatory conclusions by theme.

Findings Successful policy and programme approaches were categorized in four strategic areas: leadership and multistakeholder partnerships; health sector; sectors outside health; and accountability for resources and results. Consistent and coordinated inputs across sectors, based on high-impact interventions, were assessed. Within the health sector, key policy and programme strategies included defining standards, collecting and using data, improving financial protection, and improving the availability and quality of services. Outside the health sector, strategies included investing in girls’ education, water, sanitation and hygiene, poverty reduction, nutrition and food security, and infrastructure development. Countries improved accountability by strengthening and using data systems for planning and evaluating progress.

Conclusion Reducing maternal and child mortality in the 10 fast-track countries can be linked to consistent and coordinated policy and programme inputs across health and other sectors. The approaches used by successful countries have relevance to other countries looking to scale-up or accelerate progress towards the sustainable development goals.

Abstracts in العربية, 中文, Français, Русский and Español at the end of each article.

Introduction

Between 1990 and 2015, during the era of the millennium development goals (MDGs), there was unprecedented global progress towards reducing both child and maternal mortality by around 50%.1–2 Progress was uneven, however, between and within countries. Of the 95 countries with maternal mortality ratios above 100 deaths per 100 000 live births in 1990, nine countries achieved MDG 5A to reduce maternal mortality by three quarters. Only 24 out of 104 low- and middle-income countries met the MDG 4 target of a two-thirds reduction in the under-five mortality rate between 1990 and 2015.3–4 To understand why some countries did better than other comparable countries in preventing maternal and child deaths, a three-year multidisciplinary, multi-country series of studies were carried out to analyze and synthesize the data from the country reports, resulting in descriptive or explanatory conclusions by theme.

Among the 75 highest-burden countries flagged up by the Countdown to 2015 initiative,10 low- and middle-income countries were on track to achieve both MDGs 4 and 5A when the Success Factors studies started in 2012: Bangladesh, Cambodia, China, Egypt, Ethiopia, the Lao People’s Democratic Republic, Nepal, Peru, Rwanda and Viet Nam.1 Focusing on what contributed to the higher reduction of maternal and child mortality rates in these countries, the studies identified an integrated set of high-impact factors in the health sector and sectors outside health, underpinned by strong country leadership, collaboration between different stakeholders and economic development.1 Statistical, econometric and policy analyses showed that these countries were not only progressing faster on mortality reductions, but were also performing significantly better than comparable countries on the identified success factors.3

Based on the initial analyses of success factors, we conducted a series of multistakeholder dialogues in the 10 fast-track countries to identify how these countries designed and implemented policies and programmes in the areas identified as success factors. This paper presents a synthesis of the multistakeholder dialogue findings across the countries. These findings informed the development of the Global strategy for women’s, children’s and adolescents’ health (2016–2030)6 and could inform country policies and programmes to help accelerate progress towards meeting the sustainable development goals (SDGs).

Methods

The first part of the success factors studies comprised comparative analyses of data from 144 low- and middle-income countries over 20 years and a literature review of countries’ progress
in reducing maternal and child mortality during the MDG period, as described before.6,4 Subsequently, between 2014 and 2015, country policy reports were developed through multistakeholder dialogues in the 10 fast-track countries identified in the Success Factors studies.4 A multistakeholder dialogue is a structured, facilitated process that brings stakeholders together to develop a shared understanding of issues and evidence and to develop plans of action. In total, 407 stakeholders (representatives of government, academia, civil society, private sector, multilateral and other development partner organizations) across the 10 countries took part in the dialogues. Each dialogue was conducted in three phases: (i) preparation and review of literature and data; (ii) discussion meetings, usually over two days, supplemented in some cases by one-to-one interviews and additional meetings; and (iii) validation and preparation of country reports and dissemination of findings. The methods for the multistakeholder dialogues are described in more detail elsewhere.7 Ethics approval for the Success Factors studies was obtained from the World Health Organization (WHO) Ethics Review Committee (reference RPC528), and participants in the dialogues gave consent to be interviewed for the analysis.

To analyse and synthesize the data from the 10 country reports resulting from the dialogues,4 we adapted and used the Framework Method as it is appropriate for comparing and contrasting large-scale textual data across cases.9 This method comprises seven steps: (i) transcription; (ii) familiarization with the data; (iii) coding; (iv) developing a working analytical framework; (v) applying the analytical framework; (vi) inserting data into the framework matrix; and (vii) interpreting the data. Similarities and differences in the data can be identified and relationships drawn across different parts of the analysis, resulting in descriptive or explanatory conclusions by theme.9

Transcription of country policy reports, meeting documents and stakeholder interviews was completed during the dialogue process in the countries.4 The cross-country analysis started with examining the data and initial coding. We developed a modified health systems framework matrix which was populated with data from the country policy reports and categorized by the main strategic areas where policy and programme inputs had been made.7,10 We further coded the data to identify common themes, focusing on key policies and programmes and strategic areas, until we identified new themes.11 Based on this approach, we synthesized the countries’ policy and programme approaches into strategic areas. We triangulated findings, where possible, with related literature reviews and other data.4

Results

From 1990 to 2015 the countries achieved major reductions in under-five child mortality (Table 1) and maternal mortality (Table 2) and there were associated improvements in population-based coverage of high-impact interventions in health and other sectors. Stakeholders in the 10 countries identified policies and programmes that contributed to this progress, and the review of data between 1990 and 2015 highlighted related trends under four strategic areas: leadership and multistakeholder partnerships; health sector; sectors outside health; and accountability for resources and results (Table 3 and Table 4). Table 5 presents additional examples of country policies and programmes that were identified in the dialogues as contributing to progress towards MDGs 4 and 5A; further details are found in the country reports and their web annexes.13

