ACTING ON THE CALL

ENDING PREVENTABLE CHILD AND MATERNAL DEATHS: A FOCUS ON HEALTH SYSTEMS

MAY 2017

USAID
FROM THE AMERICAN PEOPLE

We would like to acknowledge the contributions of the United Nations Children's Fund (UNICEF) for their time and energy spent developing the EQUIST tool and running the analysis that is the substance of the modeling on the country pages found in this report.

Cover Photo: Kate Holt/MCSP

FOREWORD

Jennifer Adams, Acting Child and Maternal Survival Coordinator
Elizabeth Fox, Deputy Child and Maternal Survival Coordinator

Five years ago, global leaders convened in Washington, D.C. to start a movement to end preventable child and maternal deaths. Over 650 organizations—including 177 governments, 247 faith-based organizations, and 241 civil society organizations—signed a pledge to accelerate their efforts to ensure that no child is robbed of the chance to see his or her fifth birthday.

Since then, we've seen incredible progress. In our priority countries, gross domestic product has increased on average 6% since 2008, while government health expenditures have increased by 10 percent. Countries are addressing the health needs of their citizens and increasing their support to health.

We've continued the global momentum around this effort. In 2014, the U.S. Agency for International Development (USAID), along with the Governments of Ethiopia and India, in collaboration with UNICEF, hosted an event to bring together country governments to recount progress and assess next steps.

We also released our first annual *Acting on the Call* report, which is an analysis-driven roadmap articulating how USAID will follow through on the 2012 goal to end preventable deaths. The 2014 *Acting on the Call* report showed that by scaling up proven, high-impact interventions and making data-driven decisions and targeted investments, we could work with partners to save the lives of 15 million children and 600,000 women between 2012 and 2020.

In 2015, at an event hosted in India, we released a second *Acting on the Call* report to recount progress and focus on increasing access to quality care for women. In 2016, the third annual report again showed progress and identified how that progress could be further accelerated by focusing our efforts on the poorest 40 percent of the population.

This year, we are pleased to present our fourth annual *Acting on the Call* report. In our continued efforts to strengthen programs, the report demonstrates the importance of strong health systems. The report outlines how country scale up of evidence-based health activities across the core functions of health systems will contribute to saving the lives of 5.6 million children and 260,00 women from 2016-2020, and help achieve our ambitious 2014 goal.

In the past year alone, we've seen incredible progress. Burma, our newest priority country, completed its first ever Demographic Health Survey, which will provide data to prioritize and inform health efforts. In Mali, 13,444 babies suffering from lack of oxygen at birth were resuscitated and saved by health care workers trained through the Helping Babies Breathe partnership.

We are excited about our ongoing work to strengthen health systems and help country health programs be more effective and sustainable. In Afghanistan, we've worked with the government on a tool that tracks health spending, which will allow the country's decision-makers to better plan financially for the future. In Ghana, we're working to determine which routes are best to transfer medicines from regional stores to rural facilities and eventually patients.

Healthy women and children are one of the best indicators of national stability and progress. By working with countries to build strong health systems, we are helping to build and maintain resilience and security for the U.S. and around the world.

USAID'S IMPACT SINCE THE 2012 CALL TO ACTION

In 2016, USAID helped 82 million women and children access essential health services.

13.1M
health workers trained in maternal and child health and nutrition

5.9M
women gave birth in a health facility

6.4M
newborns reached with care after delivery

69.5M
treatments provided to children for diarrhea and pneumonia

25.3M
children vaccinated against deadly preventable diseases

5.6B
liters of water treated for consumption

27M
women reached with voluntary family planning services, annually

>12M
children reached with nutrition programs, annually

Photo: Adam Parr/USAID

ACTING ON THE CALL

Ending Preventable Child and Maternal Deaths: A Focus on Health Systems

May 2017

CONTENTS

Photo: Kate Holt/MCSP

ACRONYMS

ANC Antenatal Care

AOTC *Acting on the Call*

ACT Artemisinin-based Combination Therapy

ANC Antenatal Care

ARI Acute Respiratory Infection

CHW Community Health Workers

CLTS Community-Led Total Sanitation

DHS Demographic and Health Survey

DNCC District Nutrition Coordination Committee

DT Dispersible Tablet

EmONC Emergency Obstetric and Newborn Care

EPCMD Ending Preventable Child and Maternal Deaths

EQUIST EQUitable Impact Sensitive Tool

FP Family Planning

GNI Gross National Income

HCD Human Centered Design

HRH Human Resources for Health

HRHIS Human Resources for Health Information System

HRIS Human Resource Information Systems

HSAA Health Systems Assessment Approach

HSBT Health Systems Benchmarking Tool

HSS Health Systems Strengthening

iCCM Integrated Community Case Management

ITN Insecticide-treated Mosquito Nets

LiST Lives Saved Tool

MCPR Modern Contraceptive Prevalence Rate

MNCH Maternal, Newborn, and Child Health

MOH Ministry of Health

MOU Memorandums of Understanding

MOUD Ministry of Urban Development

NHWA National Health Workforce Accounts

ODF Open Defecation Free

ORS Oral Rehydration Solution

PMI President's Malaria Initiative

PPH Postpartum Hemorrhage

PSE Private Sector Engagement

RDT Rapid Diagnostic Test

REC Reaching Every Child/Community

RMNCH Reproductive, Maternal, Newborn, and Child and Adolescent Health

SBA Skilled Birth Attendant

SBC Social and Behavior Change

SBM *Swachh Bharat Mission*

TBA Traditional Birth Attendant

TMA Total Market Approach

UNICEF United Nations Children's Fund

USAID U.S. Agency for International Development

WASH Water, Sanitation and Hygiene

WHO World Health Organization

INTRODUCTION

Health systems are the backbone of our efforts to save lives. While the connections between health systems and health outcomes make intuitive sense in the global health space, health systems strengthening (HSS) interventions have often been thought of as too far removed from health outcomes to establish a direct linkage.

USAID values and believes in health systems. Like the concept of a medical home, which is a team-based approach to delivering comprehensive and continuous medical care centered around the needs of the patient, health systems strengthening brings together the community of people that work on health within a country. It promotes population level health outcomes by making health systems more efficient, resilient, and sustainable.

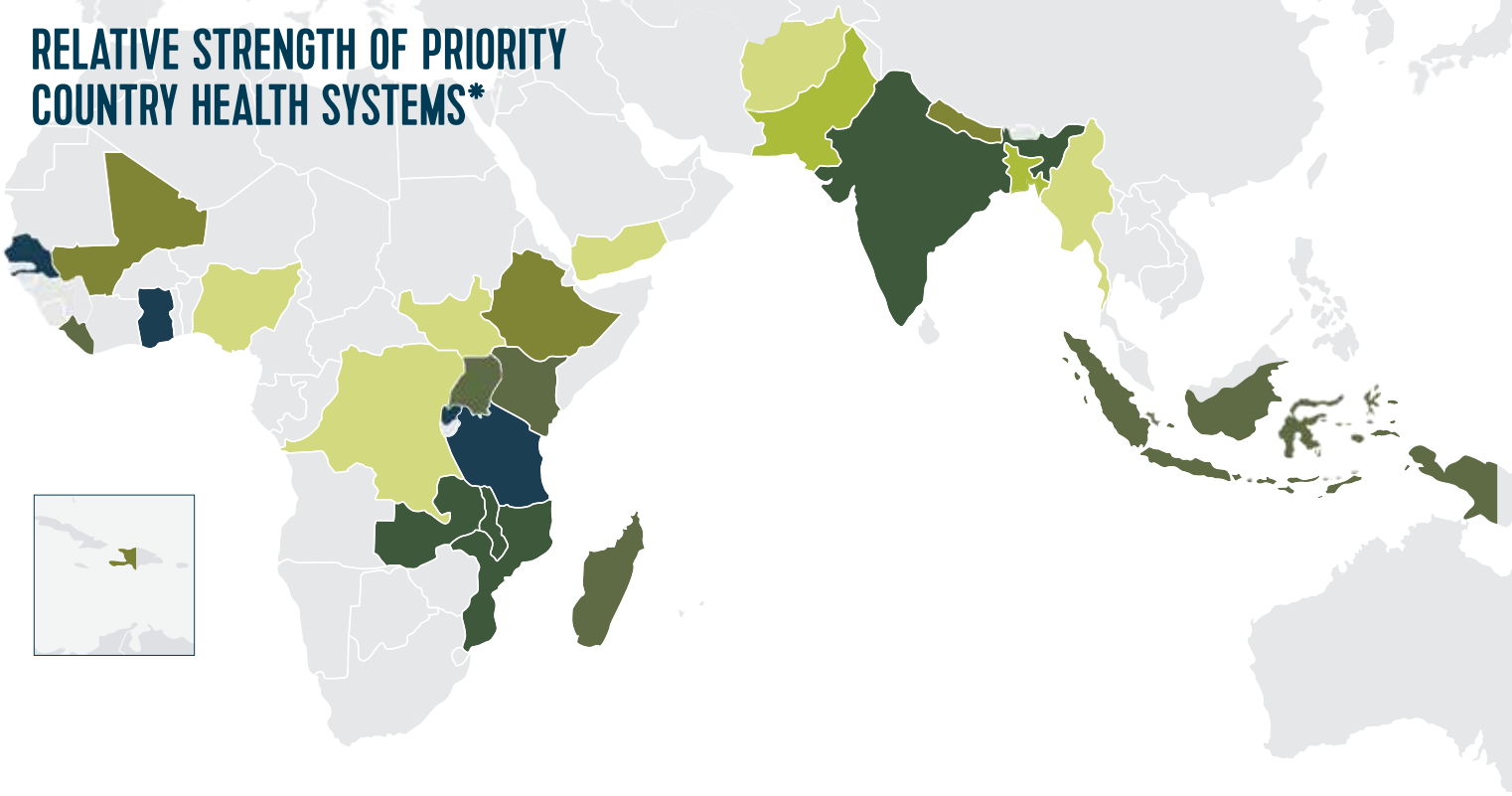
For the first time—through the combined efforts of USAID and UNICEF—this report provides quantitative estimates of the value of investing in strengthening health systems in terms of the lives that will be saved. In previous *Acting on the Call* reports, we imagined a world where countries could scale up high impact maternal and child health interventions at rates equal to those previously achieved by "best performers." Now we show how the scale-up of health systems interventions, chosen for their country-specific feasibility, are an essential element of achieving those ambitious outcomes.

On the following country pages, you will see the impact of these health systems interventions. The horizontal bar chart, labeled "Scaling Up Health Systems Activities" on each country page, shows this modeling. It demonstrates the possible lives saved by health systems interventions that are scaled up throughout the country. The modeling reflects input from country teams that takes into account the feasibility of each health system intervention. These results are produced by determining the effect that each health systems strengthening intervention has on reducing key bottlenecks for patients to access different categories of care: care for childhood illness, delivery care, preventive care, and community-based practices. The distribution of the lives saved by each of these categories is shown in the next graph.

Finally, we look at the 2016 *Acting on the Call* report findings and show how health systems interventions can remove bottlenecks to the interventions that we identified as most needed to increase equity and reach the unreached. We demonstrate how addressing bottlenecks impacts the delivery of health care across the quality continuum, improving access to and quality of basic health services—ultimately ensuring that as many people as possible receive high quality care. Strengthening health systems allows us to ensure more people access basic levels of care while also helping us improve the quality of care for those who already have some access.

Following the country pages, we explore in depth how different health systems interventions impact various aspects of USAID's effort to save women and children.

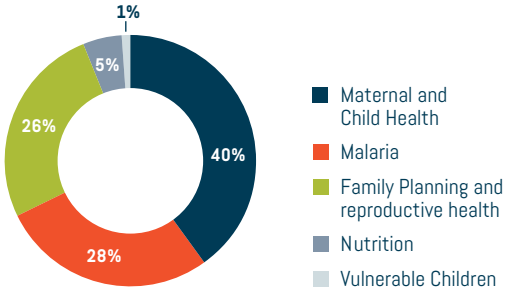
RELATIVE STRENGTH OF PRIORITY COUNTRY HEALTH SYSTEMS*



RELATIVELY WEAKER HEALTH SYSTEM — RELATIVELY STRONGER HEALTH SYSTEM

* Strength of a country health system determined based on out of pocket expenditure, human resource density, and country governance and institutional capacity."

ENDING PREVENTABLE CHILD AND MATERNAL DEATHS
TOTAL 2012-2016: $11,896



DEPARTMENT OF STATE AND USAID	2012 Fiscal Year	2013 Fiscal Year	2014 Fiscal Year	2015 Fiscal Year	2016 Fiscal Year	Total
($ MILLIONS)	**8,599**	**8,420**	**8,826**	**9,277**	**8,841**	**43,963**
ENDING PREVENTABLE CHILD AND MATERNAL DEATHS	2,285	2,262	2,398	2,534	2,417	11,896
CREATING AN AIDS FREE GENERATION	5,893	5,773	6,000	6,000	6,000	29,666
PROTECTING COMMUNITIES FROM INFECTIOUS DISEASES	421	385	428	743*	424	2,401

* Includes investment for Ebola

STRONG HEALTH SYSTEMS SAVE LIVES

Liberia has been burdened by civil war; a high prevalence of malaria, diarrheal disease, and pneumonia; shortages in human resources and health care facilities; and stock-outs of essential medicines and supplies. During the 2014-2015 Ebola outbreak, Liberia's health system struggled to simultaneously manage the outbreak and maintain access to routine health care services. During the Ebola epidemic, primary health care services came to a halt: Many facilities were no longer open for routine services such as deliveries or care for childhood illnesses or did not have the staff available to attend to routine services. When services were available, the public did not trust that they would be safe from contracting Ebola if they visited these facilities so they stopped seeking health services.

By November 2014, only 44 percent of health facilities nationwide were functioning. The Ebola outbreak interrupted progress in health system development and decimated the health workforce, which was already challenged to meet demands. Progress on all maternal and child survival efforts worsened as access to services and supplies became severely limited.

The Ebola outbreak infected up to 10,666 Liberians,[1] claiming the lives of 4,806. In the health workforce, 372 people contracted Ebola and 180 died from the disease. The impact of Ebola on health workers contributed to enduring setbacks in primary care coverage and availability of health services.

Liberia struggled to improve health outcomes even before Ebola. The majority of the population had to travel more than one hour to the nearest health facility. Only 56 percent of deliveries took place in a health facility. When Ebola hit, deliveries in health facilities dropped to 38 percent and the maternal mortality ratio shot up from 640 deaths per 100,000 live births in 2013 to 725 deaths in 2015. Many of those deaths could have been avoided if women had trust in the health system and its ability to provide them with essential services.

In response to the Ebola outbreak, USAID and partners worked to restore essential health services and rebuild the health system. USAID and the Government of Liberia are training health facility staff and community health volunteers. USAID is supporting community dialogues in six counties that bring together health workers and community members to build trust, compassion, and unity in order to prevent future disease outbreaks and improve the health of the communities. USAID's work to help the Government of Liberia to procure, store, and deliver commodities, ensure health workers are being compensated, rehabilitate health facilities, and provide services for Ebola survivors is all done with an eye toward long term sustainability and resilience to future shocks. USAID and the Government of Liberia expect these efforts will renew confidence in the Liberian health system.

To date, USAID has trained 823 staff in 77 health facilities in three of the most affected counties. Additionally, each facility received essential medicines and basic infection prevention and control supplies like gloves, antiseptics, water buckets, hand sanitizing gel, and biohazard bags. Between April 2016 and June 2016 these facilities saw 3,089 total deliveries by skilled birth attendants and 11,791 antenatal care (ANC) visits by skilled providers. Between July 2016 and September 2016, 152,037 people sought health-related services in the 77 health facilities, which is a 25 percent increase compared with the number of people seeking services during that window in 2015.

[1] 3,151 confirmed cases, 1,879 probable cases, 5,636 suspected cases

Photo: Kate Holt/MCSP

Janet Tavies, a traditional birth attendant, talks to patients about the importance of delivering their babies in the health center in Bassa County, Liberia. Janet has participated in ongoing training with USAID, most recently an infection prevention training during the Ebola outbreak in 2014.

Liberia demonstrates both the challenges created by weak health systems and the opportunities that can result from strengthening health systems. USAID will be unable to achieve our goal to save 15 million child lives and 600,000 maternal lives without ensuring that our efforts contribute to strong and resilient health systems.

Strong health systems not only help to sustain programs and interventions and guard against shocks, but they also enable the equity-based approach outlined in the 2016 *Acting on the Call* report. To date, USAID has focused our roadmap for achieving an end to preventable child and maternal deaths on increasing access to an essential package of high-quality and life-saving prevention, promotion, treatment, and care services, which contribute the most to ending preventable child and maternal deaths. In our 2016 report, we identified how expanding coverage of these services to those in the bottom wealth quintiles could facilitate and accelerate our progress. Now, we further expand on our previous work to demonstrate the importance of a full range of health systems interventions that enable delivery of the essential package of services and ensure that those services are effective by addressing issues of quality and reach for the most underserved and high need populations.

Another benefit of our health systems strengthening efforts is that we seek to protect people from being financially burdened from seeking

Photo: Allan Gichigi/MCSP

Photo: Syane Luntungan/USAID EMAS

and using needed health services. People should be able to access needed services with confidence that the services will be effective and that they will be treated with dignity, confidentiality, and autonomy.

USAID implements health systems strengthening activities with the recognition that the private sector and communities play important roles which must be leveraged and that prevention and promotion activities are important to accelerating progress toward meeting our goals. Private sector engagement includes private philanthropy, corporate social responsibility, and health service delivery. Community engagement in health and local systems is important in support of national policies, such as decentralization and achieving equity in health services delivery. Prevention and promotion are vital for achieving health improvements. As part of our health systems strengthening (HSS) efforts, USAID helps countries build the capacity to oversee and lead health promotion activities as part of the country health system.

A systems approach

Because effective service delivery and achievement of health outcomes occurs across a range of settings, USAID implements a variety of activities to support and strengthen the health system to ensure impact through improved outcomes and better protection from financial hardship.

Since 2007, the World Health Organization (WHO) health systems building blocks have helped the global community better understand and describe health systems strengthening efforts. USAID recognizes that the building blocks are useful for describing and categorizing HSS activities; however, efforts to strengthen health systems often integrate and cut across the different building blocks (Figure 1).

A "systems-thinking" approach enables USAID to focus on and understand the links and interactions between core functions and to analyze how they come together to impact maternal and child survival. A gap in human resources, for example, may require solutions in one or more areas of the health systems, including improved financing, better information systems, policy changes, or improvements in education and training.

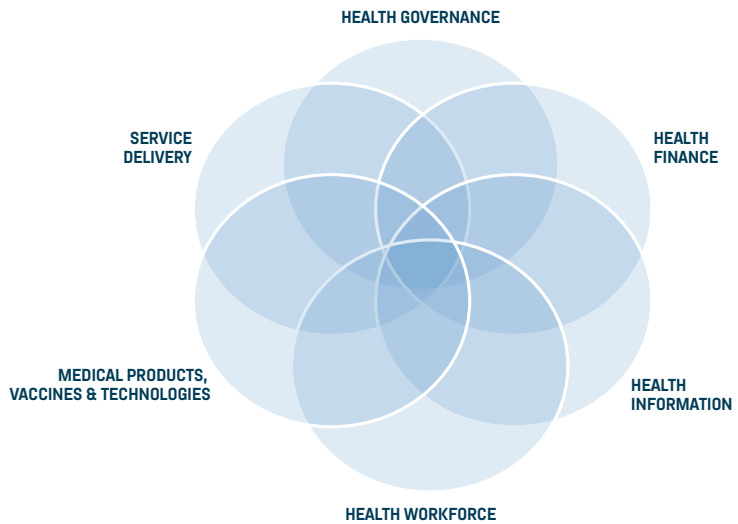
By using systems thinking, USAID is able to take a deliberate and focused approach to seemingly complex problems, taking advantage of natural synergies and interactions for more effective outcomes. Through the use of systems-thinking tools and approaches, practitioners and policy makers can design programs based on a more complete understanding of system dynamics and ensure that programs are effectively targeting maternal and child survival.

USAID may also invest in discrete inputs, such as commodities and infrastructure, to support the resilience and sustainability of a health system and enhance its ability to improve health outcomes in both the community and facility. While we recognize that these "system support" activities can be important stepping stones to system-wide improvements, we aim to design and implement them so that they contribute to country-owned sustainable and systemic impact—and therefore contribute to the creation of resilient systems that help accelerate progress toward our maternal and child survival goals.

For example, in the wake of Ebola in Liberia, incentivizing health workers to return to work was of utmost importance to restart services. The imperative of restarting services meant

FIGURE 1: **WHO HEALTH SYSTEMS BUILDING BLOCKS**

Interventions focused on the Health Systems Core Functions and the interactions between those functions lead to systemic and sustainable improvements in the performance of the health system.



that USAID chose to provide salary support while also working to ensure that this support includes a transition plan aligned with national labor policy, local labor market considerations, and capacity building activities in the area of Human Resources for Health (HRH) management. Similarly, some aspects of maternal and child survival are dependent on the availability of medical products. When USAID identifies a need to donate these products in order to achieve our objectives, we do so in conjunction with capacity building interventions such as forecasting, purchasing, storage, and delivery of the commodities through a supply chain to health workers and patients.

Where there is no urgent need to jump start service delivery, USAID's system-thinking approach aims to improve the availability, accessibility, and quality of services while doing so in an equitable and sustainable way. Some examples of USAID work that have emerged from a systems-thinking approach include:

- USAID's Health Systems Assessment Approach (HSAA),[1] a rapid assessment approach that promotes inclusive and participatory assessment of the health system and integrates systems-thinking tools as a core part of the methodology. USAID works in collaboration with ministries of health to design and implement HSAA, and the results are used to inform country-level health policy, strategy, and planning toward more effective health system performance.
- USAID improves the quality of data to improve decision-making related to the health workforce. National Health Workforce Accounts (NHWA) are an integrated approach to the collection of health workforce information. By articulating a standard set of workforce indicators aligned with the labor market, data is consistent and can be compared across countries and regions while informing financing and deployment of the health workforce and enabling more informed workforce decision-making.
- Along with increased use of NHWA, USAID is also examining Human Resource Information Systems (HRIS) including database structure, data collection platforms, data quality, and the interoperability among existing systems. Results of this information will highlight areas where data is reliable or needs improvement.

Innovation

Alongside efforts to strengthen systems, product developers and health-system practitioners are developing innovations that hold great promise for overcoming barriers to care for women and children.[2] These innovations can play a powerful role in mitigating health system weaknesses.

One of the most powerful innovations for improving health systems will come in the area of data management. Digitization of data will have a dramatic impact on the ability of health practitioners and system managers to identify and troubleshoot bottlenecks, strengthen supply chain and commodity security, and plan for improved service delivery. For example, in August 2016, USAID released the Health Systems Benchmarking Tool (HSBT) to help standardize the process of tracking health indicators related to maternal and child survival, among others. The HSBT is designed to assist country policy makers, managers, and donors to measure, compare, analyze, and make planning decisions for health systems of low and middle-income countries.[3]

New, effective biomedical technologies, such as vaccines, drugs, contraceptives, devices, and diagnostics that are designed specifically for use in low-resource settings, will provide health practitioners with tools for prevention, detection, and treatment. Oxytocin, a drug to prevent severe bleeding after birth, is currently unavailable to many women, especially in remote areas, because it needs to be transported and stored under refrigeration, as well as administered by trained health professionals. *Saving Lives at Birth: A Grand Challenge for Development* has funded several innovations that attempt to develop and bring innovative oxytocin solutions to market including a low-cost, heat-stable, needle-free, and fast-dissolving tablet formulation as well as an inhaled variety. A recent study published by PATH, *Harnessing the Power of Innovation to Save Mothers and Children*, modeled the impact of heat-stable, needle-free formulations of oxytocin and estimated that this innovation could save as many as 58,890 lives by 2030.[4] The study modeled 11 women- and child-focused innovations and the contribution they could make toward USAID's targets to end preventable child and maternal deaths. The analysis estimated that 6.6 million mothers and children could be saved in priority countries between 2016 and 2030 if these 11 innovations alone were scaled up.