Leadership and partnerships

Countries demonstrated leadership by using data from population-based surveys and research to develop policies and plans to reach high-risk populations (Table 3 and Table 5). They prioritized high-impact interventions and used technical standards to guide implementation. Human rights policies helped ensure high-risk groups were protected and prioritized.10 In some cases, governments established agencies to support implementation;14,15 for example Egypt created national councils to strengthen rural women’s participation in health and development.4

Countries took steps to improve governance by increasing transparency and accountability, reducing corruption and creating opportunities for civic participation (Table 4). Progress varied among countries. In Ethiopia, reforms in governance reduced corruption between 1996 and 2014 and improved the efficiency of the civil service.13 Despite political instability, Nepal made modest progress in the rule of law and control of corruption between 2004 and 2014.12 The proportion of women members of the national legislature of the Lao People’s Democratic Republic tripled
Table 2. Reduction of maternal mortality ratio between the years 1990 and 2015 in 10 countries with accelerated progress towards reducing child and maternal mortality

| Country                  | No. of maternal deaths per 100 000 live births | Decrease 1990–2015, (%) | Annual rate of reduction, % |
|-------------------------|-----------------------------------------------|--------------------------|-----------------------------|
| Bangladesh              | 569 479 399 319 242 176 393 (69.1)           | 4.7                      |                             |
| Cambodia                | 1020 730 484 315 202 161 859 (84.2)          | 7.4                      |                             |
| China                   | 97 72 58 48 35 27 70 (72.2)                  | 5.2                      |                             |
| Egypt                   | 106 83 63 52 40 33 73 (68.9)                  | 4.7                      |                             |
| Ethiopia                | 1250 1080 897 743 523 353 897 (71.8)         | 5.0                      |                             |
| Lao People's Democratic Republic | 905 695 546 418 294 197 708 (78.2)         | 6.1                      |                             |

Note: Maternal mortality ratio is the number of deaths of women while pregnant or within 42 days of termination of pregnancy in a given period per 100 000 live births in the same period. Sources: WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division and World Bank.18

between 1990 and 2003, so that by 2014 women comprised a quarter of members of parliament.19 Rwanda achieved female representation in 64% of the seats in the parliament and 40% in the senate.19

Collaboration across government entities, development partners and nongovernmental and community-based organizations was improved. In Ethiopia, an agreement in 2005 between the government and its development partners guided partner support for the health sector development programme, and led to other agreements related to international health partnerships and joint financing. Several other countries adopted cross-sector approaches to ensure better allocation and use of resources for health (Table 5).13–14

Health sector

The countries took steps to strengthen essential health systems to deliver priority interventions (Table 3 and Table 5). They ensured a mix of delivery strategies for interventions in women’s and children’s health, based on their current health system capacity and the country context. Key interventions were delivered using a combination of targeted vertical delivery and campaign strategies, complemented by community-based approaches for hard-to-reach populations. They also strengthened routine facility-based services. Bangladesh began with a vertical immunization programme, but later integrated this into the health-care system, with semi-annual campaigns to deliver vitamin A supplements and polio vaccination.20 Nepal used targeted child health campaigns and integrated programmes delivered by female community health volunteers to reach communities with limited access to services.21

Various mechanisms were used to improve health financing, including increasing the annual per capita expenditure on health, introducing community-based health insurance, minimizing out-of-pocket expenses on health and providing monetary incentives to marginalized populations. Although governments increased their health expenditure (Table 4), most of them remain highly dependent on external funds. China was an exception; government health expenditure per capita increased from US$ 53 in 1995 to US$ 646 in 2013.22 China also introduced a medical scheme which covers 95% of the eligible rural population.23

Countries developed short- and long-term approaches to address health workforce challenges. Several countries improved midwifery training and used incentives for recruitment and retention of staff, while others used task shifting and community health workers or volunteers to address staff shortages and reach marginalized populations. Cambodia has dramatically improved its rate of skilled birth attendance (Table 4).24 The Chinese government trained large numbers of additional health personnel, including village doctors (barefoot doctors) to strengthen primary care delivery.20 Peru improved access to emergency obstetric care in rural communities by training health providers to respond better to local beliefs and expectations.25

Actions to improve the quality of care have included strengthened supervision and monitoring systems for service delivery, improved referral mechanisms, implementation of accreditation processes and reviews of maternal deaths (Table 5). Testing of community-based management of neonatal sepsis in Nepal has contributed to improving access to life-saving neonatal care.26 Rwanda has focused on specialized training for nurses and doctors.27 Bangladesh has promoted health and behaviour change strategies that have increased community demand and use of services.28 Cambodia has a strategy to promote exclusive breastfeeding and antenatal care.29

Other sectors

In sectors other than health, the 10 fast-track countries applied policy and programme strategies that invested in girls’ education, poverty reduction, food security and infrastructure development (Table 3 and Table 5). Countries made education – primary, extended primary and sometimes secondary – freely available to all. Access to education for girls was prioritized, with a focus on better deployment and living conditions of teachers, especially female teachers, and incentives for poor families to send their children to school. Bangladesh’s female secondary-school stipend project has rapidly expanded secondary schooling for girls since the 1990s; keeping girls in education longer helps to delay marriage and childbearing, which in turn affects maternal mortality.30

Countries invested in water and sanitation infrastructure (Table 4) and focused on community-oriented interventions on specific health issues, such as open defecation. Rwanda introduced several community-based initiatives, including hand-washing stations for restaurants, schools and public places.31

Another approach common to these countries was poverty reduc-
Table 3. **Key policy and programme actions in four strategic areas identified as important for accelerated progress towards reducing child and maternal mortality**

| Strategic area                              | Policy and programme actions                                                                                                                                                                                                 | Illustrative performance measures                                                                 |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Leadership and multistakeholder partnerships | Develop policies, strategies, plans and mechanisms to guide programme implementation by: – establishing mechanisms for coordination and collaboration within government and between government and partners; – strengthening governance by reducing corruption, maintaining transparency and accountability, and improving civic participation and representation of women in government; – collecting data for planning, including research and innovation; – defining interventions that will be delivered by the programme along the lifecycle of women and children, with a focus on high-impact, evidence-based interventions; – developing or revising policies, standards and guidelines that are informed by human rights, and supporting implementation of priority interventions that are evidence-based and target high-risk groups; and – developing short- and long-term plans to deliver priority interventions. | – Rule of law – Government effectiveness – Women in parliament – Female labour force participation |
| Health sector                               | Strengthen essential health systems to deliver priority interventions by: – deciding how interventions will be delivered; – ensuring adequate resources are available and removing financial barriers to accessing health care; – ensuring availability of trained staff; – strengthening quality of and demand for care; – increasing the number of primary health care and specialized maternal and child care centres; and – ensuring supply of high-quality essential medicines and commodities. | – Births assisted by skilled staff – Physicians per population – Total fertility rate – Immunization (DTP and measles) |
| Sectors outside health                      | Strengthen sectors which support improved health and nutrition by: – increasing financial resources allocated to key sectors, targeted to areas with highest morbidity and mortality; – investing in infrastructure to improve transportation and communication; – promoting education of girls and poor people; enhancing training and deployment of teachers, particularly women; – developing water and sanitation initiatives with communities; – developing information and communication technologies, including e-health initiatives; – improving income-generation opportunities for poor people; and – developing cross-sectoral approaches to improve nutrition. | – Clean water supply – Access to sanitation – Primary-school enrolment (female and total) – Secondary-school enrolment (female and total) – Roads paved – Rural electricity |
| Accountability for resources and results    | Collect and use data for planning and evaluating progress by: – adopting standard indicators and targets; – strengthening routine health management information system, incorporating key indicators and vital registration; – conducting regular performance reviews; – conducting maternal and neonatal death audits; – improving access to electronic data collection and management systems at all levels including Internet databases, and use of SMS tracking systems. | – GDP per capita – Gini index – Total health expenditure |

DTP: diphtheria–tetanus–pertussis; GDP: gross domestic product; SMS: short message service.

...tion, with clear targets to reach women and vulnerable groups, especially in rural and farming communities. In Bangladesh, rapid expansions in the garment industry and in microcredit programmes increased the number of women employed. Poverty was reduced in Cambodia due to removal of price controls and taxes on rice production, improved rural infrastructure and a higher minimum wage for garment industry workers.

**Accountability**

All the 10 countries collected and used data for planning and evaluating progress towards the MDGs (Table 3 and Table 5). They adopted the MDGs, set their own targets and made commitments to measuring and achieving them. Most countries relied on regular demographic and health surveys to collect high-quality, population-based data to track progress and to inform planning.

Some countries have begun shifting from paper-based routine health information systems to electronic systems with centralized data management. The maternal and child health surveillance system in China is one of the largest centralized networks of its kind. Rwanda’s web-based applications enable public access to aggregated health information, thereby improving transparency and encouraging wider use of this information. Egypt also makes aggregated health information publicly available.

Several fast-track countries have had some success with improving the completeness of their birth and death registration systems. Bangladesh established a centralized online birth and death registration system, and succeeded in registering over half of all children younger than 5 years, up from a baseline of 10%. Viet Nam introduced community reporting systems for births and maternal and child deaths and the Lao People’s Democratic Republic strengthened facility death reporting standards.
Table 4. Changes in development indicators from 1990–1995 and 2010–2015 across four key strategic areas in 10 countries with accelerated progress towards reducing child and maternal mortality

| Development indicator* by strategic area | Bangladesh | Cambodia | China | Egypt | Ethiopia | Lao People’s Democratic Republic | Nepal | Peru | Rwanda | Viet Nam |
|------------------------------------------|------------|----------|-------|-------|----------|---------------------------------|-------|------|--------|----------|
| **Leadership and multistakeholder partnerships** |           |          |       |       |          |                                 |       |      |        |          |
| Rule of law | −1.0 | −0.8 | −1.1 | −1.1 | −0.4 | −0.4 | 0.1 | −0.2 | −0.9 | −0.8 | −1.0 | −1.0 | −0.2 | −1.0 | −0.7 | −0.6 | −1.7 | −0.4 | −0.4 | −0.5 |
| Government effectiveness | −0.7 | −0.8 | −0.9 | −0.9 | −0.3 | 0.1 | −0.2 | −0.4 | −1.3 | −0.5 | −0.7 | −0.9 | −0.4 | −0.9 | −0.1 | −0.3 | −1.2 | −0.1 | −0.5 | −0.3 |
| Women in parliament, % of total seats | 9 | 20 | 6 | 22 | 22 | 24 | – | – | 2 | 28 | – | 25 | – | 33 | – | 26 | 17 | 64 | 26 | 24 |
| Female labour force, % of total labour force | 62 | 57 | 77 | 79 | 73 | 64 | 24 | 23 | 72 | 78 | 80 | 76 | 80 | 45 | 68 | 89 | 87 | 74 | 72 |
| **Programme implementation in health sector** |           |          |       |       |          |                                 |       |      |        |          |
| Births attended by skilled health staff, % of total | 10 | 28 | 31 | 71 | 94 | 100 | 37 | 74 | 6 | 10 | 19 | 37 | 7 | 36 | – | 84 | 31 | 69 | 70 | 93 |
| Physicians, no. per 1000 population | 0.2 | 0.4 | 0.1 | 0.2 | 1.6 | 1.9 | 0.8 | 2.8 | 0.0 | 0.0 | 0.2 | 0.2 | 0.1 | 0.2 | 1.1 | 1.1 | 0.0 | 0.1 | 0.4 | 1.2 |
| Total fertility rate, births per 1000 women aged 15–19 years | 5 | 2 | 6 | 3 | 3 | 2 | 4 | 3 | 7 | 5 | 6 | 3 | 5 | 3 | 4 | 3 | 7 | 5 | 4 | 2 |
| Immunization, DTP, % of children aged 12–23 months | 64 | 96 | 41 | 93 | 95 | 99 | 84 | 97 | 32 | 61 | 20 | 73 | 44 | 88 | 67 | 92 | 86 | 97 | 88 | 95 |
| Immunization, measles, % of children aged 12–23 months | 62 | 91 | 37 | 93 | 95 | 99 | 87 | 96 | 26 | 64 | 33 | 64 | 57 | 88 | 63 | 94 | 85 | 95 | 84 | 97 |
| **Programme implementation in other sectors** |           |          |       |       |          |                                 |       |      |        |          |
| Improved water supply, % of population with access | 68 | 87 | 87 | 76 | 79 | 76 | 67 | 96 | 93 | 94 | 13 | 57 | 40 | 76 | 67 | 92 | 75 | 87 | 61 | 76 | 62 | 98 |
| Improved sanitation facilities, % of population with access | 34 | 90 | 3 | 42 | 25 | 77 | 72 | 95 | 2 | 28 | 20 | 71 | 7 | 46 | 54 | 76 | 31 | 62 | 38 | 78 |
| School enrolment ratio, primary, female, % | 71 | 110 | 118 | 126 | 121 | 129 | 84 | 108 | 28 | 78 | 87 | 117 | 84 | 145 | 116 | 106 | 73 | 125 | 104 | 102 |
| School enrolment ratio, primary, total, % | 79 | 107 | 115 | 129 | 129 | 129 | 92 | 111 | 35 | 71 | 98 | 122 | 115 | 141 | 118 | 107 | 74 | 123 | 105 | 104 |