New products will have significant impact on the efficiency and effectiveness of health systems to achieve better health outcomes where no tool currently exists, or if new products better address client needs. USAID supports inclusion

Photo: Kate Holt/MCSP

Health Data Collaborative:

The Health Data Collaborative (HDC) is a multi-partner initiative launched in March 2016 which seeks to address the problem that uncoordinated investments by governments, donors, and development organizations have resulted in fragmented and often weak health information systems. Under the leadership of national Ministries of Health (MOH), the HDC helps align development funding to more efficiently support country capacity in generating, analyzing, and using health data, which is essential for achieving the health-related sustainable development goals.

In May 2016, Kenya's MOH launched the Kenya Health Data Collaborative. Representatives from national and county governments, development partners, faith-based organizations, private sector organizations, and civil society signed a joint statement of commitment to support a unified "One M&E Framework" that encourages universal access to primary health care. They developed a detailed roadmap that focuses on data analytics, quality of care, a new national health data observatory, and improved civil registration and vital statistics.

In Malawi, the MOH and HDC partners are supporting the integration of the national monitoring and evaluation (M&E) strategy into the overall Health Systems Strategic Plan. They are also building capacity for data analysis and interpretation and employing new communications tools. These concrete actions are enhancing local capacity to analyze and use data, and promote informed decision-making to support maternal and child health programs.

into government systems and introduction into health systems, via pilot programs in select countries, of four new contraceptives: the Progesterone Vaginal Ring, exclusively for breastfeeding women; the SILCS diaphragm, (branded as the Caya® contoured diaphragm), and the Woman's Condom, for women who prefer non-hormonal methods; and the LNG-IUS, also known as Mirena®, for women who prefer a long-acting method with fewer side-effects.

Innovations, designed for and fully integrated into health care systems, can reduce mortality and morbidity, increase cost effectiveness and availability of financial and human resources, and expand access to care.[5] Rapid adoption and scale of health innovations is critical to ensuring these benefits are realized for end users and systems. Evidence-informed guidance and policies to improve health system receptiveness will enable innovations to be introduced and successfully used[6] to help end preventable child and maternal deaths.

Identifying Bottlenecks

In the first *Acting on the Call* report in 2014, USAID, working with UNICEF, identified key bottlenecks that would need to be addressed to save 15 million children and 600,000 women. In that report, UNICEF identified key interventions that needed to be scaled up to accelerate progress in under-5 and maternal mortality are most often, and most effectively, delivered in a range of settings. Within each setting, delivery of interventions is challenged by bottlenecks related to the functioning of the health system.

At the community level, community based practices such as water supply, sanitation, and hygiene, breastfeeding, and appropriate use of bednets are most often challenged by the prevailing social norms, which may run counter to approaches suggested by evidence. This leads to low uptake of interventions and negative health outcomes. Quality of care may be an issue when interventions, such as care for childhood illness, are driven at the community level. USAID works to overcome these bottlenecks at the community level by understanding and acknowledging that communities themselves function as a system of members and health service delivery should seek to work within this system and link it to the overall health system.

A second delivery setting for key maternal and child health interventions, such as delivery care for both women and newborns, occur at health facilities and clinics. Many of the interventions within this category require specific inputs, which may not be available in the community, such as important medicines or specialized equipment and technology for delivery or newborn care. These services are dependent on supply side factors and can be the most significant cause of bottlenecks when there are shortages of commodities, trained staff, or other inputs that play a key role in delivering these services. Additionally, the distance that patients need to travel to receive the service can be a major bottleneck.

A final set of interventions may bridge the gap between facilities and communities. Preventive care, such as family planning, antenatal care, and immunization services often includes outreach or schedulable services, which require the support of a health facility but can be delivered in communities through outreach efforts. These services have a unique set of bottlenecks: while issues of distance may cause challenges similar to those faced with community based services, they also tend to rely on commodities and inputs such as vaccines or transportation from the community to facility. More so than other categories of services, these services are reliant on health system management capability to adequately plan for, budget for, and schedule the services.

Community Health Systems

Approximately 2.4 million maternal, perinatal, neonatal, and child deaths would be averted annually if the complete package of evidence-based interventions that can be provided at the community level reached all who need them.[7]

Health and community systems are two dynamic and overlapping systems that both independently contribute to improving health. A community health system is the set of local actors, roles, relationships, and processes engaged in producing, advocating for, and supporting health in communities and households that exist outside of, but are related to, formal health structures.

There is a growing recognition of the need for effective partnerships between communities and health systems to achieve and sustain impact.[8] These partnerships should integrate and expand community engagement as part of health systems strengthening strategies in national and local policies and implementation plans.

Community engagement in the health system contributes to: improved population level health outcomes with equity and at low cost; improved performance, reach, and responsiveness of systems; and sustainable development benefits through governance, accountability, and empowerment of communities and local civil society. The water, sanitation and hygiene (WASH) chapter of this report provides an example of how community engagement linked to health systems can be an effective tool for reducing disease burden.

Focus on community systems in policy and practice is critical. Generally, Community Health Workers (CHW) and community governance groups are better integrated than community mobilization and empowerment approaches (e.g., peer education, social accountability). Volunteers are one example of diverse community systems assets that remain largely invisible despite their role in driving progress in child survival in multiple countries.

USAID is working with governments and civil society partners to define a common approach and to develop concrete plans to strengthen community systems by fully engaging communities as partners in all primary health care systems, regardless of national policy, health system design, or social context.[9,10] The Integrating Community Health program,[11] a collaboration between USAID and UNICEF, supports partnerships between governments and civil society in seven countries to strengthen joint health-community systems. For example, the program contributes to scaling up high quality CHW programs in countries that are rolling out new programs (e.g., Liberia, Uganda) and also works to improve the functionality of existing programs (e.g., Bangladesh, Haiti, Kenya, Mali, DRC).

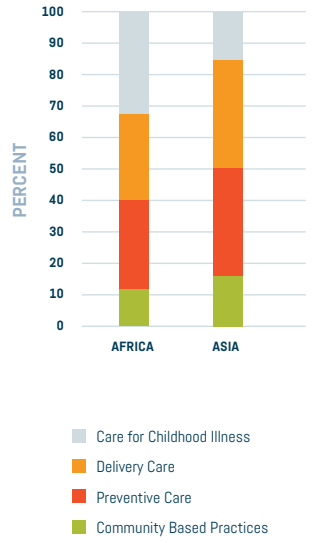
Photo: Allan Gichigi/MCSP

Reducing Bottlenecks

Reducing the bottlenecks which have the biggest impact on the ability of populations to effectively interact with the health system will have a direct impact on saving lives. Over the past few years, USAID has worked to identify health systems strengthening approaches with demonstrated impact on the key bottlenecks previously identified as challenges to the achievement of our goals, or with demonstrated direct impact on maternal and child health outcomes. This has led to the identification of 22 specific health systems strengthening approaches that have the potential to help us succeed. USAID partnered with UNICEF to estimate the impact that implementation of these approaches will have on the bottlenecks and, subsequently, on lives saved. USAID conducted a substantial literature review and convened an expert panel to review the results. With this evidence in hand, USAID and UNICEF have organized the estimates of effect size in a way that can be incorporated in an updated version of UNICEF's EQUitable Impact Sensitive Tool (EQUIST). USAID and UNICEF then used a prototype of the updated tool to gather information about plausible scenarios for the scale-up of health systems strengthening strategies in priority countries, and to estimate their potential impact on lives saved.

The results of this analysis across our priority countries are shown in Figure 2 which demonstrates the lives saved by the key delivery settings identified above. Breaking this data out into different regions also demonstrates how these results differ across geographies. The following country pages further breakdown the results of our work for each of the priority countries.

FIGURE 2: **LIVES SAVED BY CARE PACKAGE**



EQUIST (developed by UNICEF and refined with USAID support) is a tool for estimating and visualizing the potential costs and benefits of various health systems strengthening approaches for achieving equitable and effective coverage of key interventions important to maternal and child survival. The goal of EQUIST is to reduce health disparities between the most marginalized mothers and young children and the better-off by identifying bottlenecks to service delivery. The identification of specific bottlenecks enables health policymakers and program managers to improve health plans and make more informed decisions. EQUIST can project the impact the implementation of HSS strategies will have on health outcomes by linking to the Lives Saved Tool (LiST) that has been used in past *Acting on the Call* reports.

EQUIST follows a step-wise approach—the first step of which is to define and understand the target population. Next, priority interventions to improve survival are selected and the specific bottlenecks affecting the delivery of these interventions are considered. The tool then helps to evaluate the impact of different health systems strengthening approaches on bottlenecks and ultimately coverage. If available, information on the cost of delivery of various approaches may also be included in the analysis. This step-wise approach is based on the logic that strategic investments in, and implementation of, equity-focused strategies designed to remove health system bottlenecks will lead to improvements in the coverage of health interventions and improved health outcomes for target populations.

Photo: Karen Kasmauski/ MCSP

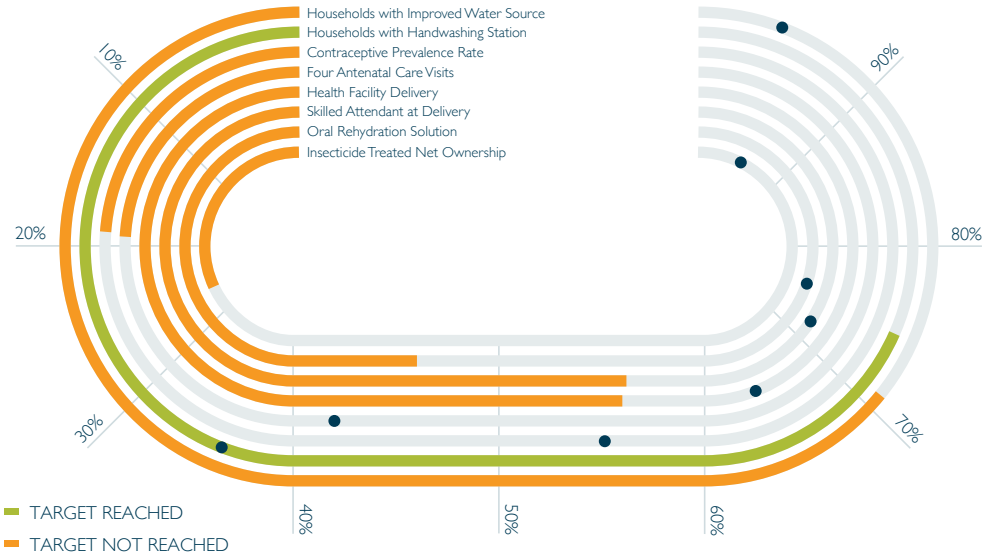
AFGHANISTAN

* Estimate from 2015

	33.3M ↑ Total Population	5.3M ↑ Population Under 5 Years	*94K ↓ Under-5 Deaths / Year	*91 ↓ Under-5 Mortality Rate Per 1,000 Live Births	1.3M ↑ Births	*396 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	13.5M	2.6M	96K	176	739K	1,300

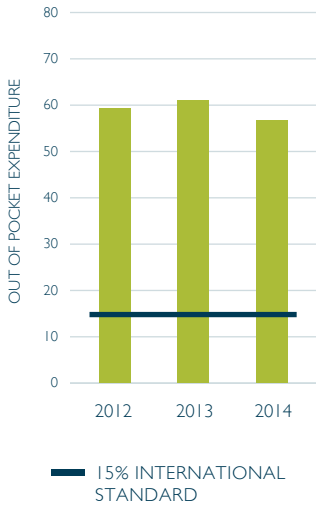
INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



Estimates are based on trends from most recently available surveys and therefore may not reflect acceleration due to *Acting on the Call* efforts

OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF AFGHANISTAN AND OTHER PARTNERS, WE HAVE:

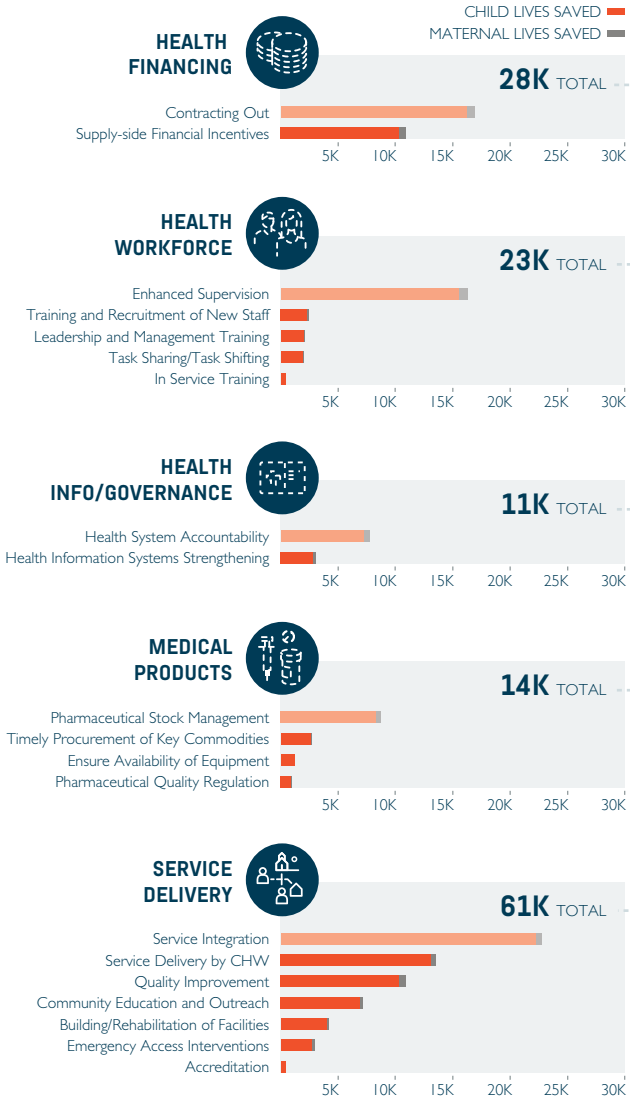
- Launched the Initiative for Hygiene, Sanitation and Nutrition project to support the Government of Afghanistan to improve the nutritional status of women of reproductive age, and children less than five years old.
- Supported Ministry of Public Health to develop the National Health Strategy 2016-2020.
- Funded first ever Demographic and Health Survey, which provides the stakeholders with a baseline of high quality, reliable, nationally representative health, education, women's empowerment data for future planning.
- Expanded Disease Early Warning System from 300 to over 550 health facilities, which helps to reduce morbidity and mortality through early detection and response to disease outbreaks.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 137K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.



1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

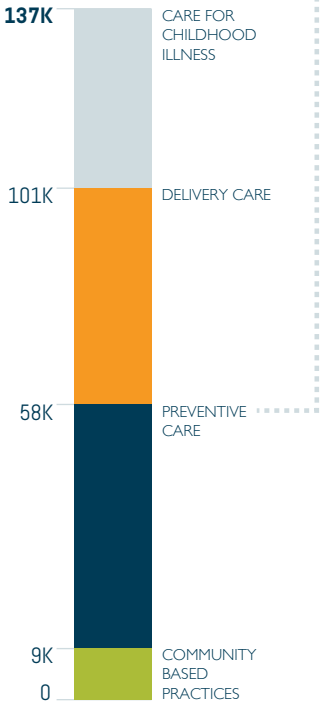
- ORAL REHYDRATION SOLUTION
- HAND WASHING WITH SOAP
- NEONATAL RESUSCITATION

2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health system platforms…

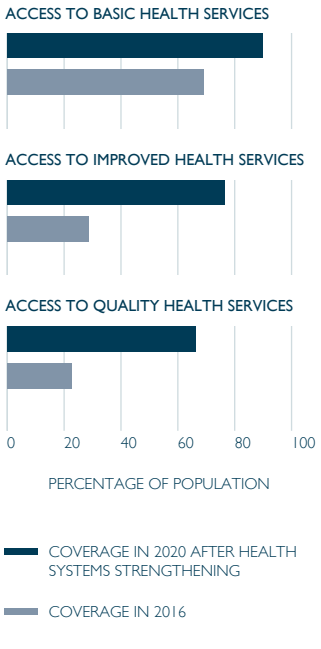
- AVAILABILITY OF COMMODITIES
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

TOTAL LIVES SAVED



3 PREVENTIVE CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

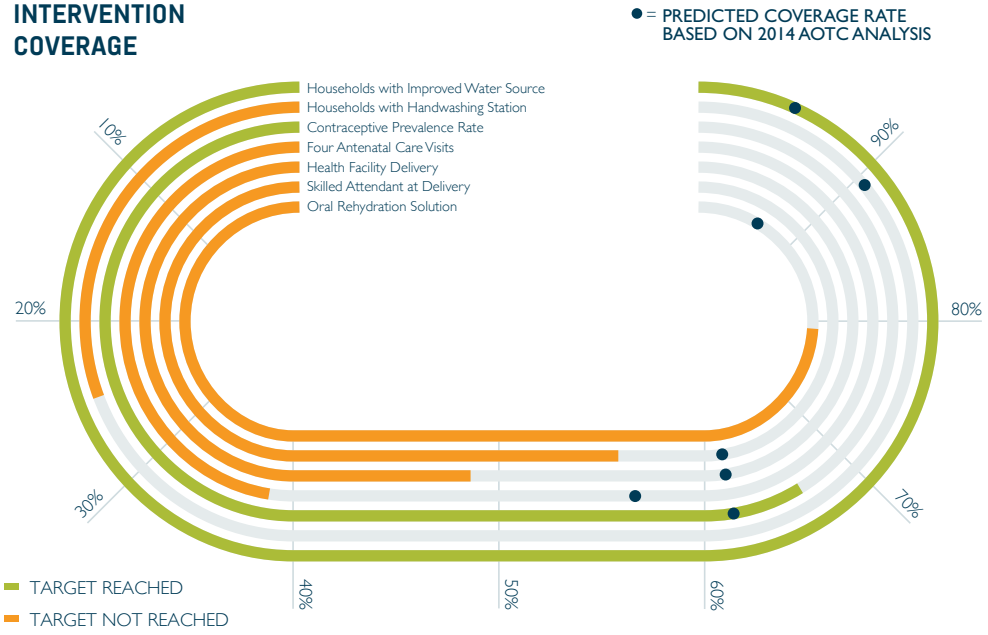
- Provided technical support to MoPH to produce the third round of National Health Accounts (NHA), a tool that provides details on how health funds are spent and will enable the government to make evidence-based decisions.
- Provide technical support for pooled purchasing of essential drugs throughout the country in order to lower drug prices through bulk buying and guarantee continuous, quality drug supply.
- Implement the first phase of a consolidated national health information system to provide real-time, accurate health data countrywide and streamline various data systems across the county to improve comprehension as well as its use.
- Improve service delivery in the private sector by working with the MoPH to strengthen hospital relationships with the private sector, standards for private hospitals, expenditure tracking in the private sector, and the private health center licensing process.

BANGLADESH

* Estimate from 2015

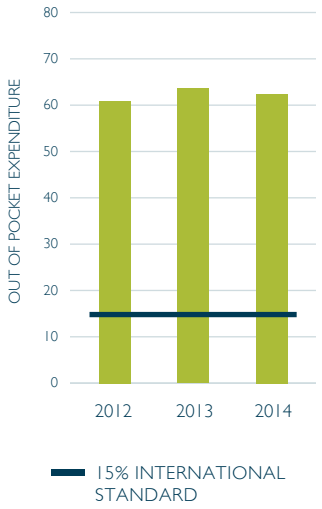
	156.2M ↑ Total Population	14.3M ↓ Population Under 5 Years	*119K ↓ Under-5 Deaths / Year	*38 ↓ Under-5 Mortality Rate Per 1,000 Live Births	3M ↓ Births	*176 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	112M	17.8M	531K	143	4M	800

INTERVENTION COVERAGE



Estimates are based on trends from most recently available surveys and therefore may not reflect acceleration due to *Acting on the Call* efforts

OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF BANGLADESH AND OTHER PARTNERS, WE HAVE:

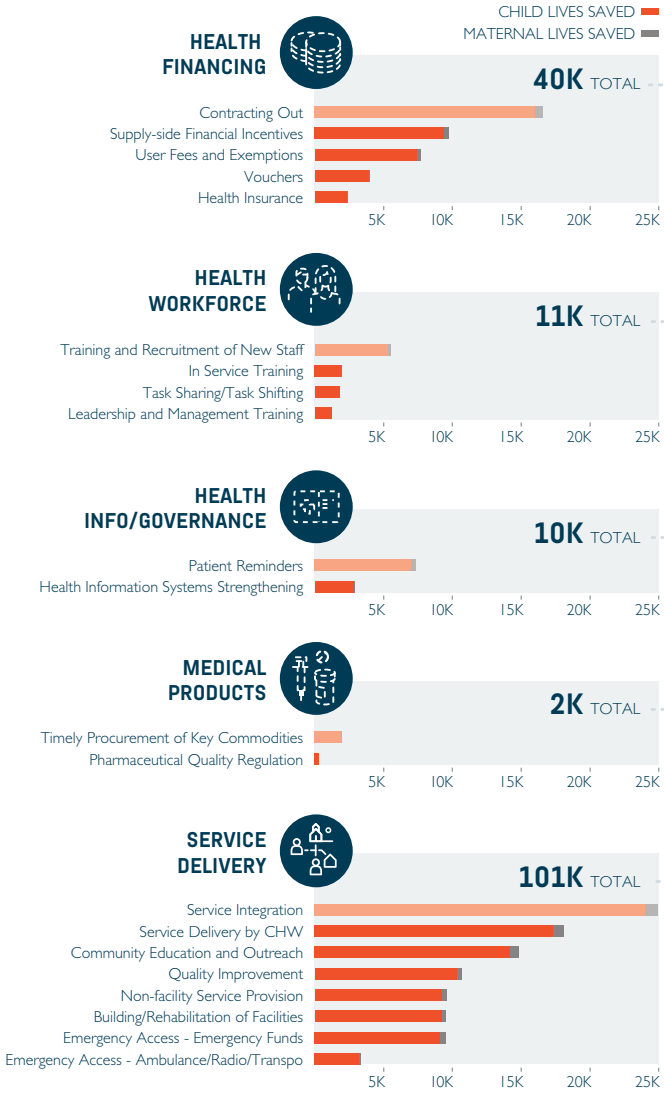
- Supported 404 clinics in the Smiling Sun Network, which delivered 40,697 babies safely, conducted over 1.6 million antenatal care visits, and conducted 275,306 post natal care visits.
- Facilitated the roll out of an online dashboard to track stocks of contraceptives, which resulted in 100% timely reporting of contraceptive stocks and a decrease in stock outs to 1%.
- Supported Ministry of Health and Family Welfare in nationwide scale up of chlorhexidine to clean newborn umbilical cords. This is now standard practice and used in all health districts by 85,000 trained health workers.
- Conducted over 984,591 growth monitoring and promotion visits to track and improve nutrition, which is an 83% increase in the past year.
- Supported 75 public health centers to provide 24 hour delivery services, which resulted in 11,758 deliveries in these centers.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 164K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.