(continues . . )
Discussion

We analysed policy and programme inputs identified during the multistakeholder dialogues in the 10 countries and found several common characteristics that made progress in women’s and children’s health possible.

Central to progress in all countries was the development of clear policies, strategies and technical standards, led and coordinated by the government. Countries improved coordination, set priorities, developed long-term strategies and held firm to these commitments, demonstrating strong governance at the highest level, as well as a culture of accountability towards improved use of resources. Improvements in governance were also enabled by a climate of relative political stability, which allowed policies to be maintained consistently over time and progressively improved.

Countries defined indicators, and collected, used and reviewed data for setting priorities and planning. Data were used to establish high-impact interventions that became the foundation of all programmes, policies and guidelines, and this served to maximize their impact. Countries made steady improvements in the availability of financial and human resources across all sectors. Innovative methods were also used to improve the financial protection of women and children to improve service utilization and prevent catastrophic out-of-pocket health expenditures.

There was increasing commitment to improving access to and availability of health services to a greater share of the population. Investments in infrastructure, with community involvement, served to improve the availability of primary, secondary or tertiary health-care facilities. Countries also improved the availability of human resources with investments in the training and recruitment of midwives, by task shifting and through building networks of community health workers to provide preventive care, including basic health screening, and, in some cases, case-management of childhood diseases in the community.

Improvements in sectors outside health contributed to around half the reductions in maternal and child mortality across low- and middle-income countries during the MDGs. In the 10 fast-track countries, these multisectoral improvements were driven by a variety...
Table 5. **Examples of policy and programme actions towards development successes of 10 countries with accelerated progress towards reducing child and maternal mortality**

| Country                        | Leadership and multistakeholder partnerships                                                                 | Health sector                                                                                                                                                                                                 | Sectors outside health                                                                 | Accountability for resources and results                                                                 |
|--------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Bangladesh                     | Led multi-country evaluation of integrated case management of childhood illness, leading to global scale-up of initiative. | Since 1973 country is committed to expanding rural health infrastructure to provide comprehensive services.                                                                                                      | Strategic planning increased the number of paved roads from 9704 to 17,321 over 1991–2007. Increased % of government spending on infrastructure from 4.7% in 2004 to 9.5% in 2010. | Provided wireless Internet and laptops to 12,527 community clinics and 4500 union health centres. Since 2011 health information system data demonstrate a 99% rate of reporting completeness and data internal consistency. Implemented a comprehensive surveillance and health information system. |
| Cambodia                       | Based planning on research findings into causes of newborn and child deaths; micronutrient sprinkles (single-dose supplement packets); and health financing schemes.   | Developed a midwifery training and incentive scheme. By 2013, 75% of health facilities had at least one secondary midwife (with at least 3 years of basic training).                                                 | Introduced compulsory universal free education for the first 9 years, and initiatives to improve school access for the underserved. |                                                                                                          |
| China                          | Established a policy and legal framework through a law on maternal and infant care and National Programme for Women's and Children's Development.                      | Used target responsibility agreements with service providers, for example to improve quality of care for immunization and antenatal care and achieve the related national targets.  |                                                                                          |                                                                                                          |
| Egypt                          | Used data on levels and causes of maternal mortality for planning strategies. Created national councils to strengthen rural women's participation in health and development. | Fatwa (Islamic religious ruling) issued by the Grand Mufti of Egypt in support of family planning aimed to change traditional society views. Fertility dropped from 5 children per woman in 1980 to < 3 in 2011. | Invested resources in Upper Egypt to improve access to water and sanitation.            |                                                                                                          |
| Ethiopia                       | Created a government department to support development in pastoralist areas.                                | Developed new cadres: health extension workers and non-doctor clinicians to improve access to care.                                                                                                          | Initiated multi-sectoral coordinated nutrition planning targeting the first 1000 days of life. |                                                                                                          |
| Lao People's Democratic Republic| Defined minimum package of interventions that must be delivered at each level of the health system.         | Abolished user fees so as to improve care-seeking by women and children.                                                                                                                                   | Increased public expenditure on education sixfold.                                     |                                                                                                          |
| Nepal                          | Instituted sector-wide approaches to improve donor coordination focused on national priorities.           | Increased the number of health facilities from 975 to 4000, and birthing centres from 422 to 1121.                                                                                                          | Pioneered a multisectoral and high-level coordinated national nutrition plan.          | Scaled-up maternal death surveillance and reviews.                                                     |
| Peru                           | Ministry for Women and Social Development promotes social development and equal opportunity for women and excluded groups. | Trained health staff in culturally sensitive emergency obstetric and neonatal care.                                                                                                                        | Adopted a multisectoral strategy to address poverty and socially excluded groups.     | Introduced a perinatal reporting system to track maternal and newborn deaths.                          |
| Rwanda                         | Instituted sector-wide approaches to improve donor coordination and alignment with national priorities.    | Introduced 45,000 community health workers to provide essential services.                                                                                                                                   | Developed nationwide Internet access and rapid SMS technology for community health worker reporting. | Instituted a community reporting system for births and for maternal and child deaths.                |
| Viet Nam                       | Established national technical working groups on reproductive, maternal, newborn and child health.        | Routinely updates the essential medicine list and enforces standards to maintain quality.                                                                                                                   | Invested in commune infrastructure with funding targeted to poor and marginal households. | Published national health data on a website to promote transparency and use.                          |

SMS: short message service.
of policy and programme approaches that invested in girls’ education, water and sanitation, infrastructure development, food security, and poverty reduction policies such as promoting job growth in rural populations and in industries employing women from low-income settings. Such investments also contributed to reducing socioeconomic, geographical and gender disparities. These findings reiterate the integrated and holistic approach to health and sustainable development promoted by the SDGs.

**Policy implications**

By 2015, eight of the 10 countries on track to achieving MDG 4 had done so, and four countries had achieved MDG 5A. How countries can sustain progress was not the focus of this paper, but is an important area for further research. Some initial inferences can, however, be drawn from the analysis of factors affecting countries’ progress and contextual changes since the time of the dialogues, highlighting critical challenges for the SDG era.

First, the MDGs imposed the same ambitious targets on every country, irrespective of mortality burden, resources and policy potential. Failure to achieve specific targets in 2015 does not negate the high rate of progress over the previous 20 years, and a lack of reliable data meant that progress overall was estimated. Analyses show that country-specific targets can supplement global targets to identify under- or over-performance relative to a country’s potential, and this could be helpful to track progress towards the SDGs.47

Second, while countries were initially able to lower average national rates of mortality, a challenge across all the countries was addressing inequitable access to essential, quality services, especially for people in underserved, marginalized and challenging settings. These groups tend to have higher mortality and are exposed to greater health risks, thereby slowing the overall rate of mortality reduction in a country. Further, the specific needs of adolescent girls who might have high-risk pregnancies were not included in the MDGs, nor were issues concerning adolescent health overall: issues that are central to improving health and achieving the SDGs. Equity was largely under-evaluated during the MDGs; yet equity has to be a critical concern to all countries under the universal scope of the SDG agenda and considering the aim of the global strategy to reach every woman, child and adolescent in every setting.6

Third, the epidemiology of under-five child mortality changes as mortality declines, with an increasing proportion of child deaths occurring in the neonatal period. This was another common challenge identified by the countries as a priority focus for the SDG era. Strategies to prevent neonatal deaths require improved quality of delivery and immediate care of babies after delivery, which is still limited in many countries.

Fourth, continued reductions in maternal mortality require sustained investment and improvements in access, coverage and quality of care to both prevent and manage complicated deliveries. This requires sustained investments in the development of the health workforce, health facilities and other health systems, as well as in the roads and transport to access health services, together with a reduction of financial barriers to access. Policies to strengthen health systems, including the availability of a skilled workforce, are often the most difficult to implement and sustain.

Fifth, external factors such as social, economic and environmental shocks have an important impact on how effectively programmes deliver interventions to women and children and these factors may increase the risk of death. Examples include periodic droughts in Ethiopia, the Nepal earthquake of 2015 and political unrest in Egypt and Bangladesh towards the end of the era of the MDGs.

Finally, in tracking progress, the MDGs focused on measuring reductions in maternal and child mortality without linking these to measurements of factors that contribute to mortality reductions – with around 50% of the reductions associated with the health sector and 50% with sectors outside health.47 The SDGs and the Global strategy for women’s, children’s and adolescents’ health (2016–2030)9 offer an opportunity for a more holistic and integrated approach to implementing and evaluating progress across sectors.

**Limitations**

As part of the Success Factors studies, the countries in this analysis were first selected based on their accelerated progress towards the MDGs between 1990 and 2012. If the country selection had been later, for example after the final MDG progress reports in 2015, a different set of countries might have been identified. Nevertheless, these countries had made significantly better progress than other comparable countries at a specific point in time45 and this analysis highlights how they achieved this progress. The data synthesis was constrained by the data used for the dialogues. For example, several countries preferred to use national data over international data in the dialogues as it was perceived as more relevant and reliable for country-specific policies and programmes. This limited the ability to compare quantitative data across countries. The dialogues attempted to ensure that the inputs met basic criteria for plausibility. However, limited data in some areas sometimes made it difficult to meet all the plausibility criteria.