1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

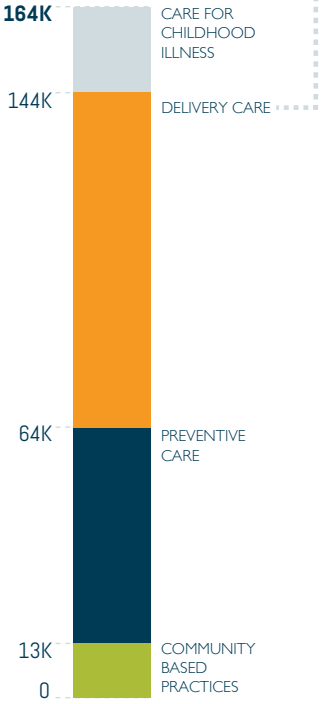
- SKILLED ATTENDANT AT DELIVERY
- NEONATAL RESUSCITATION
- CLEAN BIRTH PRACTICES

2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by bottlenecks across all health systems platforms…

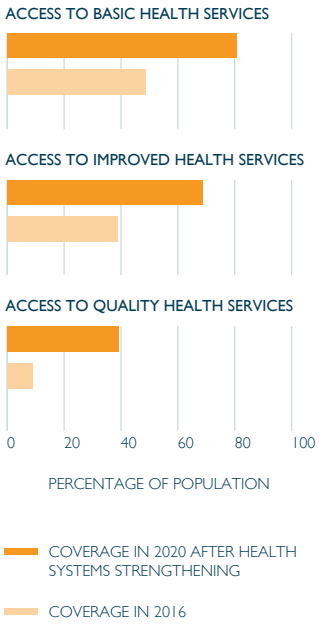
- AVAILABILITY OF COMMODITIES
- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES

TOTAL LIVES SAVED



3 DELIVERY CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Assess workload and staffing needs for healthcare facilities and pilot an information system to manage and track the health workforce.
- Led the revision of health information systems to record information related to priority newborn indicators in the community and health facilities and enable more informed and effective decision-making for maternal and newborn health.
- Supported an analysis of the cost of delivering basic primary care in the public sector, which will inform health financing efforts and be crucial to the Government of Bangladesh's plan to achieve universal health coverage by 2032.
- Support the MoHFW in the development of implementation plans that will ensure that best practices are standardized and plans have a sufficient budget.
- Build capacity at the national and district level in quality improvement and support the national roll out of the WHO Quality Improvement Framework for MNCH.
- Developed an asset management system that tracks the delivery, installation and utilization of medical equipment after it is purchased, which will reduce procurement of unnecessary equipment and better monitor the state of equipment.

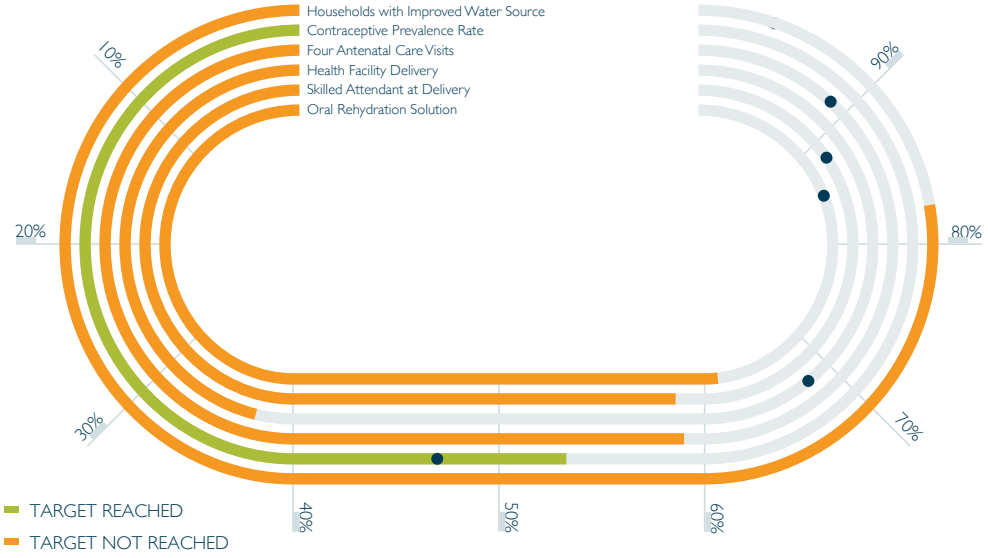
BURMA

* Estimate from 2015

	56.9M ↑ Total Population	4.9M ↓ Population Under 5 Years	*46K ↓ Under-5 Deaths / Year	*50 ↓ Under-5 Mortality Rate Per 1,000 Live Births	1M ↓ Births	*178 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	40.5M	5.5M	121K	110	1.2M	520

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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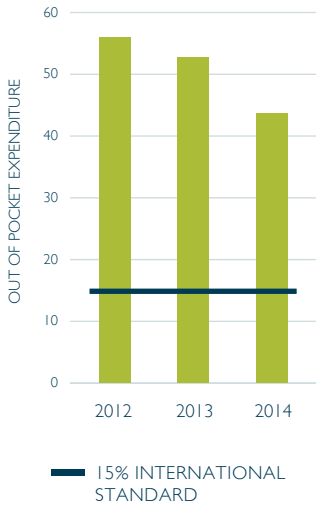
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF BURMA AND OTHER PARTNERS, WE HAVE:

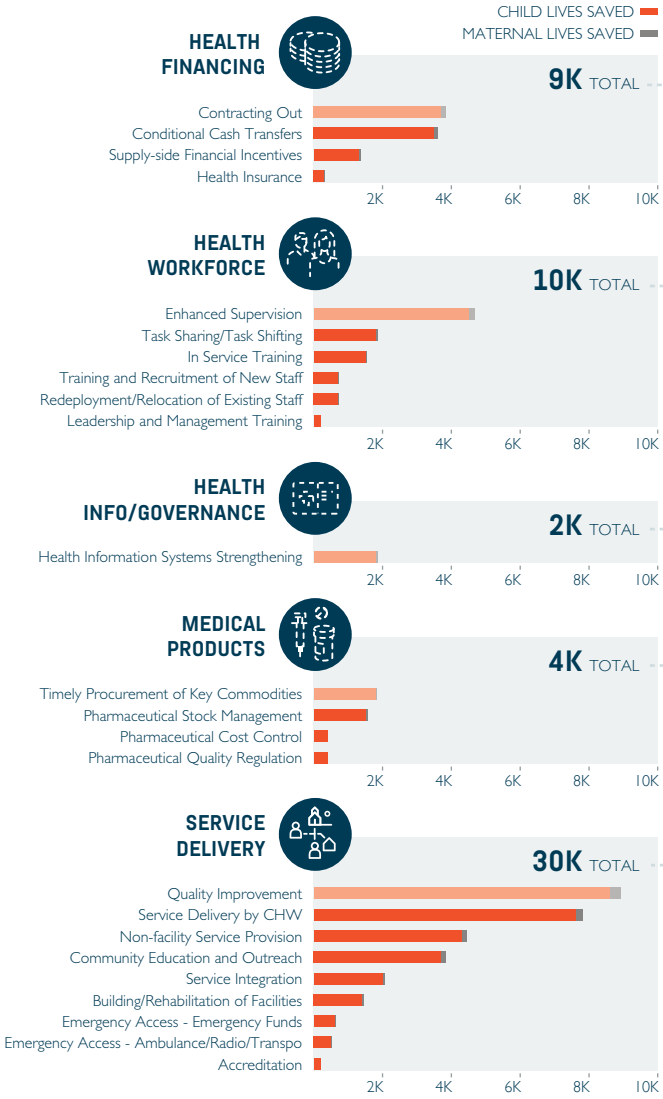
- Through a multi-donor trust fund, contributed to improved access to MNCH services over a coverage area of 4.5 million people and strengthened service delivery through public and private sectors,
- Immunized over 35,000 children with the final dose of pentavalent vaccine from January to June 2016 through the multi-donor trust fund from January to June 2016.
- Completed the first-ever Demographic and Health Survey, which will provide detailed sub-national data that will be used to focus and prioritize reproductive, maternal, newborn, and child health efforts.
- Helped establish formal collaboration between the Myanmar Nurse and Midwifery Council and professional associations to strengthen standards of practice.
- Supported coordination between Ethnic Health Organizations and the Ministry of Health and Sports (MoHS) to standardize training materials for emergency obstetric care.
- Through a multi-donor trust fund, helped to introduce the pneumococcal vaccine into the national immunization system by repair and procurement of refrigerators and freezers to improve the cold chain.
- Supported leading local institutions in their efforts to strengthen midwifery care, including improving regulating and licensing procedures, development of a skills lab and clinical practicum site in Sittwe Hospital, Rakhine State for improving in-service training.
- Updated national training modules, endorsed and used by the MOHS, including: Respectful Maternity Care, Clinical Decision-Making, Use of Partograph, Care during Birth, Newborn Resuscitation, Postpartum Hemorrhage, and Pre-eclampsia/ eclampsia and supported the roll out of Helping Babies Breathe.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 55K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.



1 2016 REPORT FINDINGS

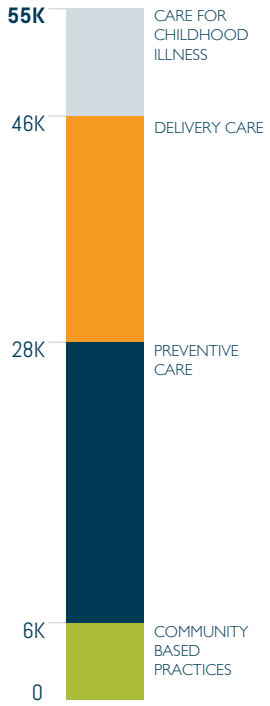
In 2016 USAID introduced Burma as the 25th priority country. Improving access to delivery care is a critical part of USAID's strategy to ensure maternal and child survival in Burma.

2 CRITICAL HEALTH SYSTEM CONSTRAINTS

Critical bottlenecks constrain across health systems platforms...

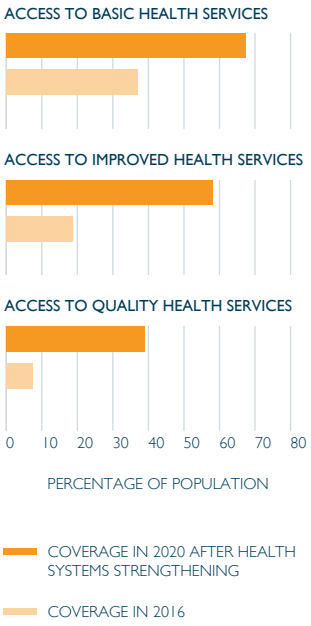
- AVAILABILITY OF COMMODITIES
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

TOTAL LIVES SAVED



3 DELIVERY CARE IMPROVEMENT

...and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Through a multi donor trust fund, support a public financial management assessment and follow up training to help alleviate bottlenecks in getting funding to the township level and below.
- Support the Ministry of Health and Sports in the development of a new, five year National Health Plan.
- Support the Government to finalize and launch a national strategy for developing an integrated national supply chain for drugs and health commodities, which provides a framework to address challenges and will help Burma achieve a fully functional, cost-effective, public health supply chain by 2019.
- Conduct a training in universal health coverage and health financing for members of the Ministry of Health and Sport.

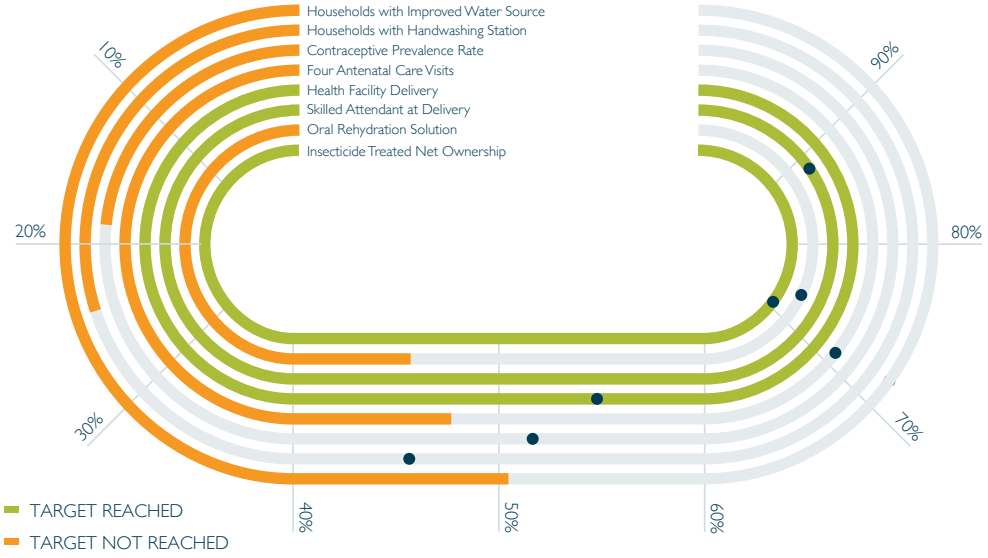
DEMOCRATIC REPUBLIC OF CONGO

* Estimate from 2015

	81.3M ↑ Total Population	12.5M ↑ Population Under 5 Years	*305K ↑ Under-5 Deaths / Year	*98 ↓ Under-5 Mortality Rate Per 1,000 Live Births	2.8M ↑ Births	*693 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	39M	7.4M	266K	171	1.8M	930

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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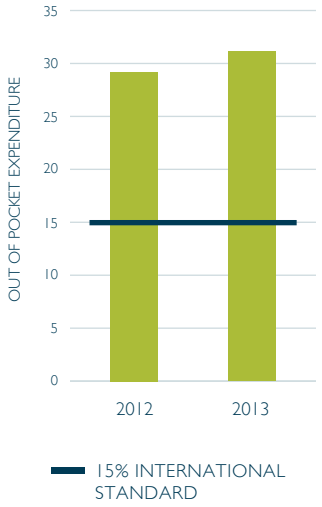
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF THE DEMOCRATIC REPUBLIC OF CONGO AND OTHER PARTNERS, WE HAVE:

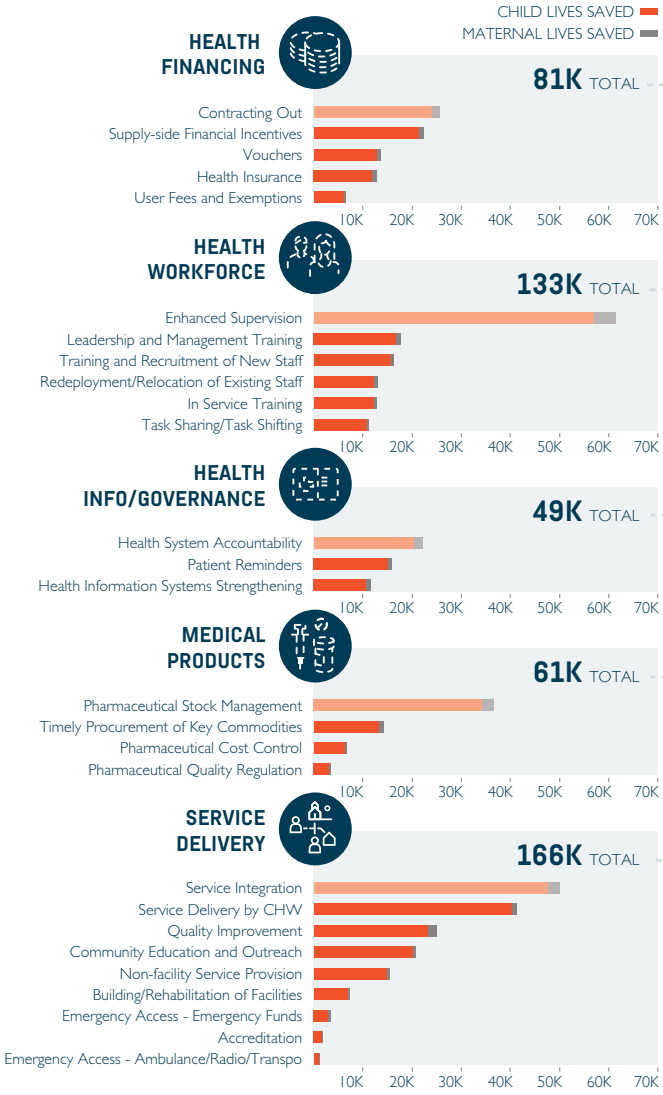
- Produced a newsletter to increase awareness of the Ministry of Health's ongoing reform effort and making MOH accountable of reforms.
- Assisted Congolese professional health associations to build organizational capacity, which will help accelerate delivering high-quality health services nationally.
- Worked with national coordination committee to organize a prompt and effective response to the yellow fever outbreak, including supporting a study on the efficacy of using 1/5 of the normal vaccine dosage.
- Provided scholarships for MPH/PhD programs at Kinshasa School of Public Health, with 25 students graduating in public health studies and five in health economics.
- Assisted with the coordination and monitoring of Gavi-supported activities by helping to identify bottlenecks and policy barriers to the implementation of the vaccination program.
- Assisted the MoH to improve integrated community case management (iCCM) guidelines and programming to reflect the latest international and national norms.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 490K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.



1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

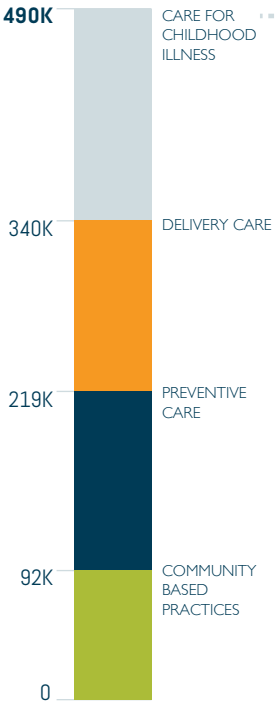
- CARESEEKING FOR PNEUMONIA
- HAND WASHING WITH SOAP
- H. INFLUENZAE B VACCINE

2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

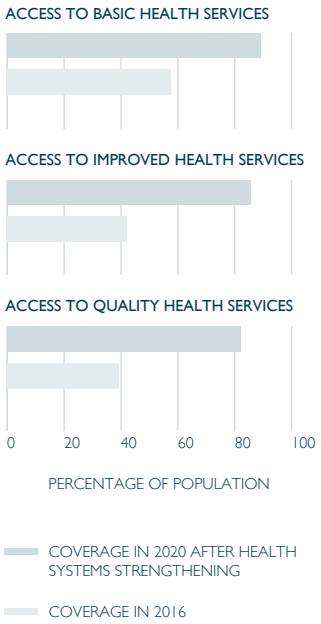
- AVAILABILITY OF COMMODITIES
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

TOTAL LIVES SAVED



3 CARE FOR CHILDHOOD ILLNESS IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Assisted in rolling out the national health information management system to 481 health zones, which account for 93% of the country, to better track indicators and progress.
- Lead service delivery commission for the donor coordination group to ensure harmonization and alignment behind national protocol and provision of quality health services across the country.
- Trained 70 participants to build technical capacity at the PNAM (Programme National d'Approvisionnement en Médicaments Essentiels) to manage medicines and other health commodities.
- Revitalized the working group under the national RMNCH Task Force after over 2 years of silence and successfully revised 23 iCCM and 16 IMNCI national guidelines and tools to improve care nationally.
- Provided twelve 40- foot containers of medical equipment to 12 urban and rural hospitals which included equipment for emergency care units, surgical theater, maternity, medical imaging, and lab, as well as hospital beds which are now improving the quality of care for infants and children.
- Played a leadership role with other partners in bringing together the two national programs that drive the country's Integrated Management of Newborn and Childhood Illness strategy.

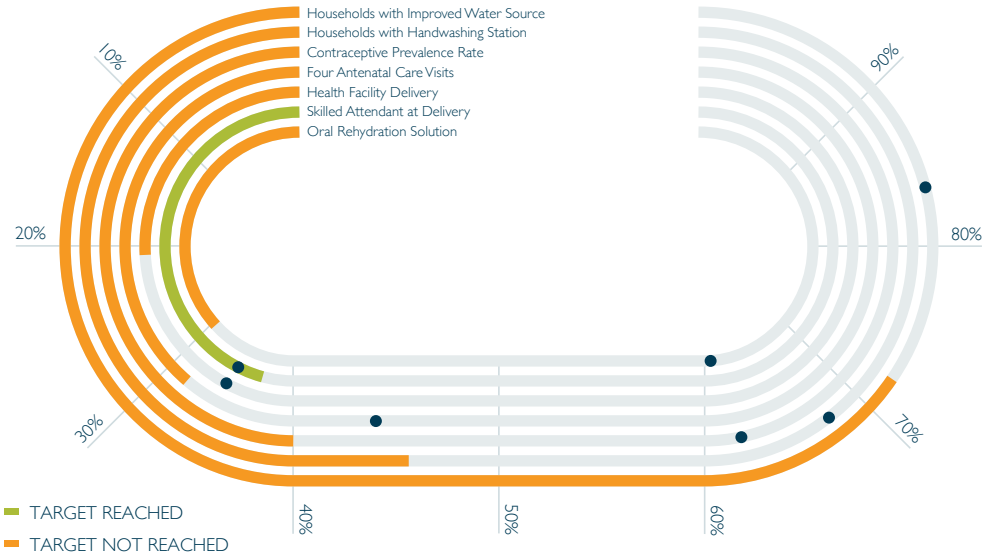
ETHIOPIA

* Estimate from 2015

	2016	1990
Total Population	102.4M ↑	47.5M
Population Under 5 Years	16.9M ↑	8.5M
Under-5 Deaths / Year	*184K ↓	444K
Under-5 Mortality Rate Per 1,000 Live Births	*59 ↓	204
Births	3.8M ↑	2.2M
Maternal Mortality Ratio Per 100,000 Live Births	*353 ↓	950

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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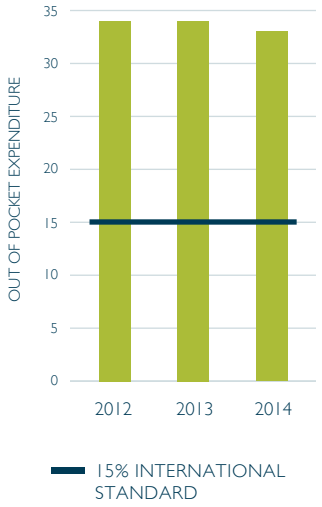
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF ETHIOPIA AND OTHER PARTNERS, WE HAVE:

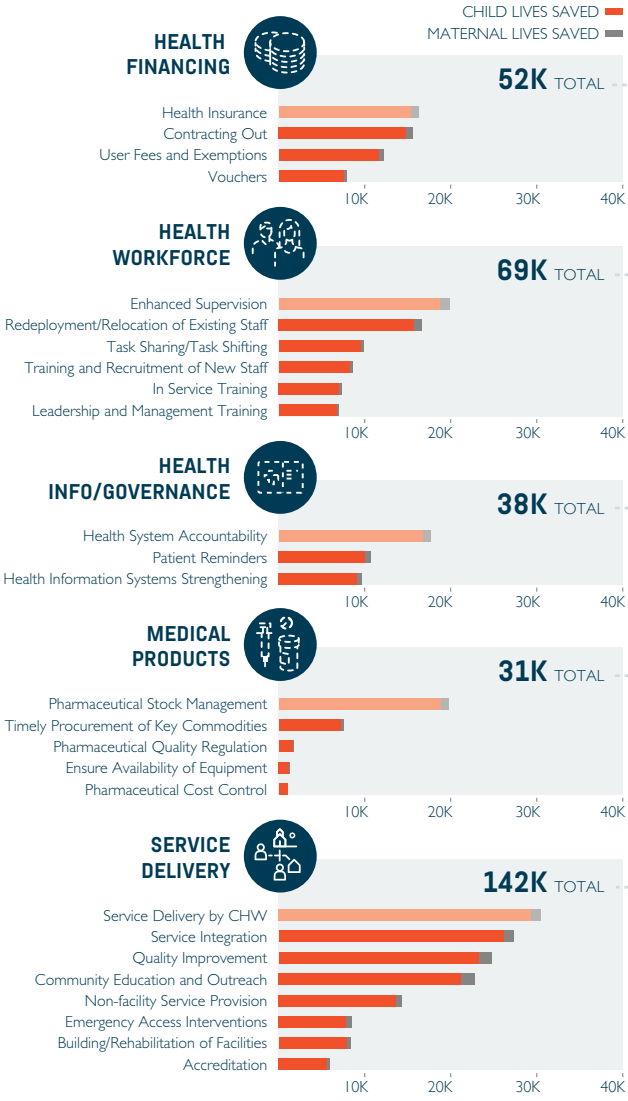
- Supported improvement of skills of nearly 38,000 GOE health extension workers (HEW) and other health care workers (HCW) to provide quality health services.
- Increased complete vaccination coverage for pentavalent and measles from 48% to 82% and 29% to 75%, respectively.
- Trained 3,936 health workers on long acting reversible contraceptives.
- Supported development and rehabilitation of 49 water supply schemes that benefited more than 38,000 people and reached 16,200 people with access to an improved sanitation facility.
- Supported 52 institutions to graduate 2,230 midwives, 235 anesthetists, 5,850 HEWs and 137 other HCW.
- Supported the implementation of the Maternal Death Surveillance and Response (MDSR) to track maternal deaths caused by obstetric complications at the community and health facility levels, including training 491 people on MDSR.
- Strengthened community based newborn care in 21 zones of the agrarian regions—a 20% increase in coverage, including training 1,592 health extension workers in CBNC.
- Strengthened the referral system between health posts and health centers, and health centers and hospitals to form a two way referral linkage including patient escort, care during transfer, use of referral slips, advance call-in notification and provision of feedback in 345 primary health care units.
- Implemented the National Integrated Pharmaceutical Logistics System in all hospitals and health centers to strengthen Ethiopia's capacity to procure and deliver health care commodities throughout the country, including for malaria, maternal and child health, and family planning.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 332K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.