Given the difficulties in quantifying the strength of individual policy and programme inputs and their relative contributions to improved health outcomes, we did not attempt to weight the identified strategies across countries. Thus, the impact of particular policies and programmes – the extent to which they were directly associated with observed health outcomes – was subject to interpretation, although we verified these where possible through data triangulation and consensus among stakeholders. The development of robust dialogue processes, including preparation, evidence review and explicit plausibility criteria, as described elsewhere,7 can help address some of these limitations. In all countries there is a need for better local data on country policy and programme inputs across sectors, and for better evaluation of the association of the inputs with overall health and sustainable development.

**Conclusion**

Reducing maternal and child mortality in the 10 fast-track countries can be linked to consistent and coordinated policy and programme inputs across sectors. Approaches used by successful countries have relevance to other countries looking to scale-up or accelerate progress and can inform countries’ progress towards the SDGs.9
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Melhorar o desempenho de países de renda média e média alta na implementação de ações de saúde à saúde de mulheres e crianças

O desempenho de países de renda média e média alta na implementação de ações de saúde à saúde de mulheres e crianças está altamente ligado a estratégias de planejamento e gestão, bem como ao envolvimento de várias partes interessadas. A crise de saúde pública global é um desafio significativo para países de renda média e média alta, que devem encontrar formas de melhorar o desempenho de ações de saúde à saúde de mulheres e crianças.

Analyse transnationale des stratégies pour accompagner les progrès en vue des objectifs mondiaux pour la santé de la femme et de l’enfant

Objectif: Déterminer comment dix pays à revenu faible et intermédiaire ont réussi à accompagner des progrès accélérés, vis-à-vis de pays comparables, en vue d’atteindre les objectifs 4 et 5A du Millénaire pour le développement visant à réduire la mortalité infantile et maternelle.

Méthodes: Nous avons synthétisé les conclusions de dialogues multipartites et de rapports d’orientation nationaux précédemment établis pour étudier les facteurs de succès dans les dix pays concernés. Nous avons également étudié les stratégies politiques et de programme utilisées dans ces pays.

Résultats: Les dix pays ont réussi à accompagner des progrès significatifs en vue des objectifs 4 et 5A du Millénaire pour le développement, en majorant les efforts et en utilisant des stratégies innovantes. Les résultats montrent que les dix pays ont amélioré leur performance en matière de santé de la femme et de l’enfant grâce à un meilleur engagement des autorités, à une mise en œuvre efficace des politiques et des programmes, et à une collaboration étroite avec les autres parties prenantes.
Les contributions cohérentes et coordonnées dans les différents secteurs, basées sur des interventions à fort impact, ont été évaluées. Dans le secteur de la santé, les principales stratégies politiques et de programme incluaient la définition de normes, la collecte et l'utilisation de données, l'amélioration de la protection financière et l'amélioration de l'accessibilité et de la qualité des services. En dehors du secteur de la santé, les stratégies impliquaient des investissements dans l'éducation des filles, l'eau, l'assainissement et l'hygiène, la réduction de la pauvreté, la nutrition et la sécurité alimentaire et le développement des infrastructures. Les pays ont amélioré leur responsabilisation grâce au renforcement et à l'utilisation de systèmes de données permettant de planifier et d'évaluer les progrès.

Conclusion La réduction accélérée de la mortalité maternelle et infantile dans les dix pays peut être liée à l'élaboration de politiques et de programmes cohérents et coordonnés au sein du secteur de la santé et des autres secteurs. Les approches utilisées par les pays qui enregistrent des succès présentent un intérêt pour d'autres pays cherchant à augmenter ou à accélérer les progrès en vue des objectifs de développement durable.

Резюме

Анализ реализации стратегий для продвижения по пути к достижению глобальных целей в области охраны здоровья женщин и детей в разных странах

Цель Определить, как 10 странам с низким и средним уровнем доходов удалось продемонстрировать ускоренный по сравнению с сопоставимыми странами прогресс в плане достижения целей тысячелетия 4 и 5A в области развития, сформулированных в Декларациях тысячелетия, предполагающих сокращение детской и материнской смертности.

Методы Данные, полученные из ранее проведенных диалогов с участием широкого круга заинтересованных сторон и ранее составленных отчетов о стратегических направлениях развития стран, были обобщены для изучения факторов успеха в 10 странах: Бангладеш, Вьетнам, Египет, Камбоджа, Китай, Лаосская Народно-Демократическая Республика, Непал, Перу, Руанда и Эфиопия. С помощью рамочного подхода данные из докладов стран были проанализированы и обобщены, в результате чего были сделаны выводы по теме с описаниями или объяснениями.

Результаты Успешные подходы к воплощению планов действия и программ были отнесены к четырем стратегическим областям: руководство и партнерство с большим количеством заинтересованных сторон, сфера здравоохранения, другие сферы экономики и ответственность за ресурсы и результаты. Была проведена оценка систематического и согласованного вклада из различных секторов, в основу которого были положены высокоэффективные мероприятия. В сфере здравоохранения основные стратегии планов действий и программ включали определение стандартов, сбор и применение данных, повышение финансовой защиты, а также доступности и качества услуг. В других сферах стратегии включали инвестирование в системы образования для девочек, водоснабжение и область санитарии и гигиены, сокращение масштабов бедности, обеспечение продовольственной безопасности и безопасности питания и развитие инфраструктуры. Усиление механизмов подотчетности в странах было достигнуто за счет совершенствования и использования систем данных для планирования и анализа хода развития.

Вывод Снижение уровней материнской и детской смертности в 10 странах, демонстрирующих ускоренный прогресс, может быть связан с систематическим и согласованным вкладом в результате реализации стратегических планов и программ, в сфере здравоохранения и другие сферы. Подходы, которые использовали достижшие успеха страны, могут быть применены в других странах, стремящихся ускорить продвижение по пути к достижению целей в области устойчивого развития.