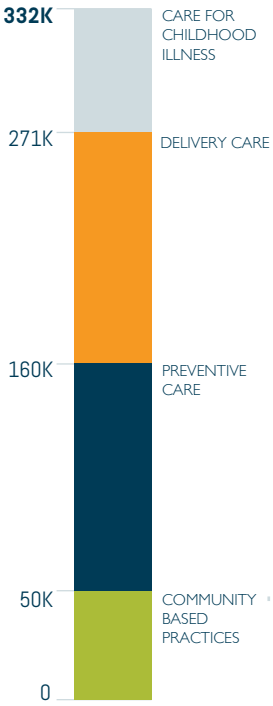


1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

- CARESEEKING FOR PNEUMONIA
- HAND WASHING WITH SOAP
- FULL SUPPORTIVE CARE FOR SEPSIS/PNEUMONIA AND STIMULATION

TOTAL LIVES SAVED



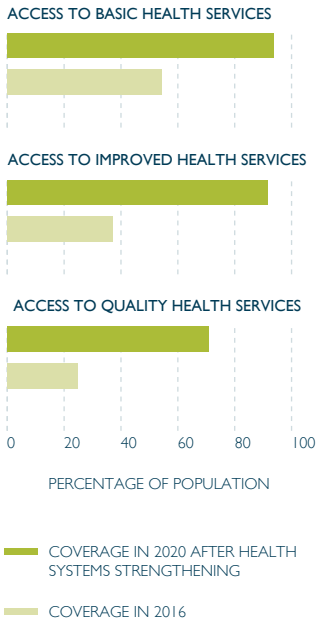
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

3 COMMUNITY BASED PRACTICES IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

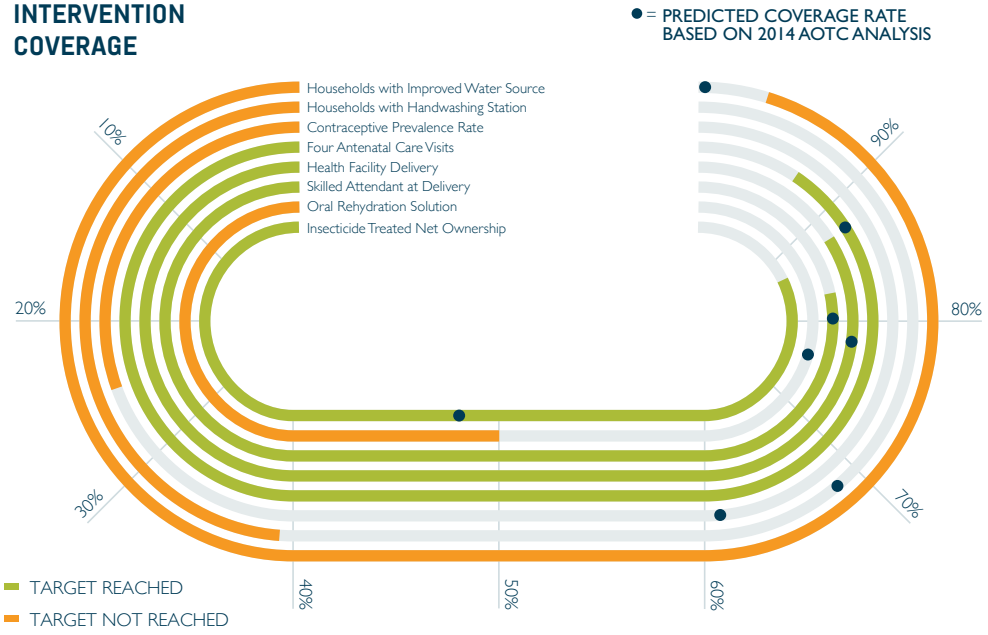
- Support the expansion of community-based health insurance (CBHI) coverage, which costs the equivalent of 2 chickens per family per year, increasing coverage from 6.6 million to 11.5 million people in the past year.
- New support to improve the health system in four developing regions with historically weak service delivery, where child and maternal mortality are up to 300% higher than in other parts of the country.
- Build the government capacity for human resources planning, management, production, and retention of healthcare workers, resulting in the creation of 1,300 human resource management positions and a 52% increase in skilled healthcare workers over the past three years.

GHANA

* Estimate from 2015

	2016	1990
Total Population	26.9M ↑	15.5M
Population Under 5 Years	3.8M ↑	2.7M
Under-5 Deaths / Year	*54K ↓	70K
Under-5 Mortality Rate Per 1,000 Live Births	*62 ↓	128
Births	829K ↑	603K
Maternal Mortality Ratio Per 100,000 Live Births	*319 ↓	580

INTERVENTION COVERAGE



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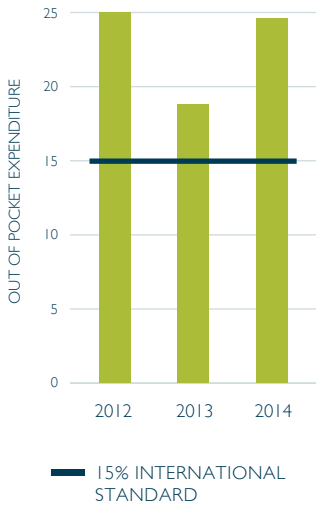
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF GHANA AND OTHER PARTNERS, WE HAVE:

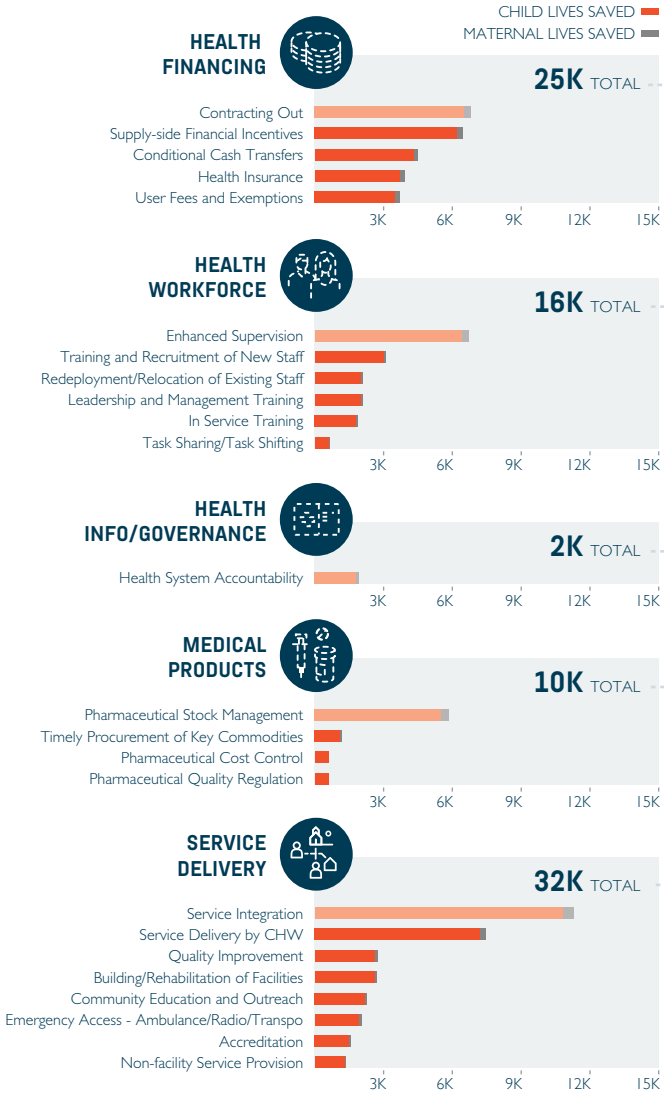
- Supported training institutions in graduating 2,775 health care workers, comprised of 1,108 midwives and 1,657 community health nurses.
- Strengthened preceptorship at six midwifery schools; procured and distributed skills lab materials, models and training equipment to 10 midwifery and five community health nursing schools; and assisted with the setup of the skills labs and trained tutors to use skills labs in 11 of the schools.
- Supported a health insurance review, which recommends a redesign to ensure primary care and MNCH services are available free of charge to the whole population in public and private sector health facilities.
- Conducted integrated coaching visits to 619 health facilities in five regions to improve services delivery and reduce data issues.
- Trained service providers in maternal, newborn and child health, nutrition, family planning/reproductive health, intermittent preventive treatment of malaria in pregnancy (IPTp), and malaria case management.
- Trained 300 Ghana Health Service regional and district leaders and managers as improvement coaches to become champions for quality improvement interventions.
- Supported clinical audits in 10% of National Health Insurance Authority (NHIA)-accredited facilities nationwide to measure adherence to treatment protocols in claims submissions, resulting in close to $1 million in cost-savings in 2016.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 85K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.

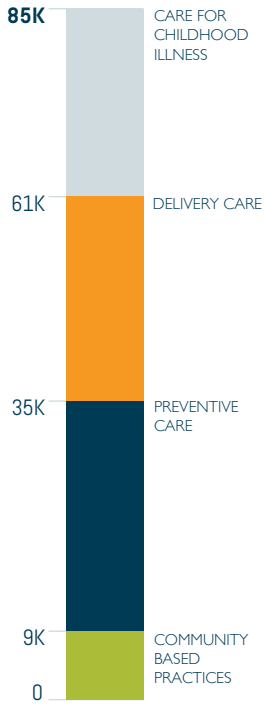


1 2016 REPORT FINDINGS

For example, interventions that benefited the most from a comprehensive equity-based approach…

- SKILLED ATTENDANT AT DELIVERY
- FULL SUPPORTIVE CARE FOR PREMATURITY
- FULL SUPPORTIVE CARE FOR SEPSIS/PNEUMONIA AND STIMULATION

TOTAL LIVES SAVED



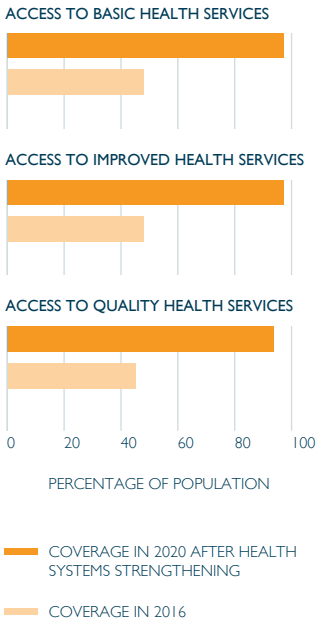
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

3 DELIVERY CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Launch leadership and management improvement projects in 53 districts to focus on health systems strengthening topics such as supply chain and improved reporting and work planning.
- Collaborate with the Ghana National Health Service (GHS) and Global Fund to determine best routes across all 10 regions to transfer medicines from the Regional Medical Stores to the health facilities and end users.
- Collaborate with the GHS and partners in the development of a program which will address challenges in the cold chain system using energy from cell towers to power vaccine refrigerators in 30 remote districts.
- Support the costing of functional Community-based Health Planning and Services (CHPS) zones to inform national scale-up and sustainability of CHPS, a system for locating more resources directly into communities and involving communities in important health decisions.
- Support the GHS to enhance reporting in the Early Warning System, a text message based stock reporting system to reduce stock-outs of critical commodities in the two regions (Northern and Eastern) where Last Mile Distribution has seen a marked increase from less than 30 percent to more than 70 percent.
- Strengthen primary health care services through community health officer internships at learning sites to improve home visits and outreach services, service delivery and referral skills.

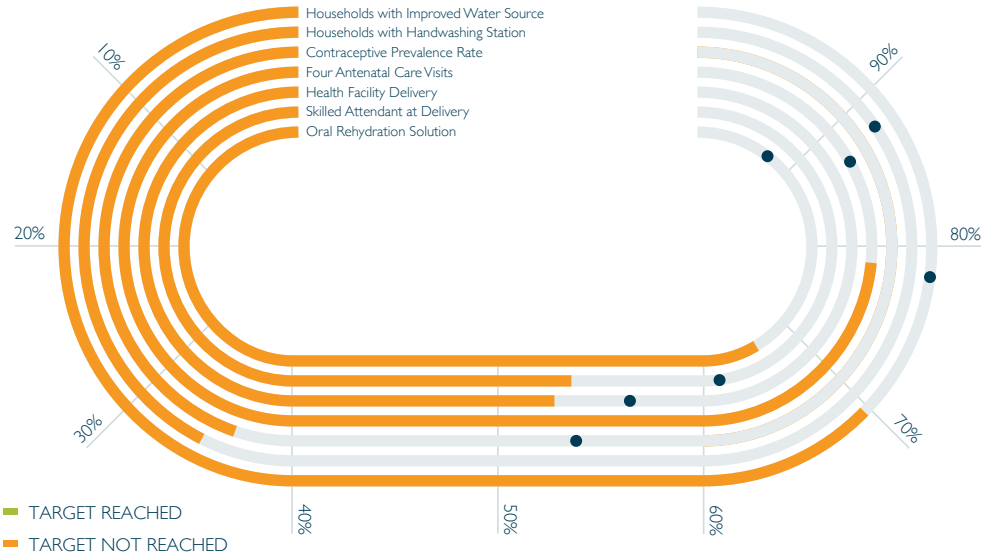
HAITI

* Estimate from 2015

	Total Population	Population Under 5 Years	Under-5 Deaths / Year	Under-5 Mortality Rate Per 1,000 Live Births	Births	Maternal Mortality Ratio Per 100,000 Live Births
2016	10.5M ↑	1.2M ↑	*18K ↓	*69 ↓	245K ↓	*359 ↓
1990	6.8M	1M	36K	144	260K	620

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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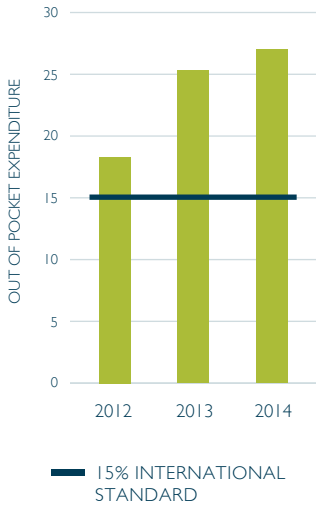
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF HAITI AND OTHER PARTNERS, WE HAVE:

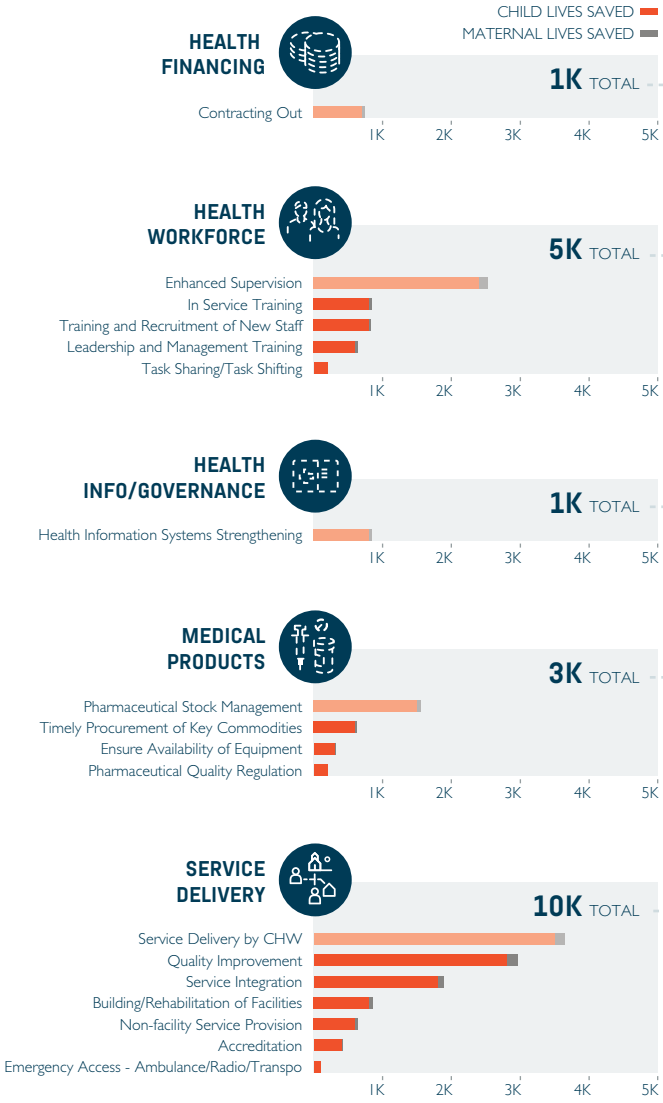
- Reached 559,362 children under five with nutrition programs.
- In 21 facilities identified as being at high risk for cholera, implemented a Clean Clinic Approach to improve WASH related standards and practices and reduce the risk of cholera.
- Trained 1,232 CHWs on birth planning and preparation, delivery complication readiness, maternal and neonatal care, exclusive breastfeeding, and danger signs recognition, and they are now certified as polyvalent health agents.
- Trained 56 providers in long acting and permanent family planning methods.
- Implemented the Reach Every District/Reach Every Child approach in immunization and increased the percentage of fully vaccinated children to 63%.
- Reached 33,535 women with nutrition counseling and behavior change communication activities, in part through two nutrition-education and promotional radio spots that were produced and broadcast by 10 radio stations 2,809 times.
- Introduced a standardized community-based maternal death audit system in 2 pilot communities in the Northern Area of Haiti.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 20K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.



1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

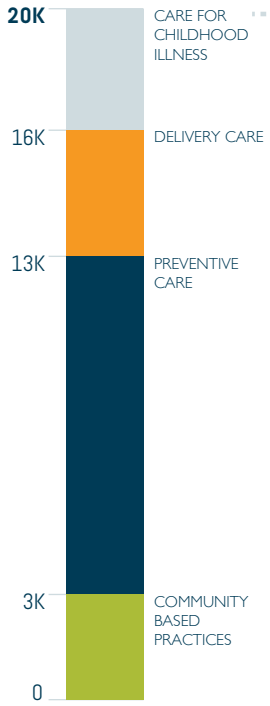
- CARESEEKING FOR PNEUMONIA
- FULL SUPPORTIVE CARE FOR PREMATURITY
- HANDWASHING WITH SOAP

2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

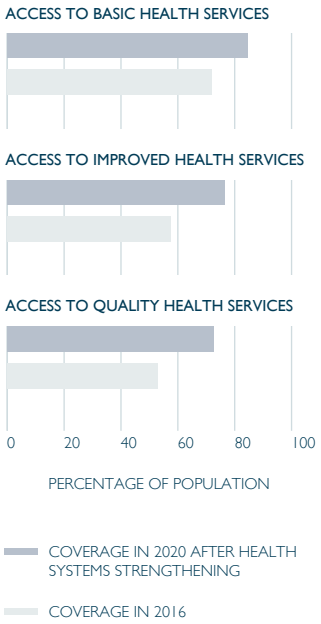
- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

TOTAL LIVES SAVED



3 CARE FOR CHILDHOOD ILLNESS IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Continue to support the Ministry of Health following the launch of the Package of Essential Services (PES) which will help the MOH organize and provide better access to quality health services.
- Support the MOH with validation and adoption of the draft health financing strategy and implementation plan, which will help achieve the objectives specified in the national health plan.
- Support creation of a national supply chain system to integrate multiple parallel supply chain systems and improve effectiveness and efficiency.
- Support the MOH with implementing a data quality audit of the public and private sector health facilities human resources data to gain a more complete picture of the health workforce.
- Strengthen accreditation process for health provider training institutions and include more private providers' training institutions to ensure adequate and high quality training.
- Support the Ministry with using the DHiS2 health information system to track maternal death in all districts and improve the accurateness and efficiency of the monthly data reporting process.

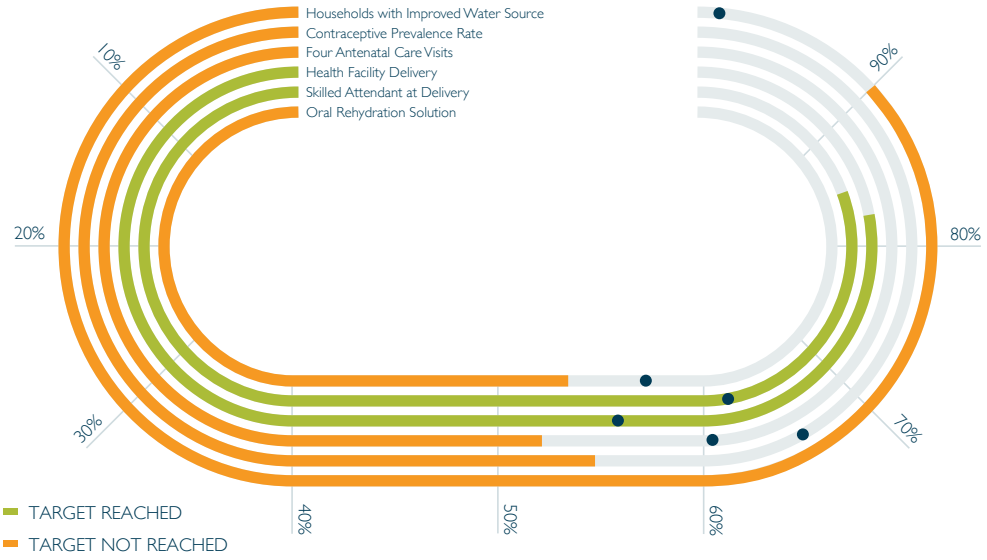
INDIA

* Estimate from 2015

	Total Population	Population Under 5 Years	Under-5 Deaths / Year	Under-5 Mortality Rate Per 1,000 Live Births	Births	Maternal Mortality Ratio Per 100,000 Live Births
2016	1.27B ↑	117M ↓	*1.2M ↓	*48 ↓	24.4M ↓	*174 ↓
1990	869M	119M	3.3M	126	26.5M	600

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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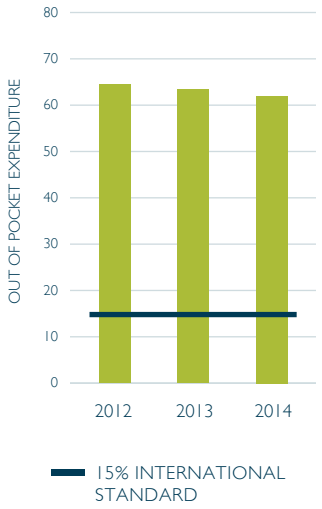
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF INDIA AND OTHER PARTNERS, WE HAVE:

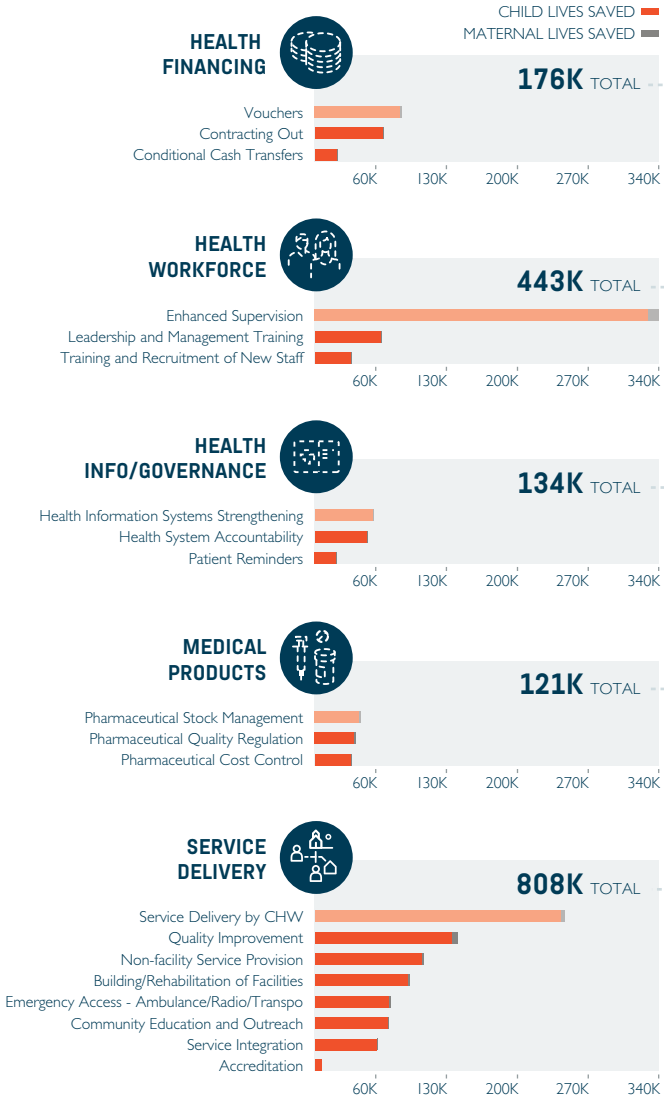
- Provided technical assistance to the GOI to develop the injectable contraceptives operational plan with the future goal of reaching one million additional users of contraception in one year.
- Advocated successfully for the pneumococcal vaccine to be rolled out in the first quarter of 2017 and inclusion of the rotavirus vaccine in the national immunization program in 2016.
- Garnered $6.5 million from high profile philanthropists, corporations and foundations to contribute to 20 high impact, scalable Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCH+A) programs that impact adolescent girls and in USAID focus states will reach 6 million adolescents with adolescent friendly health services.
- Increased the number of facilities providing IUD insertions from 41% to 55% in priority districts.
- Supported the national scale-up of two mHealth services (Kilkari and Mobile Academy), to encourage the uptake of health behaviors by pregnant women, mothers of children up to one year of age and their families and reached over two million beneficiaries and trained nearly 50,000 community health workers (ASHA) in six states.
- Supported over 15,000 supportive supervision visits in 6,580 health facilities to ensure the proper use of high-impact interventions.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 1.6M

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.



1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

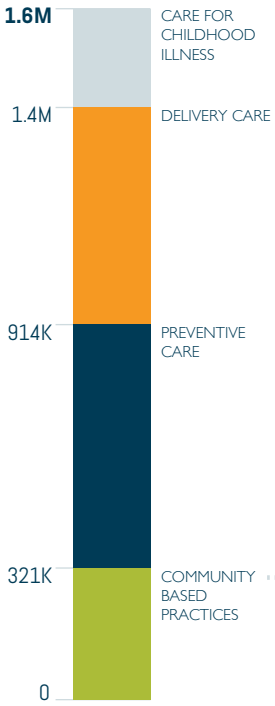
- CARESEEKING FOR PNEUMONIA
- HAND WASHING WITH SOAP
- NEONATAL RESUSCITATION

2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

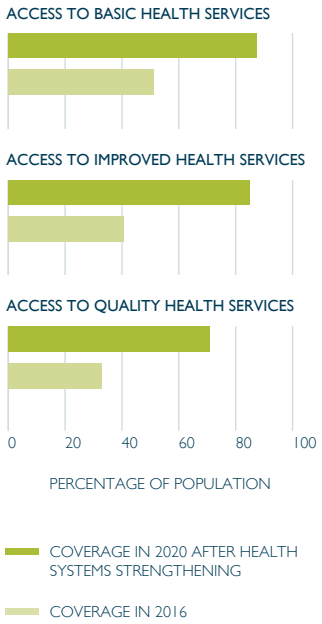
- AVAILABILITY OF COMMODITIES
- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES

TOTAL LIVES SAVED



3 COMMUNITY BASED PRACTICES IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

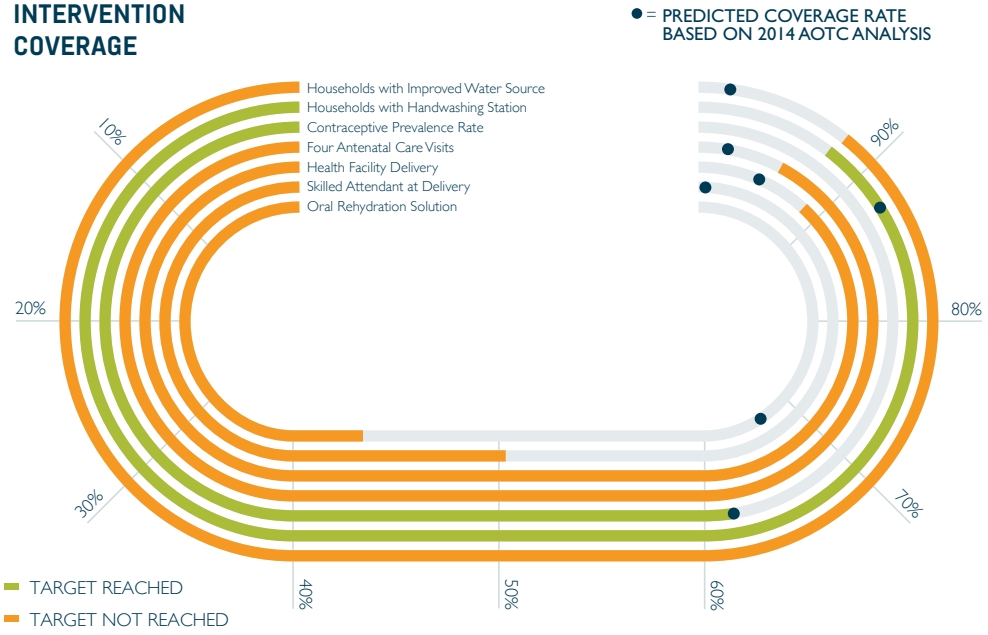
- Support the GOI to establish a rapid patient satisfaction feedback mechanism in large, busy, government health care facilities, which allows Ministry staff to look at patients' perception of quality of care and facility cleanliness down to the provider level. This has increased responsiveness, engagement, and accountability, with regular discussions taking place to improve lower performers.
- Provide technical guidance and support in the analyses and dissemination of the National Family Health Survey-4, which includes data from 600,000 households and was completed in 2016.
- Support the rollout of the RMNCH+A Roadmap, which institutionalizes clear standard operating procedures, simple data transfer systems, and processes for quick turnaround of data from a population of 350 million people.
- Work with the Government of Rajasthan and the private sector to provide innovative financing to motivate improvements in the quality of care in private health facilities.

INDONESIA

* Estimate from 2015

	2016	1990
Total Population	258.3M ↑	182M
Population Under 5 Years	21.1M ↓	21.5M
Under-5 Deaths / Year	*147K ↓	385K
Under-5 Mortality Rate Per 1,000 Live Births	*27 ↓	83
Births	4.2M ↓	4.6M
Maternal Mortality Ratio Per 100,000 Live Births	*126 ↓	600

INTERVENTION COVERAGE



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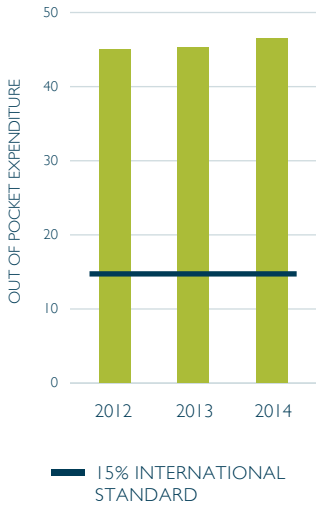
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF INDONESIA AND OTHER PARTNERS, WE HAVE:

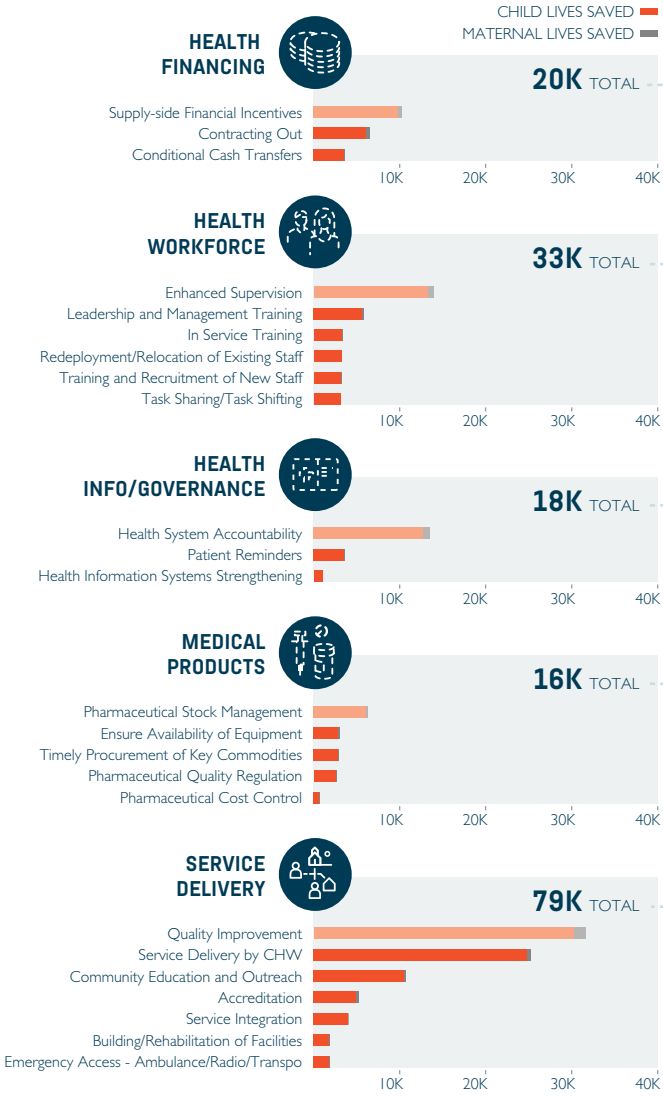
- Successfully advocated with local governments to use local resources to fund the expansion of USAID supported maternal and newborn survival interventions across 450 facilities to an additional 570 focus facilities.
- Directed by the Ministry of Health (MOH), all 64 GOI MCH priority districts and cities are replicating and scaling up quality of care, referral, governance, and accountability approaches introduced by USAID to improve maternal and newborn survival.
- Supported nearly 100% achievement of women receiving magnesium sulfate to help stabilize those suffering from pre-eclampsia or eclampsia in hospitals supported by USAID.
- Strengthened referral systems and expanded referral networks at over 1300 facilities to ensure pregnant women and newborns are stabilized and receive life-saving care as quickly as possible during medical emergencies.
- Supported a mentorship program to provide peer to peer coaching with a focus on early newborn care at secondary facilities, which is now being adopted by professional associations and funded by local governments in hard to reach areas of Eastern Indonesia.
- Linked maternal and child health efforts being implemented at remote health centers with district and province planning systems in order to better implement facility based improvements and community outreach programs in Eastern Indonesia.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 166K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.

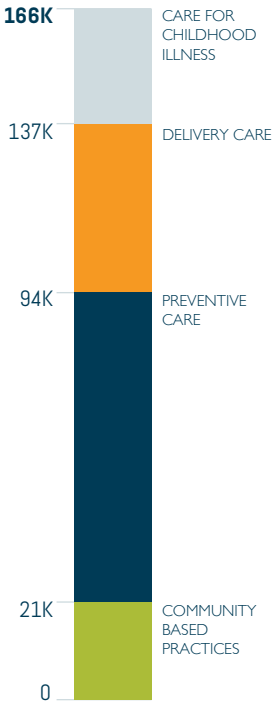


1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

- FULL SUPPORTIVE CARE FOR PREMATURITY
- NEONATAL RESUSCITATION
- FULL SUPPORTIVE CARE FOR SEPSIS/PNEUMONIA

TOTAL LIVES SAVED



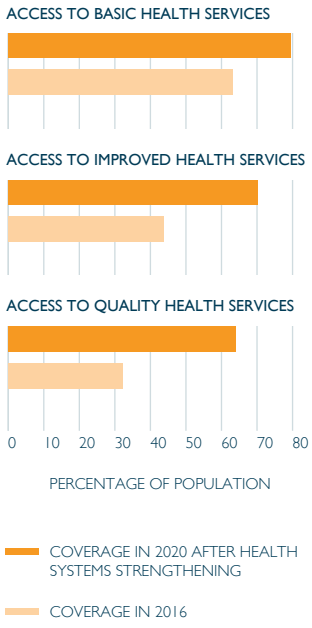
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- AVAILABILITY OF COMMODITIES
- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES

3 DELIVERY CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Study the impact of how national health financing regulations have been translated and implemented at the local level with regard to access to care for mothers and newborns.
- Analyze the single payer national social health insurance scheme for efficiency gains in the delivery of maternal and newborn health services and the impact on how the bottom 40% of the population accesses and uses care.
- Reviewing current provider payment mechanisms to improve the impact they have on health system efficiency, access to care, and quality of care for mothers and newborns.
- Support the MOH to assess health spending through a National Health Account and compile a break down of expenditures for maternal and child health services.

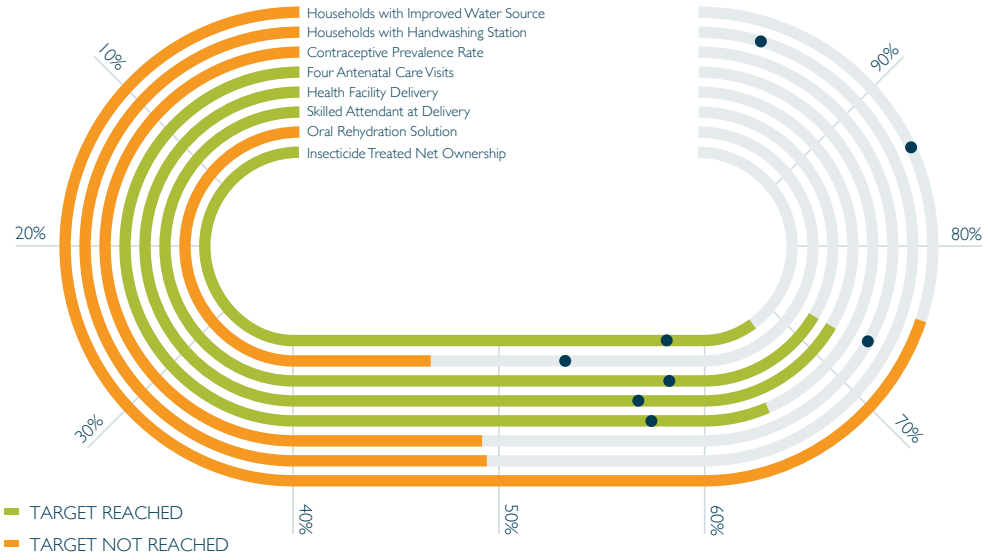
KENYA

* Estimate from 2015

	46.8M ↑ Total Population	6.2M ↑ Population Under 5 Years	*74K ↓ Under-5 Deaths / Year	*49 ↓ Under-5 Mortality Rate Per 1,000 Live Births	1.2M ↑ Births	*510 ↑ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	23M	4.2M	95K	98	927K	400

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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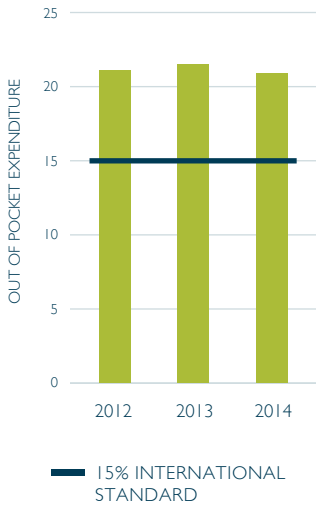
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF KENYA AND OTHER PARTNERS, WE HAVE:

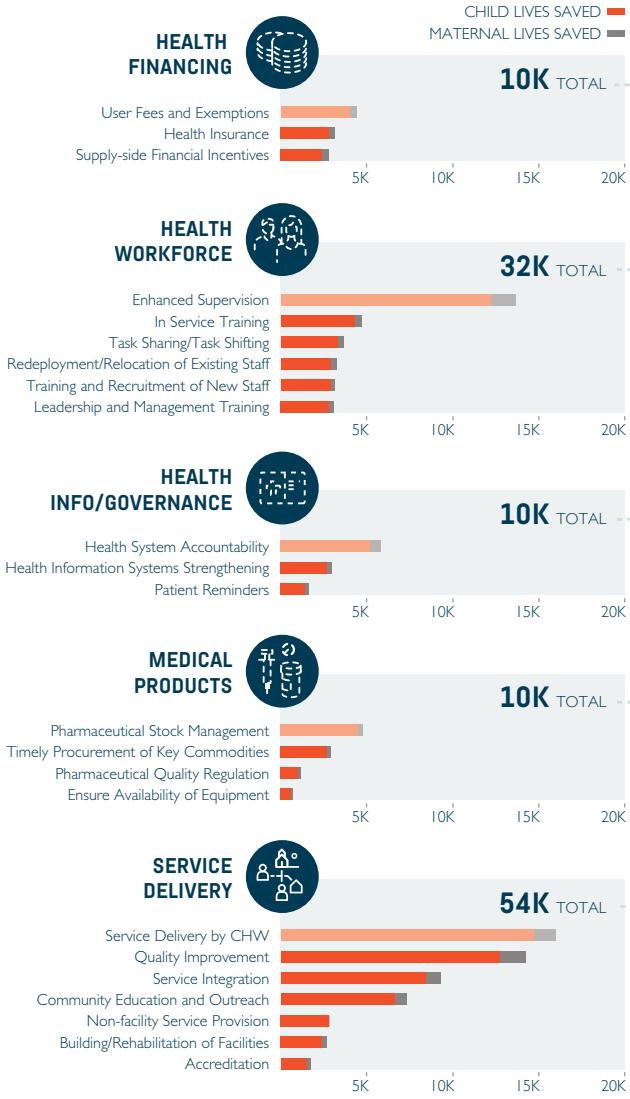
- Supported 17 of the 47 counties in Kenya to provide all requisite functions for basic and comprehensive emergency obstetric and newborn care (EmONC), covering 466 health facilities, which is a 29% increase from the previous year.
- Trained over 2,500 health workers in commodity management and over 10,000 health workers in quality counseling and service provision, in order to improve quality of services in 4,336 facilities and sustain access to all available contraceptive methods.
- Held "open maternity days" to institutionalize respectful maternity care, which were attended by community members comprising men, women, youth, political representatives, chiefs, local administration, and police officers.
- Treated 1.1 million children under-5 oral rehydration solution for diarrheal disease, which is 40% higher than the annual target.
- Provided technical and financial support for the successful introduction of the measles rubella vaccine into the routine schedule, which resulted in 95 percent national coverage.
  - Reached 911,871 children with immunization services.
- Developed the FP2020 National Action Plan and galvanized consensus around a new modern contraceptive prevalence rate (mCPR) goal of 58 percent by 2020 and 66 percent by 2030 for Kenya.
- Procured 2.5 million long lasting insecticidal nets (LLINs) to support routine distribution through ANC and child welfare clinics across the country and helped distribute 3.5 million LLINs through mass campaigns.
- Procured maternal child health (MCH) equipment, for 22 of the 47 counties in Kenya including 333 delivery kits, 225 fetodopplers, 227 vacuum extractors for assisted vaginal deliveries, 285 newborn resuscitators, 95 caesarian section sets, 380 autoclaving drums, 370 vaginal examination sets and 231 gynecological examination lights.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 116K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.



1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

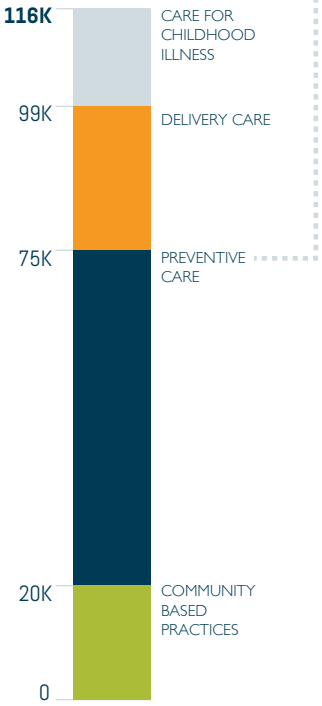
- ORAL REHYDRATION SOLUTION
- NEONATAL RESUSCITATION
- PNEUMOCOCCAL VACCINE

2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

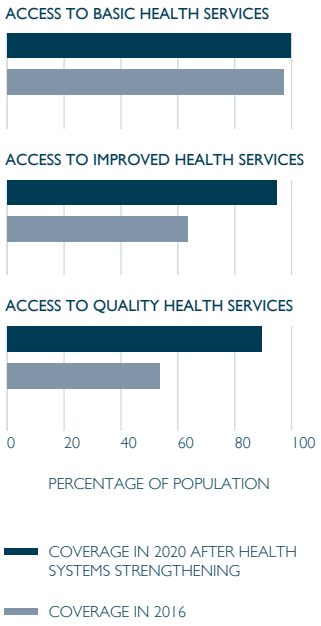
- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

TOTAL LIVES SAVED



3 PREVENTIVE CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Assist the MOH to prepare policy documents for the Free Maternal Services (FMS) program that was redesigned from a direct reimbursement mechanism paying for deliveries reported by facilities, to a health insurance plan to be implemented by the National Hospital Insurance Fund (NHIF).
- Support national forecasting and planning for contraceptive commodities for FY 2016-2018, which was used by UNFPA and the MoH to develop a contraceptive commodity strategy from 2016-2020.
- Support the MoH to improve maternal and perinatal death surveillance and response, including reporting forms, verbal autopsy report templates, and online monthly reporting, which has resulted in reduced deaths in high burden countries.
- Support the annual planning and program based budgeting process, which will ensure a systematic and rational budget formulation that takes into account priorities across the health sector.