Resumen

Análisis transnacionales de las estrategias de progreso hacia objetivos mundiales para la salud de las mujeres y los niños

Objetivo Identificar el modo en que diez países con ingresos bajos y medios han logrado un progreso acelerado, por delante de países comparables, camino de cumplir los objetivos de desarrollo del milenio 4 y 5A para reducir la mortalidad infantil y materna.

Métodos Se sintetizaron los resultados de diálogos entre varias partes y los informes de políticas de países redactados anteriormente en relación con los estudios de los factores de éxito en los diez países: Bangladesh, Camboya, China, Egipto, Etiopía, Nepal, Perú, República Democrática Popular Lao, Rwanda y Viet Nam. Se utilizó un enfoque de marco para analizar y sintetizar los datos de los informes de países, lo que dio lugar a conclusiones descriptivas o explicativas por tema.

Resultados Se categorizaron los enfoques de programas y políticas que tuvieron éxito en cuatro áreas estratégicas: alianzas de liderazgo y de varias partes interesadas; sector sanitario; sectores no sanitarios; y contabilidad de recursos y resultados. Se evaluaron las contribuciones coherentes y coordinadas en todos los sectores, en base a las intervenciones con gran impacto. Dentro del sector sanitario, las estrategias fundamentales de programas y políticas incluyeron la definición de estándares, la recopilación y el uso de datos, la mejora de la protección financiera y la mejora de la disponibilidad y calidad de los servicios. Fuera del sector sanitario, las estrategias incluyeron la inversión en la educación de niñas, agua, saneamiento e higiene, reducción de la pobreza, nutrición y seguridad alimentaria, y desarrollo de infraestructuras. Los países mejoraron su contabilidad consolidando y utilizando sistemas de datos para el progreso de planificación y evaluación.

Conclusión La reducción de la mortalidad materna e infantil en los diez países de vía rápida puede estar relacionada con las contribuciones coherentes y coordinadas de programas y políticas, tanto en el sector sanitario como en otros. Los enfoques utilizados por los países que han tenido éxito son relevantes para otros países que buscan aumentar y acelerar el progreso hacia los objetivos de desarrollo sostenible.
References

1. Levels and trends in child mortality: report 2015. Estimates developed by the UN Inter-agency Group for Child Mortality Estimation. Geneva: United Nations Children's Fund; 2015.

2. Trends in maternal mortality: 1990 to 2015. Estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. Geneva: World Health Organization; 2015.

3. Countdown to 2015: Building a future for women and children: the 2012 report. Geneva: World Health Organization and United Nations Children's Fund, 2012.

4. Partnership for Maternal Newborn and Child Health, World Health Organization, World Bank, Alliance for Health Policy and Systems Research. Success factors for women's and children's health: internet. Geneva: World Health Organization; 2014.

5. Kuruvilla S, Schweitzer J, Bishai D, Chowdhury S, Caramani D, Frost L, et al.; Success factors for reducing maternal and child mortality. Bull World Health Organ. 2014 Jul 1;92(7):533–48. doi: http://dx.doi.org/10.2471/BLT.14.138131 PMID: 25110379

6. Global Strategy for Women’s, Children’s and Adolescents’ Health (2016–2030). New York: Every Woman Every Child, 2015.

7. Frost L, Hinton R, Pratt B, Murray J, Arcott-Mills S, Jack S, et al. Using multi-country success stories, policies, programmes and progress for women’s, children’s and adolescents’ health. Bull World Health Organ. 2016 May 1;94(5):393–395.

8. Gale NK, Heath G, Cameron E, Rashid S, Redwood S. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. BMC Med Res Methodol. 2013;13(1):117. doi: http://dx.doi.org/10.1186/1471-2288-13-117 PMID: 23407204

9. Gale N, Sultan H. Telehealth as ‘peace of mind’: embodiment, emotions and the home as the primary health space for people with chronic obstructive pulmonary disorder. Health Place. 2013 May;21(0):140–7. doi: http://dx.doi.org/10.1016/j.healthplace.2013.01.006 PMID: 23474353

10. A policy guide for implementing essential interventions for reproductive, maternal, newborn and child health (RMNCH): a multisectoral policy compendium for RMNCH. Geneva: World Health Organization; 2013.

11. Worldwide governance indicators: country data report for Rwanda, 1996–2012. Worldwide Governance Indicators: country report Nepal [internet]. Washington: World Bank; 2013.

12. Worldwide governance indicators: country report Ethiopia [internet]. Worldwide Governance Indicators: country report Ethiopia [internet]. Geneva: World Health Organization; 2014.

13. Worldwide governance indicators: country report Cambodia. Worldwide governance indicators: country report Cambodia. Geneva: World Health Organization; 2014.

14. Ministry of Health and Family Welfare Bangladesh, Partnership for Maternal Newborn and Child Health, World Health Organization, World Bank, Alliance for Health Policy and Systems Research. Success factors for women’s and children’s health: Bangladesh. Geneva: World Health Organization; 2014.

15. Ministry of Health and Family Welfare Bangladesh, Partnership for Maternal Newborn and Child Health, World Health Organization, World Bank, Alliance for Health Policy and Systems Research. Success factors for women’s and children’s health: Bangladesh. Geneva: World Health Organization; 2014.

16. Ministry of Health and Family Welfare Bangladesh, Partnership for Maternal Newborn and Child Health, World Health Organization, World Bank, Alliance for Health Policy and Systems Research. Success factors for women’s and children’s health: Bangladesh. Geneva: World Health Organization; 2014.

17. Ministry of Health and Family Welfare Bangladesh, Partnership for Maternal Newborn and Child Health, World Health Organization, World Bank, Alliance for Health Policy and Systems Research. Success factors for women’s and children’s health: Bangladesh. Geneva: World Health Organization; 2014.

18. Millennium development goals progress report Lao PDR. New York: United Nations; 2013.

19. Worldwide governance indicators: country report Nepal [internet]. Washington: World Bank; 2013.

20. World development indicators [internet]. Washington: World Bank; c1990–2015.

21. Ministry of Health Cambodia, Partnership for Maternal Newborn and Child Health, World Health Organization, World Bank, Alliance for Health Policy and Systems Research. Success factors for women’s and children’s health: Cambodia. Geneva: World Health Organization; 2014.

22. Ministry of Health Cambodia, Partnership for Maternal Newborn and Child Health, World Health Organization, World Bank, Alliance for Health Policy and Systems Research. Success factors for women’s and children’s health: Cambodia. Geneva: World Health Organization; 2014.

23. Ministry of Health Cambodia, Partnership for Maternal Newborn and Child Health, World Health Organization, World Bank, Alliance for Health Policy and Systems Research. Success factors for women’s and children’s health: Cambodia. Geneva: World Health Organization; 2014.

24. Ministry of Health Rwanda, Partnership for Maternal Newborn and Child Health, World Health Organization, World Bank, Alliance for Health Policy and Systems Research. Success factors for women’s and children’s health: Rwanda. Geneva: World Health Organization; 2014.

25. Annual health report of Nepal 2067/68 (2010/2011). Kathmandu: Department of Health Services, 2012.

26. Pandey MR, Daulaire NM, Starbuck ES, Houston RM, McPherson K. Reduction in total under-five mortality in western Nepal through community-based antimicrobial treatment of pneumonia. Lancet. 1991 Oct 19;338(8733):993–7. doi: http://dx.doi.org/10.1016/S0140-6736(91)91847-N PMID: 1681351

27. Global health observatory data repository. Health expenditure per capita, all countries selected years. Estimates by country [internet]. Geneva: World Health Organization; 2015.

28. China’s progress towards the millennium development goals 2013 report. Beijing: Ministry of Foreign Affairs of the People’s Republic of China; 2013.

29. Fujita N, Abe K, Rotem A, Tung R, Keat P, Robins A, et al. Addressing the human resources crisis: a case study of Cambodia’s efforts to reduce maternal mortality (1980–2012). BMJ Open. 2013;3(5):e002685. doi: http://dx.doi.org/10.1136/bmjopen-2013-002685 PMID: 23674466

30. National health statistics annual report [internet]. Beijing: National Health and Family Planning Commission of Peoples Republic of China; 2013.

31. Kayongo M, Eschique E, Luna MR, Fris G, Vega-Centeno L, Bailey P. Strengthening emergency obstetric care in Ayacucho, Peru. Int J Gynaecol Obstet. 2006 Mar;92(3):299–307. doi: http://dx.doi.org/10.1016/j.ijgo.2005.12.005 PMID: 16442113

32. Chanal L, Dawson P, Silwal RC, Sharma J, KNP, Upsher SR. Exploration and innovation in addressing maternal, infant and neonatal mortality. J Nepal Health Res Counc. 2012 May;10(2):88–94. http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=23043668&dopt=Abstract PMID: 23043668

33. Rwanda. In: The state of the world’s midwifery 2011. A universal pathway, a woman’s right to health. New York: United Nations Population Fund; 2012.

34. White HH. Maintaining momentum to 2015? An impact evaluation of interventions to improve maternal and child health and nutrition in Bangladesh. Washington: World Bank; 2005. doi: http://dx.doi.org/10.1596/0-8213-6376-X

35. Annual health report 2011. Phnom Penh: Ministry of Health of Cambodia, 2012.

36. Raynor J, Wesson K. The girls’ stipend program in Bangladesh. J Educ Int Dev. 2006;2(2):1–12.

37. Rwanda vision 2020. Kigali: Ministry of Finance and Economic Planning Rwanda, 2000.

38. Women and girls in Bangladesh. Dhaka: United Nations Children’s Fund Bangladesh, 2010.

39. Achieving Cambodia’s millennium development goals: update 2011. Phnom Penh: Ministry of Planning Cambodia; 2011.

40. Where have all the poor gone? Cambodia poverty assessment, 2013. Washington: World Bank; 2014.

41. National Health and Family Planning Commission, Partnership for Maternal Newborn & Child Health, World Health Organization, World Bank, Alliance for Health Policy and Systems Research. Success factors for women’s and children’s health: China. Geneva: World Health Organization; 2014.

42. Third health sector strategic plan (HSP III) July 2012–June 2018. Kigali: Ministry of Health, 2014.

43. Country accountability framework assessment, Egypt. Geneva: World Health Organization; 2012.

44. Birth registration in Bangladesh. Dhaka: United Nations Children’s Fund Bangladesh, 2010.

45. Millennium development goals 2010 national report. Hanoi: Ministry of Planning and Investment Vietnam, 2010.

46. Lao PDR country accountability framework. Geneva: World Health Organization, 2012.

47. Ayatollahi H, Bath PA, Goodacre S. Factors influencing the use of IIT in the emergency department: a qualitative study. Health Informatics J. 2010 Sep;16(3):189–200. doi: http://dx.doi.org/10.1177/1440164410377480 PMID: 20889849

48. Bishai DM, Cohen R, Alfonso YN, Adam T, Kuruvilla S, Schwartzet J. Factors contributing to maternal and child mortality reductions in 146 low- and middle-income countries between 1990 and 2010. PLoS ONE. 2016;11(1):e0144908. doi: http://dx.doi.org/10.1186/s11699-014-0086-7 PMID: 25270882

49. Cohen R, Alfonso YN, Adam T, Kuruvilla S, Schwartzet J. Bishai D. Country progress towards the millennium development goals: adjusting for socioeconomic factors reveals greater progress and new challenges. Global Health. 2014;10(67):67. doi: http://dx.doi.org/10.1371/journal.pone.0144908 PMID: 25678359