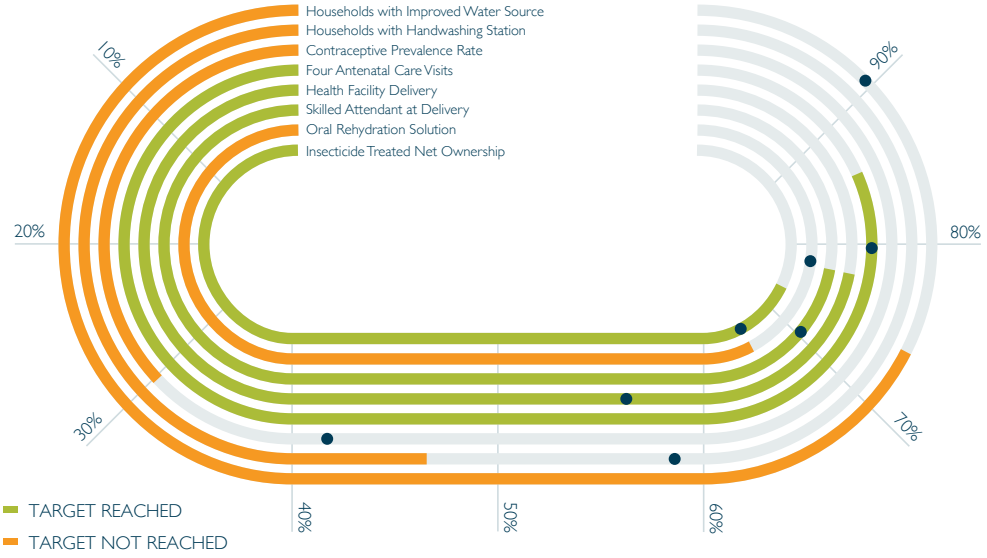
LIBERIA

* Estimate from 2015

	4.3M ↑ Total Population	656.6K ↑ Population Under 5 Years	*11K ↓ Under-5 Deaths / Year	*70 ↓ Under-5 Mortality Rate Per 1,000 Live Births	146K ↑ Births	*725 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	2.1M	383K	22.5K	247	102K	1,200

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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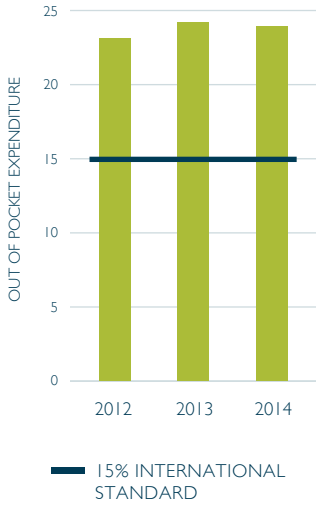
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF LIBERIA AND OTHER PARTNERS, WE HAVE:

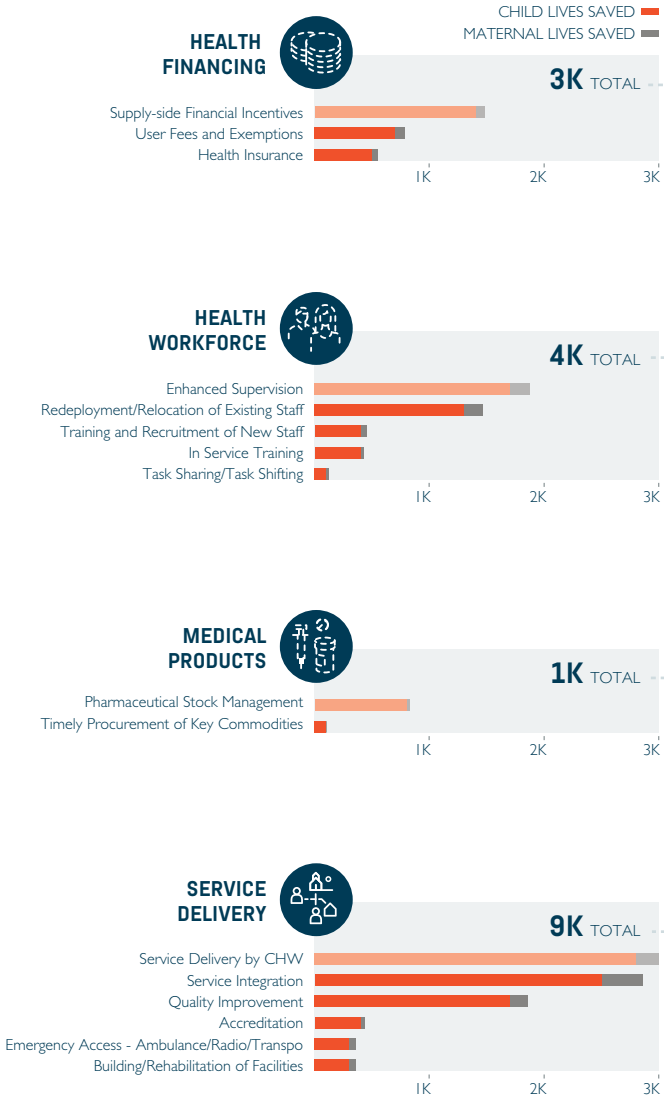
- Achieved a 31% increase in deliveries assisted by skilled birth attendants through quality improvement teams in 45 health facilities across 3 counties.
- Increased family planning outreach from 29 to 38 districts across 74 communities, reaching 167,398 family planning users including 41,840 new users.
- Increased Pentavalent vaccination coverage by 29% through the procurement of 40 solar fridges for hard to reach facilities and training of 17 cold chain officers, to strengthen the cold supply chain.
- Supported the training of more than 600+ health care workers in key reproductive, maternal, newborn, and child health skills.
- Through communication and social mobilization activities, supported the introduction of rotavirus vaccine for the prevention of childhood diarrhea.
- Recruited and trained 1,226 Community Health Volunteers to restore integrated community case management in select districts covering a population of 407,975.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 17K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.



1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

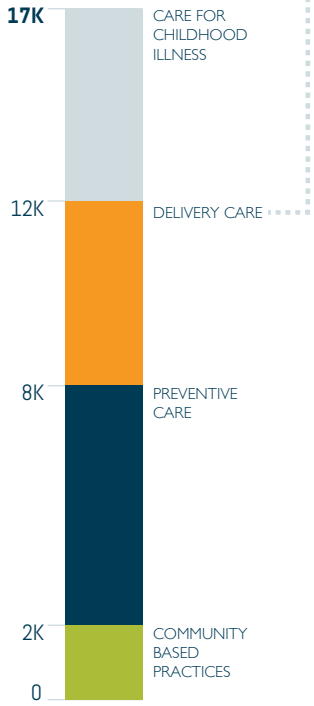
- CARESEEKING FOR PNEUMONIA
- FULL SUPPORTIVE CARE FOR PREMATURITY
- SKILLED ATTENDANT AT DELIVERY

2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

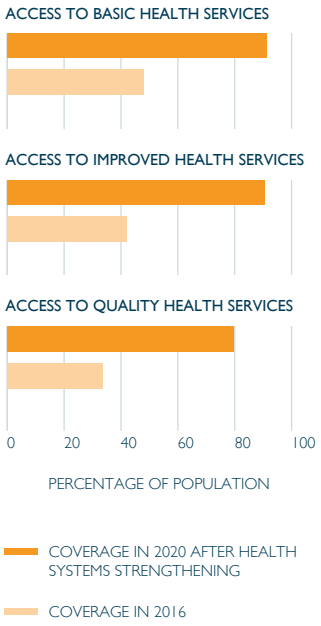
- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

TOTAL LIVES SAVED



3 DELIVERY CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Developed the integrated human resource information system that assists the MoH in tracking health workforce and ensures adequate staff to deliver quality health services to women and children.
- Supported the construction of a national MOH warehouse for the consolidated storage and distribution of essential medicines/commodities.
- Support the Government of Liberia (GoL) to institutionalize quality assurance and quality improvement through the establishment of a National Quality Management Unit, including updating and disseminating clinical standards for the MOH's Essential Package of Health.
- Supporting the revision of the national health management information systems reporting forms and training trainers for national roll out.

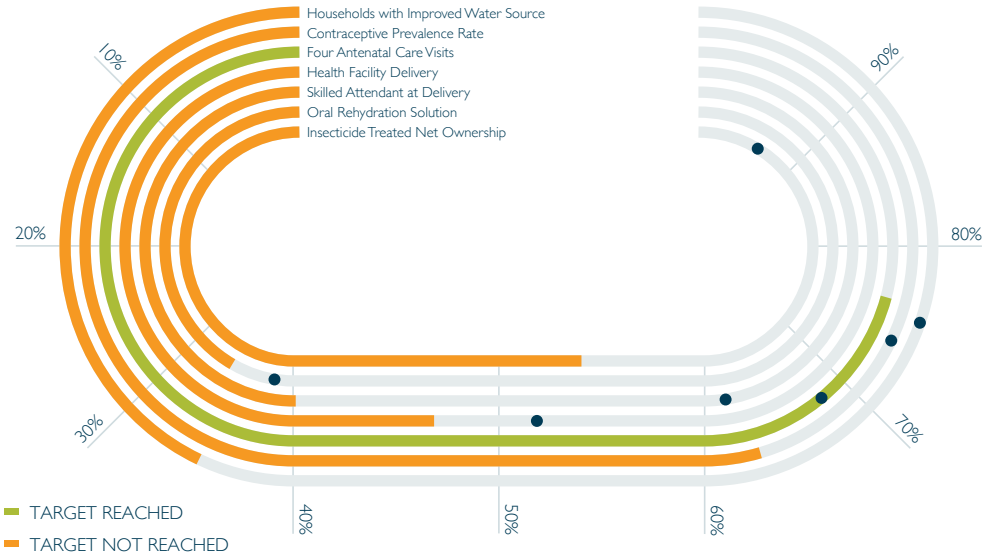
MADAGASCAR

* Estimate from 2015

	24.4M ↑ Total Population	3.6M ↑ Population Under 5 Years	*40K ↓ Under-5 Deaths / Year	*50 ↓ Under-5 Mortality Rate Per 1,000 Live Births	784K ↑ Births	*353 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	11.6M	2.1M	80K	158	530K	640

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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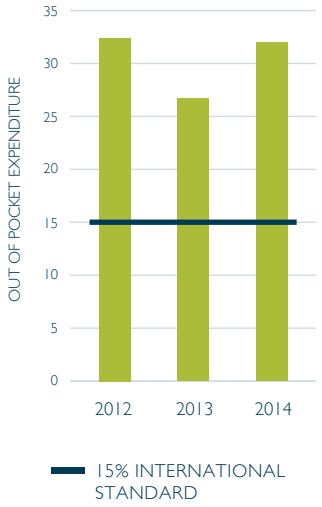
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF MADAGASCAR AND OTHER PARTNERS, WE HAVE:

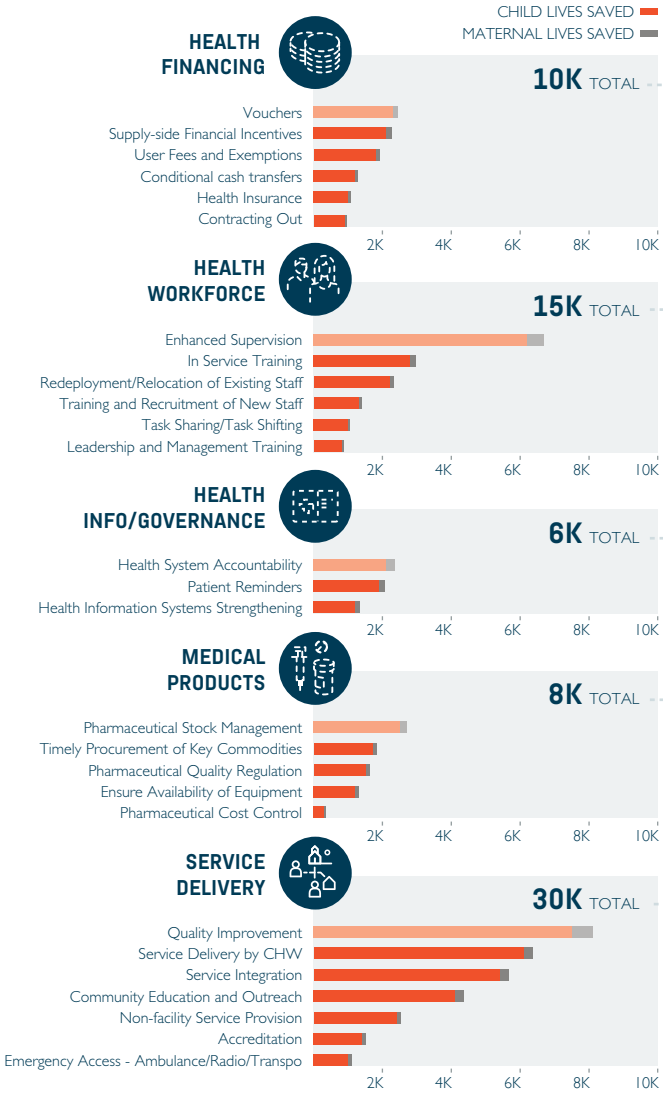
- Trained 526 doctors and midwives in maternal and neonatal health and 289 in postpartum family planning and counseling.
- Protected 12 million people from malaria through insecticide treated nets that were distributed through campaigns and continuous distribution and through indoor residual spraying activities.
- Increased access to improved sanitation for 171,048 individuals.
- Reached over 1 million children under five through programs focused on promotion of essential nutrition actions.
- Trained 10,572 community health workers to provide family planning information, referrals and services.
- Launched the Development Credit Authority and issued loans in the amount of $90,000 to improve health.
- Supported two national polio vaccination campaigns and a national measles vaccination campaign as well as two assessments of the national polio outbreak response.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 69K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.



1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

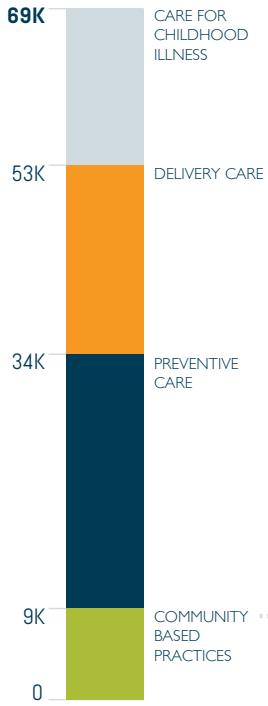
- EXCLUSIVE BREASTFEEDING
- H. INFLUENZAE B VACCINE
- THERAPEUTIC FEEDING FOR SEVERE WASTING

2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

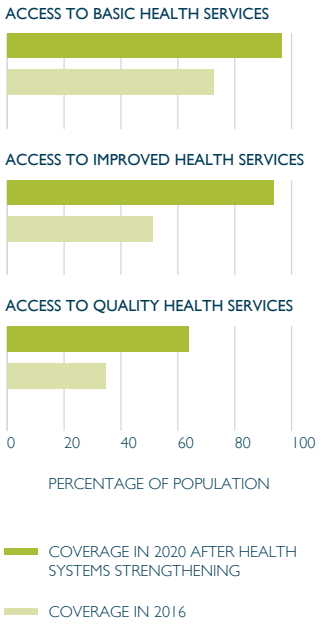
- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

TOTAL LIVES SAVED



3 COMMUNITY BASED PRACTICES IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

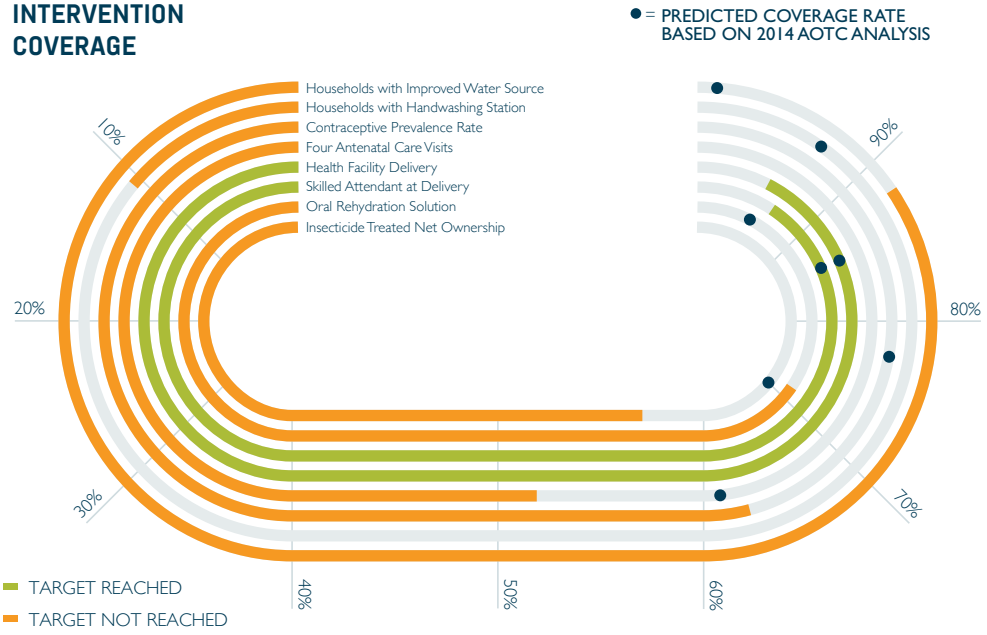
- Build the capacity of the MoH to manage and conduct annual national health account exercises to better inform policies and health priorities.
- Strengthen the reach and quality of the service delivery platform by training primary care health providers in both the public and private sector and community health providers to provide life-saving services.
- Support the development of a national health financing strategy to ensure sustainable financing for health.
- Strengthen the commodity supply chain management including the logistics management information system and pilot innovative delivery options to reach remote and rural populations.
- Support the government with the implementation of an integrated health management information and surveillance system to generate data and research to inform policy in the areas of family planning and maternal and child health.

MALAWI

* Estimate from 2015

	18.6M ↑ Total Population	3.4M ↑ Population Under 5 Years	*40K ↓ Under-5 Deaths / Year	*64 ↓ Under-5 Mortality Rate Per 1,000 Live Births	767K ↑ Births	*634 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	9.5M	1.8M	102.5K	244	459K	1,100

INTERVENTION COVERAGE



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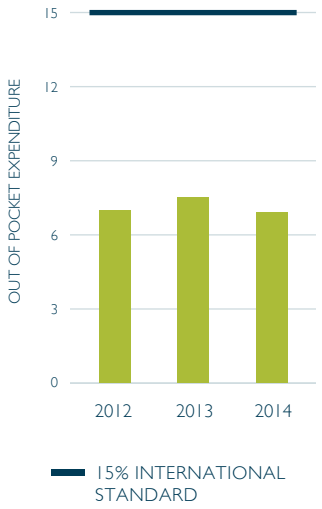
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF MALAWI AND OTHER PARTNERS, WE HAVE:

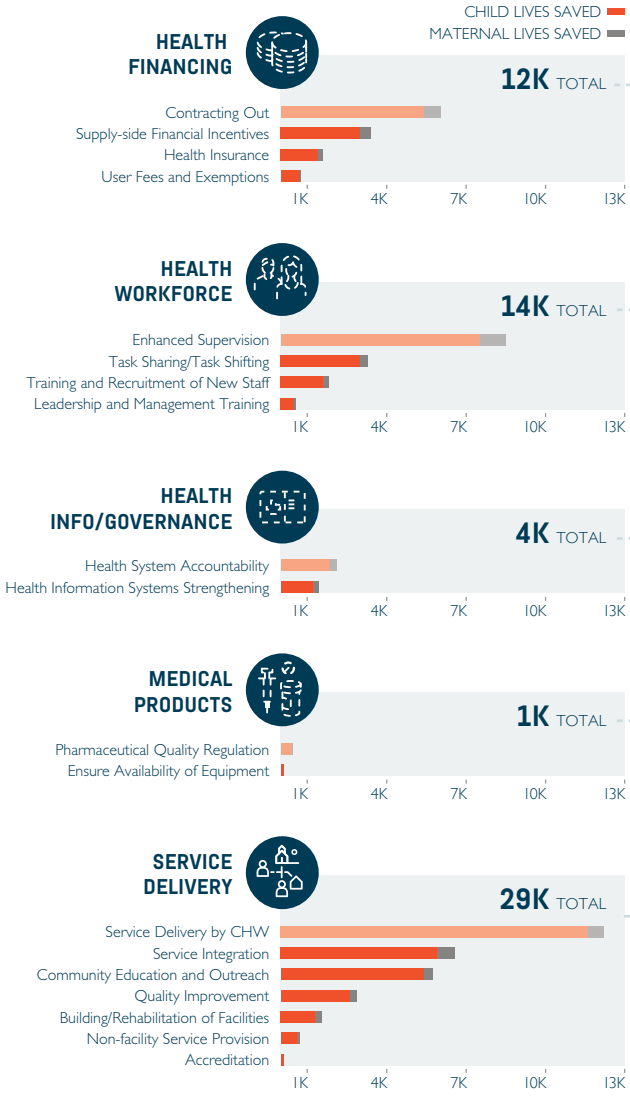
- Provided scholarships to 561 Malawians pursuing undergraduate courses in nursing, midwifery, and pharmacy, and to 59 Malawians pursuing postgraduate courses in family planning and reproductive health, maternal and neonatal health, human nutrition and community health.
- Strengthened the capacity of 122 Basic and Comprehensive Emergency Obstetric and Newborn Care (B/CEmONC) sites that now provide full, appropriate life-saving maternity and neonatal care.
- Trained 378 healthcare providers in the use of chlorhexidine for prevention of umbilical cord infection in newborns and assisted the GoM in rolling out guidelines around its use.
- Leveraged nearly $20 million in private sector investment to promote water, sanitation, and hygiene (WASH), nutrition, and health messages using a volunteer peer-to-peer education group approach, known as the care group model, including messaging on hand washing and community-led total sanitation.
- With joint funding from DfID, USAID installed pre-fabricated pharmacy storage units at 106 health facilities across Malawi to address the severe shortage of storage space and maintain security and effectiveness.
- Trained 61 health workers in Integrated Maternal and Neonatal Health, and 59 health workers in comprehensive emergency maternal and newborn care to fill in during shortages of providers.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 60K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.

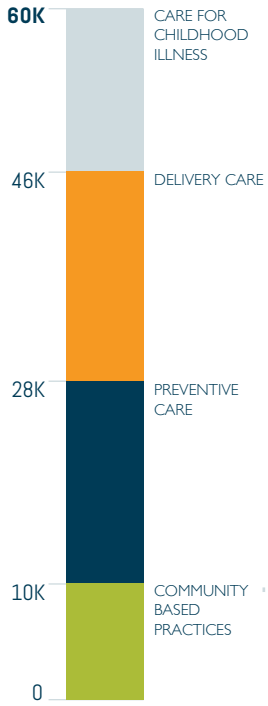


1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

- EXCLUSIVE BREASTFEEDING
- OWNERSHIP OF INSECTICIDE TREATED NETS / HOUSEHOLD RESIDUAL SPRAYING
- ARTEMESININ COMPOUNDS FOR MALARIA

TOTAL LIVES SAVED



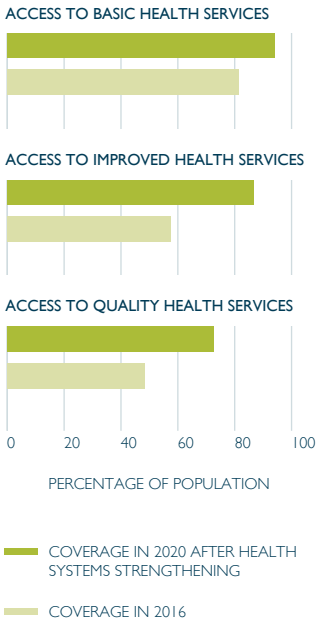
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

3 COMMUNITY BASED PRACTICES IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Increase the availability of trained health workers through technical support to Malawian training institutions and scholarships for nurses, midwives, and pharmacy assistants as well as master's degrees in the health field.
- Build capacity of program managers and pharmacy staff in commodity management and reporting to maintain the significant drop in contraceptive stockout rate from 81 percent in FY 2013 to 22 percent in FY 2015.
- Provide technical assistance to improve data quality and use at district, zonal, and national levels, with a focus on improved accountability for medicines and service delivery.
- Embed a Senior Health Economist in the Ministry of Health to support the design of new health system reforms and improve accountability.

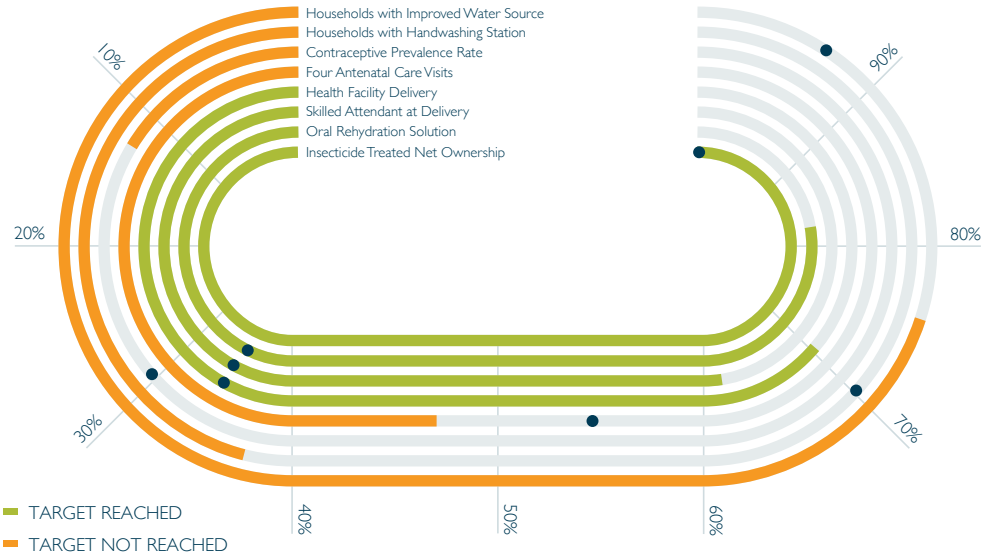
MALI

* Estimate from 2015

	17.5M ↑ Total Population	3.2M ↑ Population Under 5 Years	*83K ↓ Under-5 Deaths / Year	*115 ↓ Under-5 Mortality Rate Per 1,000 Live Births	775K ↑ Births	*587 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016	17.5M	3.2M	*83K	*115	775K	*587
1990	8.5M	1.6M	90.7K	253	440K	1.1K

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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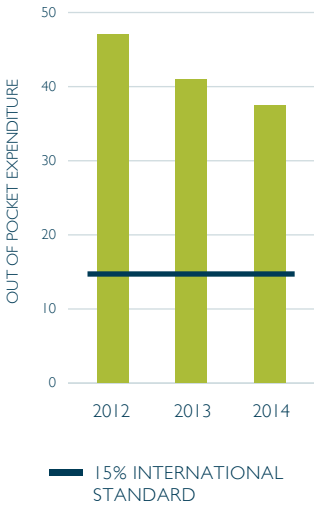
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF MALI AND OTHER PARTNERS, WE HAVE:

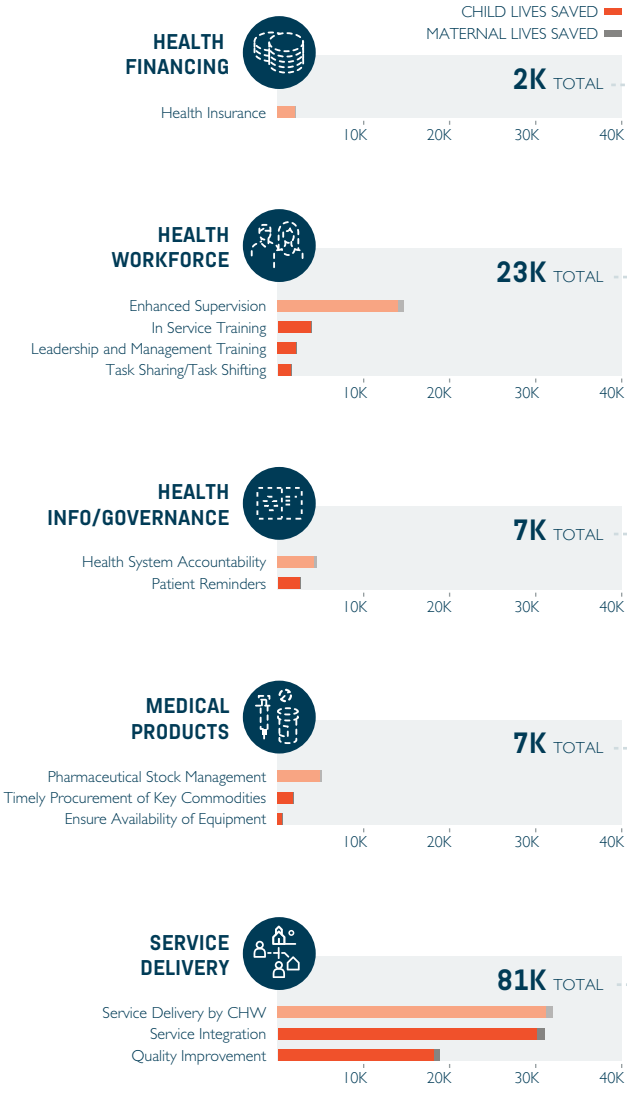
- Trained providers who saved the lives of 13,444 babies who were not breathing at birth through the Helping Babies Breathe program.
- Declared 213 communities open defecation free.
- Introduced injectable polio vaccine nationwide and reached over 15 million children through 2 campaigns.
- Reached and protected 980,109 children with malaria prevention medicine in 12 President's Malaria Initiative (PMI) districts.
- Visited 73,744 babies within two days of birth through community based postnatal follow-up.
- Increased access to an improved sanitation facility for 164,535 people and 36,833 households now use soap and water at a handwashing station.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 120K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.

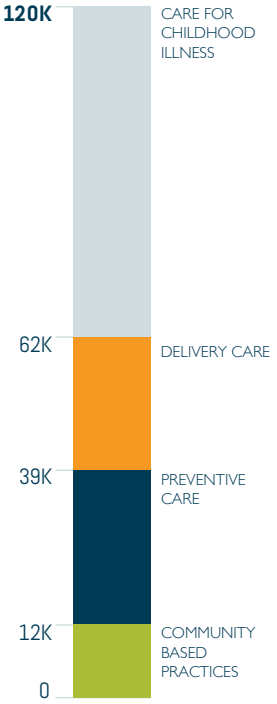


1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

- SKILLED ATTENDANT AT DELIVERY
- HANDWASHING WITH SOAP
- FULL SUPPORTIVE CARE FOR SEPSIS/PNEUMONIA

TOTAL LIVES SAVED



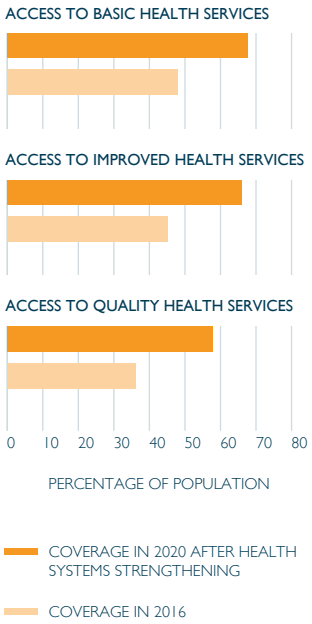
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

3 DELIVERY CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

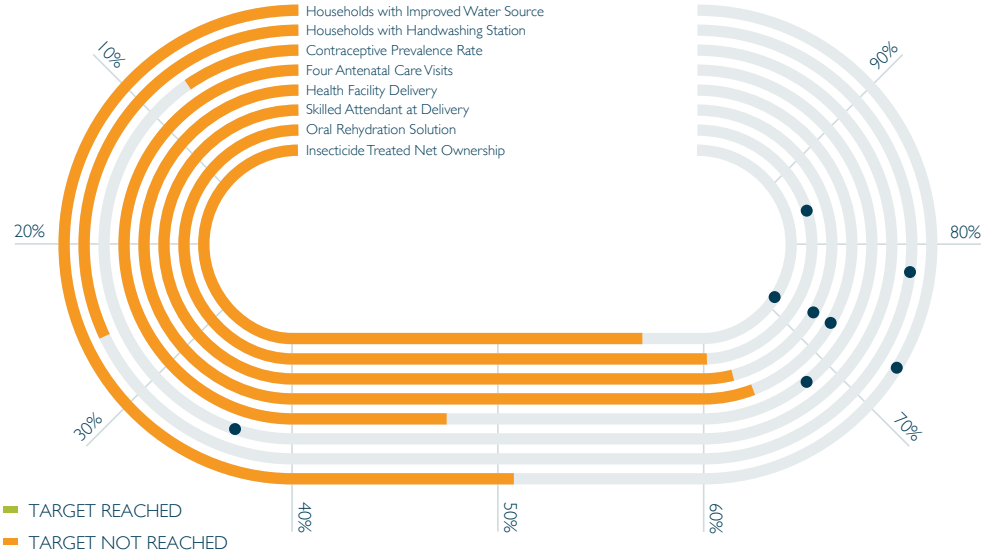
- Supported a management assessment in the Malian Ministry of Health and Public Hygiene (MOHPH), that highlighted the need to strengthen management capacity and governance, to align the level of resources available with the results to be achieved, and to better coordinate donor resources to avoid over concentration in some regions.
- Strengthening the health commodities logistics system through a dashboard that captures, aggregates, and tracks information on malaria, family planning, HIV, and nutrition commodities.
- PMI's supply chain strengthening decreased health facility stock-outs from 85 % in 2011 to 28 % in 2016, as found in the end-user verification (EUV) surveys.
- Supporting the 6th Demographic and Health Survey, with data collection starting summer of 2017.

MOZAMBIQUE

* Estimate from 2015

	25.9M ↑ Total Population	4.4M ↑ Population Under 5 Years	*82K ↓ Under-5 Deaths / Year	*79 ↓ Under-5 Mortality Rate Per 1,000 Live Births	994K ↑ Births	*489 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016	25.9M	4.4M	*82K	*79	994K	*489
1990	13M	2M	132K	233	611K	910

INTERVENTION COVERAGE



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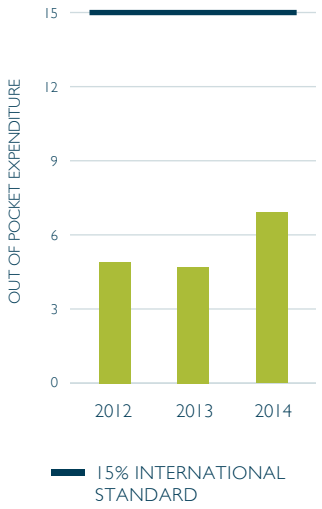
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF MOZAMBIQUE AND OTHER PARTNERS, WE HAVE:

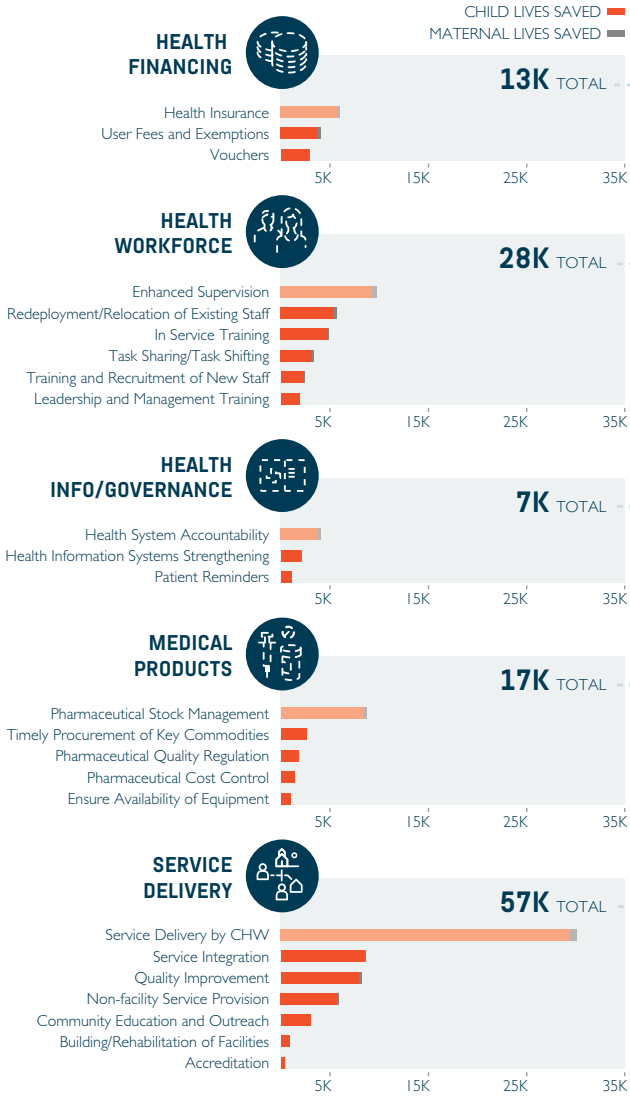
- Influenced national policy to introduce injectable contraceptives and implants into the package of available contraceptives to clients, and changed policy which will allow community health workers to provide injectable contraceptives and help increase the usage of voluntary family planning methods.
- Built the skills of laboratory technicians to improve their ability to identify malaria, resulting in increased knowledge of basic procedures for malaria treatment and the doubling of diagnostic testing.
- Supported nearly 400 community meetings where Community Development Agents provided WASH messages to engage communities to improve their hygiene and household sanitary conditions to prevent disease in two key provinces.
- Supported the development of a National Strategy for Food Fortification, which has been approved by the GoM, and will result in several staple food products being fortified with key micronutrients necessary for adequate health and nutrition.
- Revitalized 18 Community Health Committees and established three new ones to help promote linkages between the community and health facility.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 122K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.

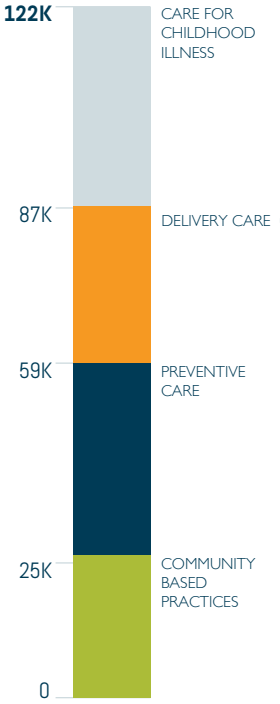


1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

- SKILLED ATTENDANT AT DELIVERY
- HAND WASHING WITH SOAP
- FULL SUPPORTIVE CARE FOR SEPSIS/PNEUMONIA

TOTAL LIVES SAVED



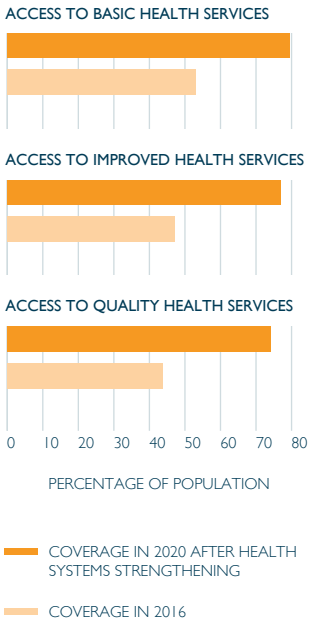
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

3 DELIVERY CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

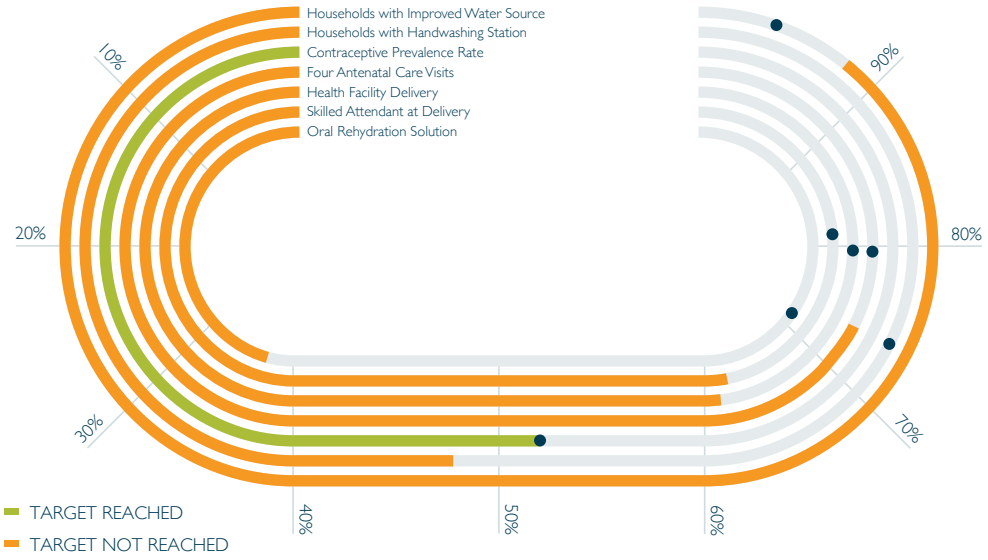
- Provide training to provincial and district level public health staff to facilitate planning the MCH, malaria, nutrition and family planning needs of the population.
- Support the MoH's long-term plan for developing a medical commodities supply chain, which will create one single command of the supply chain and ensure that the right goods, of the right quantity and of the right quality are delivered to the right place, at the right time and at the right cost.
- Help the MoH consolidate and improve paper-based MCH monitoring tools in health facilities across the country to eliminate double counting.
- Establish a Food and Nutrition Surveillance System to continuously generate quality information on the nutrition and food security state for planning, management and informed decision-making to improve the nutritional status of the population.

NEPAL

* Estimate from 2015

	2016	1990
Total Population	29M ↑	19M
Population Under 5 Years	2.9M ↓	3.2M
Under-5 Deaths / Year	*20K ↓	95K
Under-5 Mortality Rate Per 1,000 Live Births	*36 ↓	142
Births	579K ↓	768K
Maternal Mortality Ratio Per 100,000 Live Births	*258 ↓	770

INTERVENTION COVERAGE



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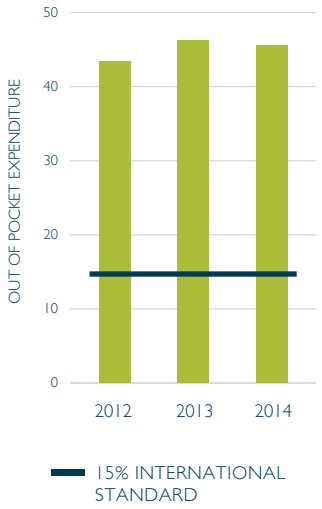
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF NEPAL AND OTHER PARTNERS, WE HAVE:

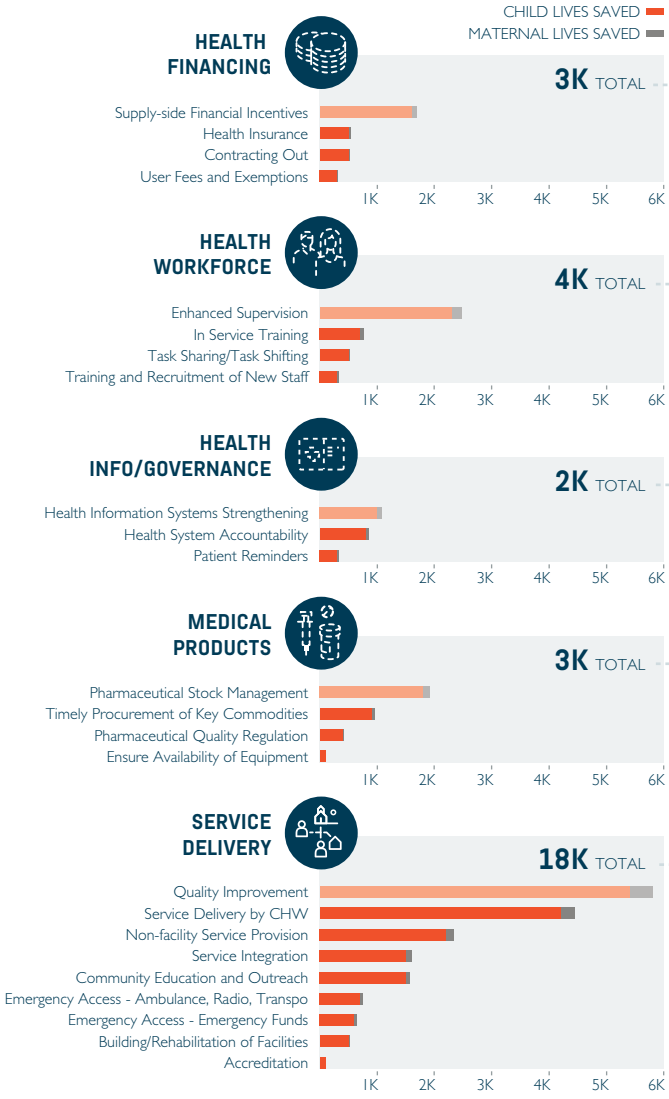
- By focusing on reaching marginalized populations with innovative mobile technology and Community Action Promoters, the percentage of pregnant women in target villages visiting health facilities for antenatal care increased from 31% in July of 2016 to 45% in October, while the percentage of deliveries in facilities increased from 16% to 33% in the same period.
- Supported the revitalization of Health Facility Operations Management Committees, an essential link between the community and the health facility, which resulted in 92% of the health facilities in project districts expanding their services and 96% improving the quality of their existing services.
- Funded the Ministry of Health to provide community based integrated management of childhood illness in seven districts and provided support for the continuity of the package in 33 districts and treated 163,171 children under five with antibiotics for pneumonia.
- Formed a Supply Chain Working Group comprised of donors to coordinate efforts for a reliable supply of medicines and health commodities.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 30K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.



1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

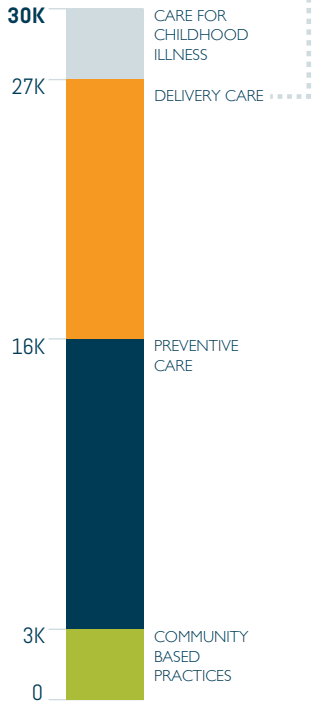
- NEONATAL RESUSCITATION
- CLEAN BIRTH PRACTICES
- IMMEDIATE ASSESSMENT AND STIMULATION

2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

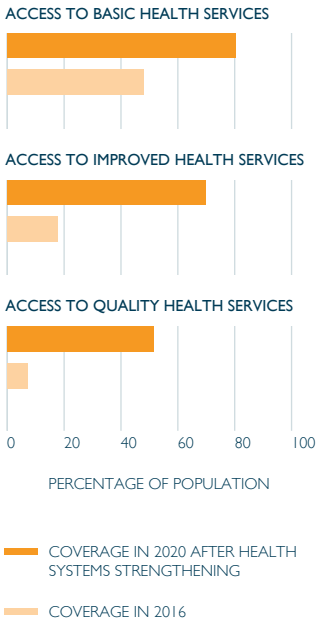
- AVAILABILITY OF COMMODITIES
- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES

TOTAL LIVES SAVED



3 DELIVERY CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Institutionalize quality improvement at the district and facility level by scaling up interventions for quality improvement, assisting partners with quality improvement, and conducting a review of the effectiveness of this effort.
- Improve health staffing by supporting the MOH to hire critical human resources to deliver quality family planning and safe motherhood services focusing in hard to reach, remote and rural areas.

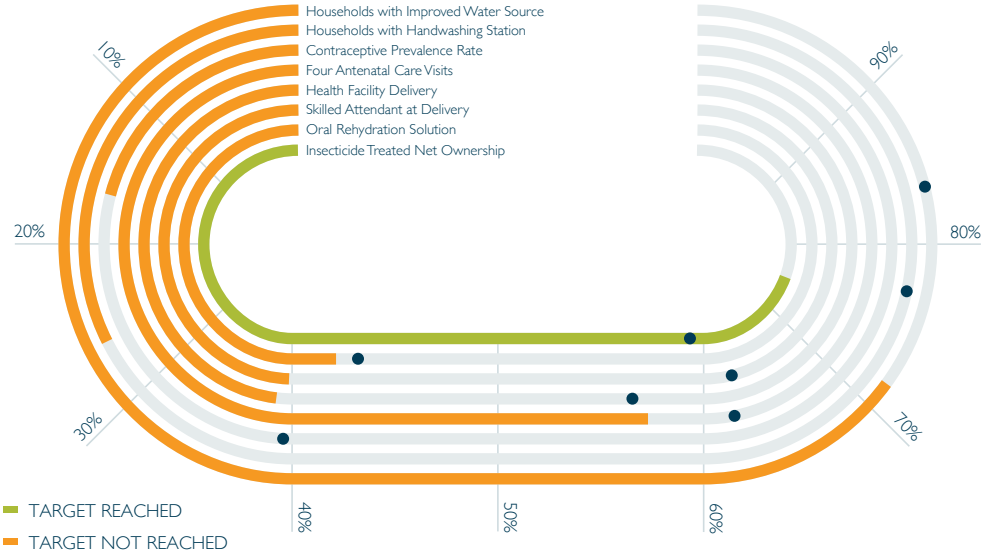
NIGERIA

* Estimate from 2015

	186M ↑ Total Population	30.1M ↑ Population Under 5 Years	*750K ↓ Under-5 Deaths / Year	*109 ↓ Under-5 Mortality Rate Per 1,000 Live Births	6.9M ↑ Births	*814 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	97M	17M	848K	213	4.3M	1110

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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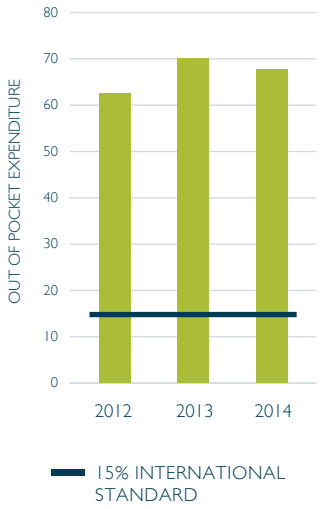
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF NIGERIA AND OTHER PARTNERS, WE HAVE:

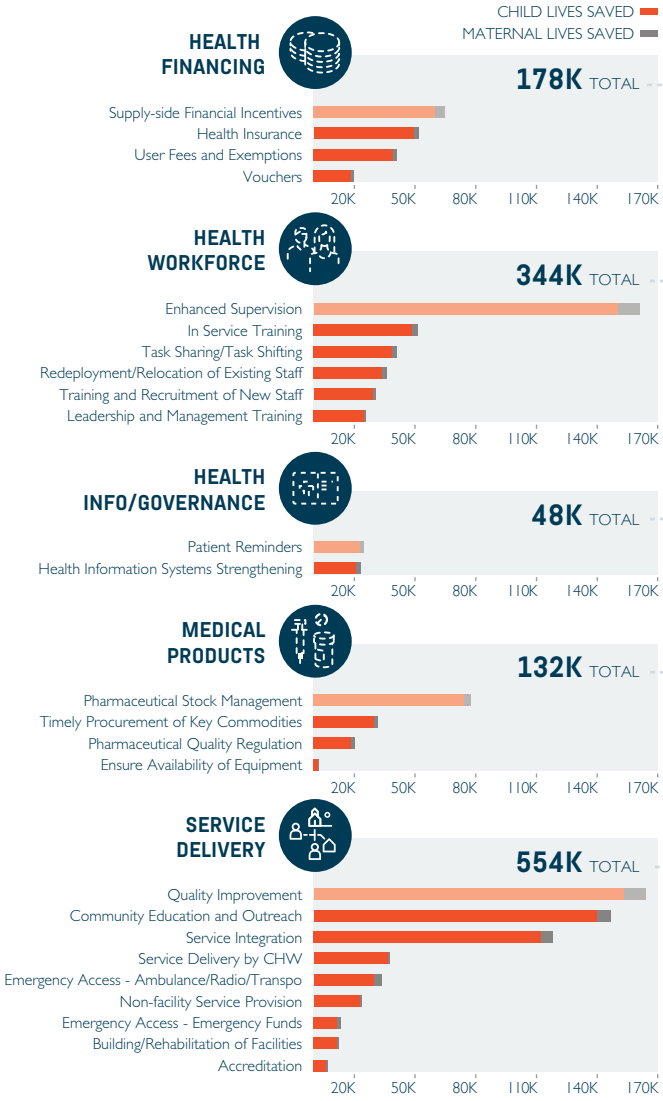
- Provided basic emergency obstetric and newborn care training for 717 health care workers from October 2015 to September 2016 to increase knowledge and standardize the skills of frontline health care workers to provide quality, evidence based services and improve referral.
- As part of the Saving Mothers, Giving Life program in collaboration with 'We Care Solar', 44 solar suitcases were used in health facilities to provide lighting for child birth, and therefore improve quality of obstetric and other services in 44 facilities across Cross River state.
- The Saving Mothers, Giving Life program supported Cross River state in having its own pool of trainers on key maternal and newborn health services by conducting a Training of Trainers (TOT) on Emergency Obstetric and Newborn Care services for 12, a TOT on Post-Abortion Care (PAC) for 9 doctors and 3 midwives, and a TOT on Post-Partum Family Planning (PPFP) for 17 health service providers.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 1.3M

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.

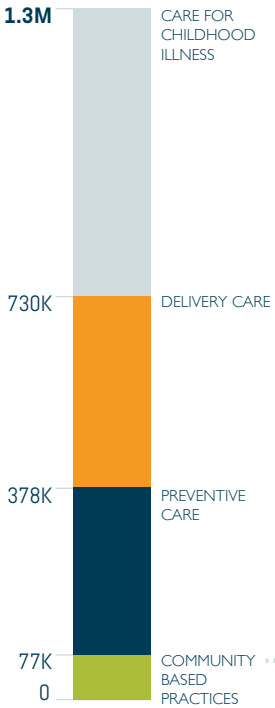


1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

- CARESEEKING FOR PNEUMONIA
- HAND WASHING WITH SOAP
- FULL SUPPORTIVE CARE FOR PREMATURITY

TOTAL LIVES SAVED



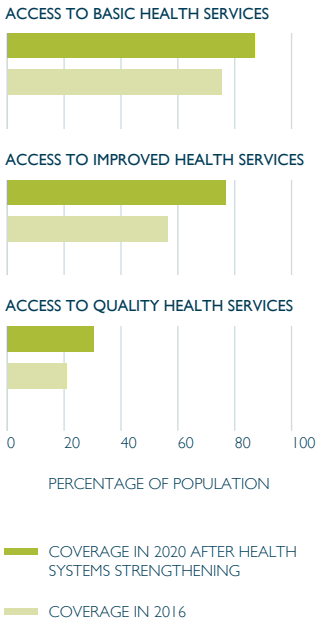
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

3 COMMUNITY BASED PRACTICES IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

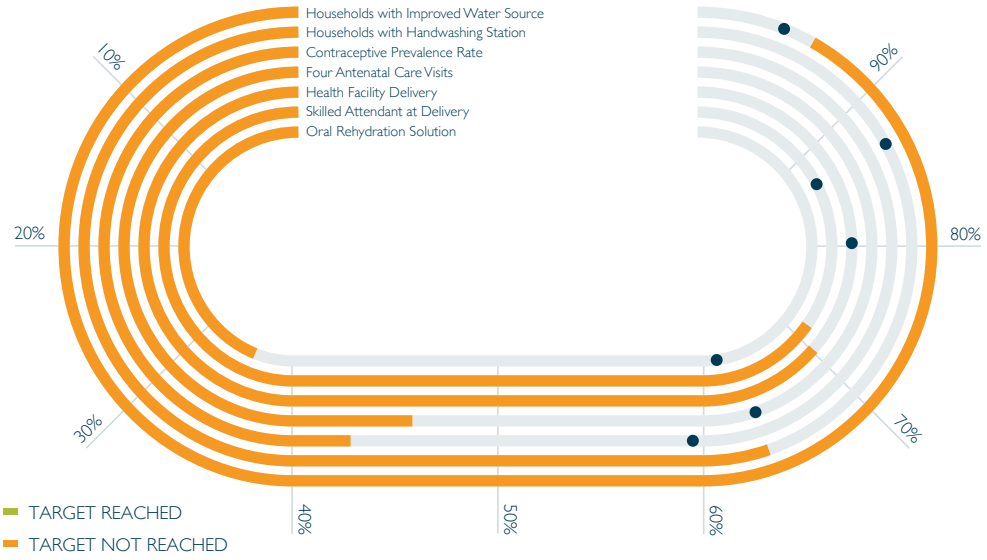
- Advocate to the state governments for increased financial commitment to maternal, newborn, and child health and coordinate with other projects to meet needs.
- Build capacity of state/local government area officers on record keeping and use of standard platforms, monthly data collection, quality analysis and review of data, and use of data for decision-making.
- Support three professional associations with grants to deliver quality MNCH services in two supported states.
- Supported the development of a Community Engagement Strategy for routine immunization—the first of its kind in Nigeria, which will be used to develop strategies/approaches to ensure that the community is fully engaged in demanding routine immunization services as well as participating in planning, monitoring and evaluation.
- Saving Mothers, Giving Life partnership will provide support to the Government of Cross River state to strengthen and ensure sustained implementation of its maternal and perinatal death surveillance and response strategy.
- Support the Ebonyi and Kogi state governments to improve the quality of integrated routine maternal and newborn care by establishing quality improvement committees, supporting the teams to identify improvement aims and measures, and providing clinical and quality improvement skills building.

PAKISTAN

* Estimate from 2015

	2016	1990
Total Population	202M ↑	119M
Population Under 5 Years	21.3M ↑	20.9M
Under-5 Deaths / Year	*432K ↓	619K
Under-5 Mortality Rate Per 1,000 Live Births	*81 ↓	138
Births	4.5M ↓	5M
Maternal Mortality Ratio Per 100,000 Live Births	*178 ↓	490

INTERVENTION COVERAGE



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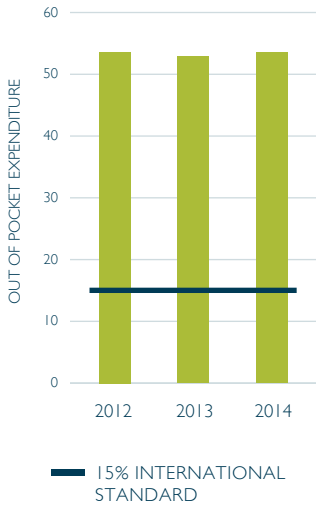
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF PAKISTAN AND OTHER PARTNERS, WE HAVE:

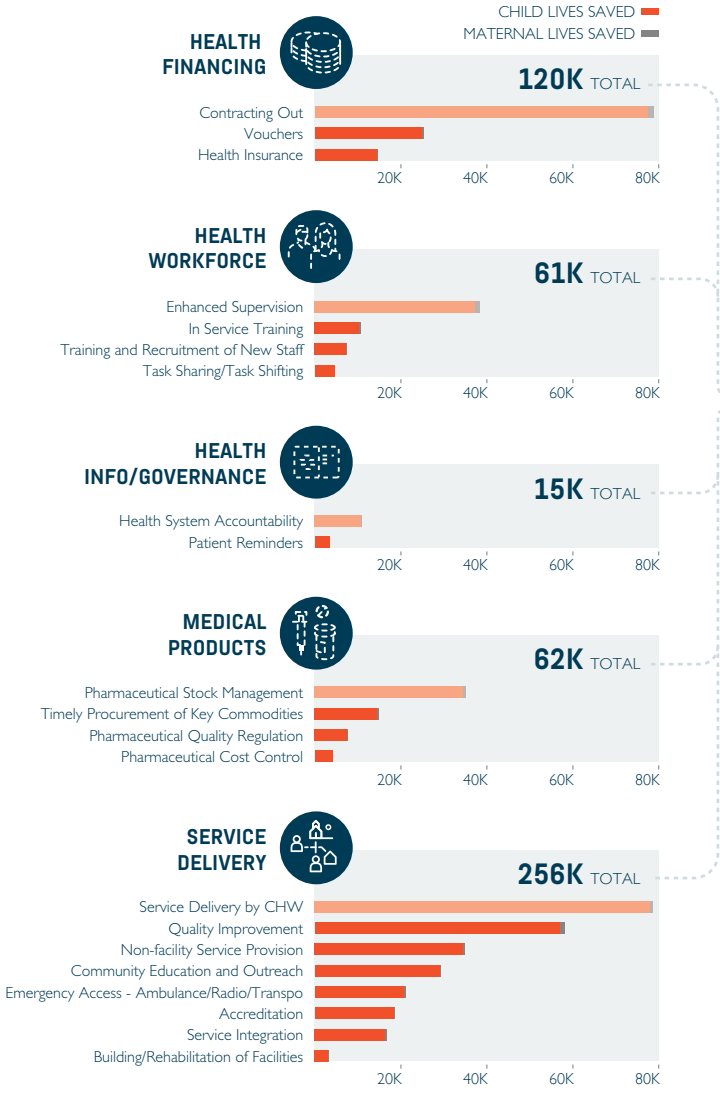
- Trained 1,980 Community Health Workers who then led 188,843 support group meetings reaching 2,487,995 women with maternal and child health and family planning messages and generated 40,717 referrals to public sector facilities.
- Through the Helping Babies Breath (HBB) partnership, 3,210 newborns born unable to breathe were successfully revived in 2016. HBB, a curriculum for reviving babies born unable to breathe, was introduced in 750 USAID supported public and private facilities, reaching 932 skilled birth attendants with training.
- Through case management in USAID-supported public and private facilities, treated 149,172 children under five for pneumonia and 535,880 children for diarrhea.
- Reached out to 107,772 pregnant and lactating women with messages highlighting the importance of breastfeeding and infant young child feeding practices.
- Organized 600 cooking demonstration sessions on complementary feeding through the women's support group platform led by Lady Health Workers.
- Extended routine immunization to reach a total of 8 districts and developed a comprehensive management information system (MIS) dashboard to track the status of enrolled children. The MIS used a text message based system to send reminders of immunization due dates.
- Extended support to 10 midwifery schools, bringing the total to 15 USAID supported midwifery schools.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 514K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.



1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

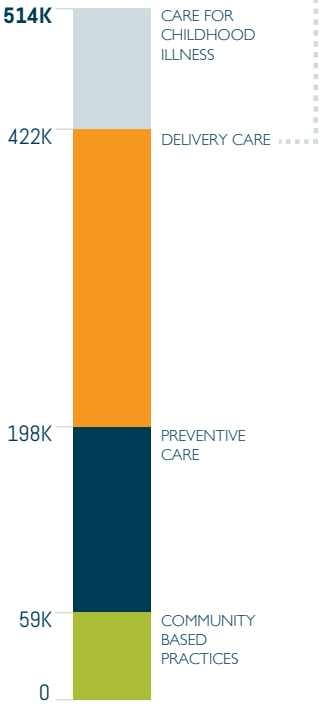
- ORAL REHYDRATION SOLUTION
- NEONATAL RESUSCITATION
- CLEAN BIRTH PRACTICES

2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

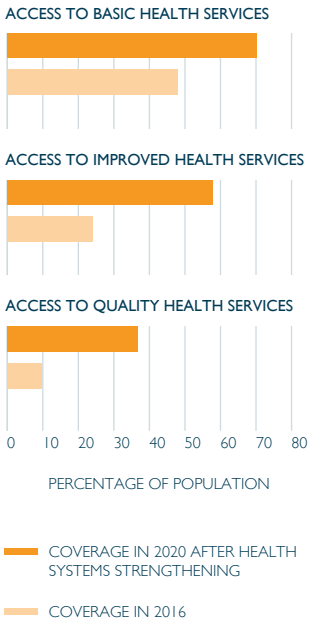
- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

TOTAL LIVES SAVED



3 DELIVERY CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Supported the GOP in establishing a unit for Health Planning System Strengthening that enables the Ministry of Health Services to make more information driven decisions and provide more informed guidance to provincial governments for their health and population planning.
- Trained 297 public sector providers on diarrhea and pneumonia treatment using the WHO's guidelines for Integrated Management of Childhood Illness and are partnering with Government of Sindh to ensure availability of essential child health commodities (ORS, Amoxicillin, Zinc).
- The Ministry of National Health Services, Regulations, and Coordination became the first GOP department to become ISO 9001:15 certified by the National Quality Assurance of the United Kingdom, which demonstrates the Ministry's ability to consistently provide products and services that meet customer and statutory requirements. USAID supported the Ministry over the past year to train staff and streamline systems in preparation for an annual audit.

RWANDA

* Estimate from 2015

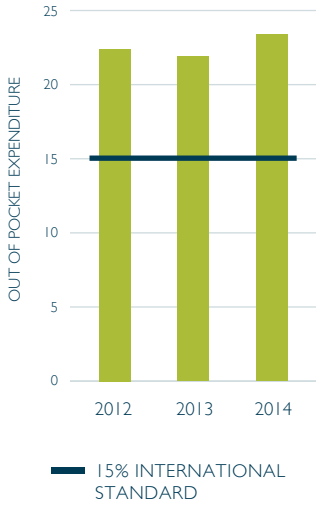
	2016	1990
Total Population	13M ↑	7M
Population Under 5 Years	2M ↑	1.3M
Under-5 Deaths / Year	*14K ↓	49.3K
Under-5 Mortality Rate Per 1,000 Live Births	*42 ↓	151
Births	432K ↑	304K
Maternal Mortality Ratio Per 100,000 Live Births	*290 ↓	910

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS

Estimates are based on trends from most recently available surveys and therefore may not reflect acceleration due to *Acting on the Call* efforts

OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF RWANDA AND OTHER PARTNERS, WE HAVE:

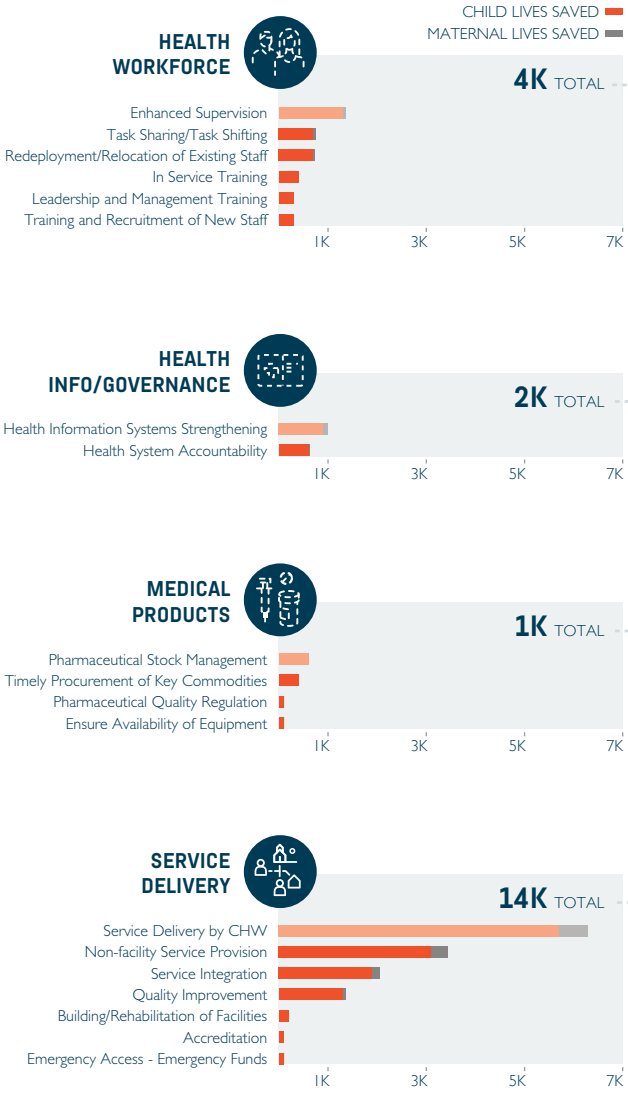
- Supported the government with a low-dose, high-frequency training and mentoring approach that has helped increase the use of kangaroo mother care from 28 to 42% in one year and postnatal care from 38 to 45%.
- Scaled up post partum family planning training to an additional six districts, including an increased ability for IUD insertion at district hospitals.
- Established a mentoring program with professional organizations which helped improve the skills of 60 general practitioners and 1,018 health care providers working in maternity units and labor wards.
- Printed and distributed partograms and postnatal care tools in all districts, leading to an increase in mothers receiving postnatal care.
- Repaired obstetrics fistula in 47 women and currently working with MoH to develop a strategy for a sustainable fistula repair program.
- Working to adapt child health quality indicators for Rwanda in alignment with WHO framework on quality of care.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 21K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.

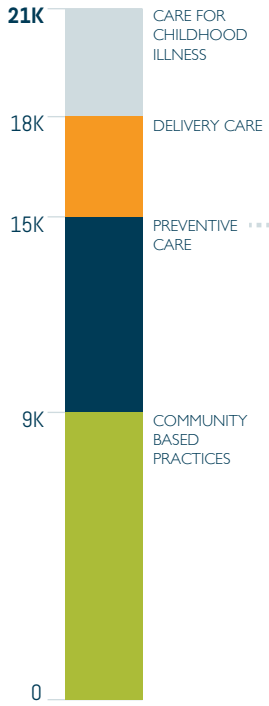


1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

- PNEUMOCOCCAL VACCINATION
- HAND WASHING WITH SOAP
- FULL SUPPORTIVE CARE FOR PREMATURITY

TOTAL LIVES SAVED



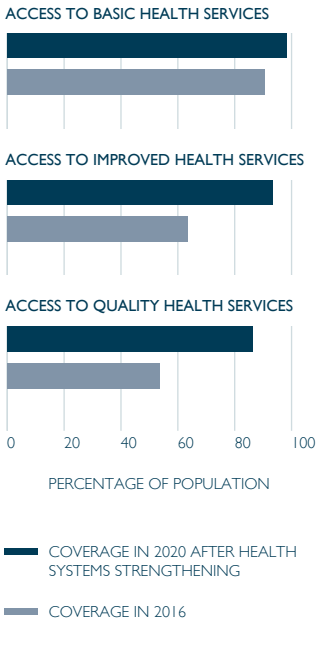
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY

3 PREVENTIVE CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Strengthen community-based health insurance (CBHI) monitoring and evaluation systems to identify challenges and apply targeted solutions.
- Facilitate financial access to services by better tracking premium payments and client eligibility through an electronic member management system for CBHI.
- Support integrated annual health action planning for key district policy-makers and stakeholders, improving accountability.
- Enrolled all district hospitals in the accreditation system, which are now progressing towards achievement of level one of five to achieve full accreditation.
- Developing a minimum package of services for health centers as a first step towards achieving standardized care.

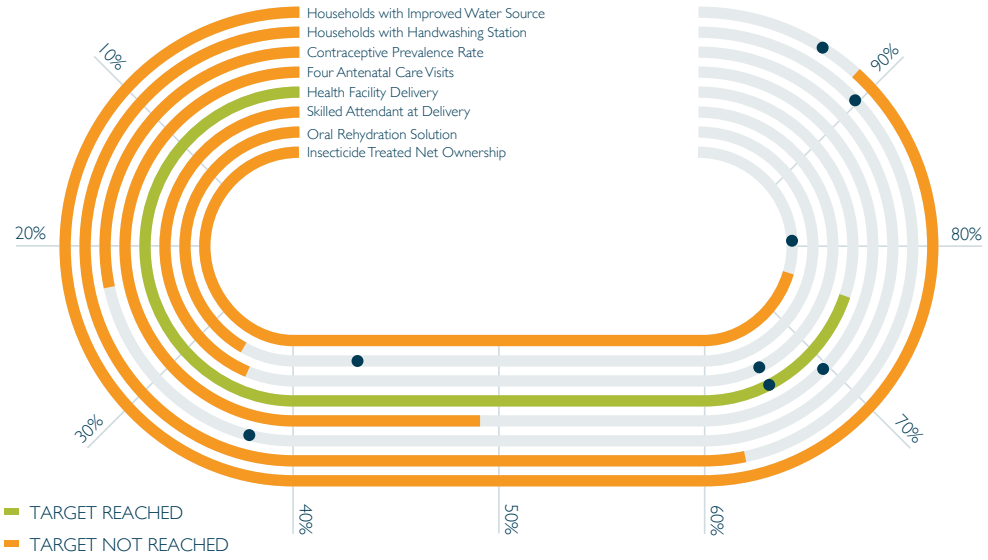
SENEGAL

* Estimate from 2015

	14.3M ↑ Total Population	2.2M ↑ Population Under 5 Years	*27K ↓ Under-5 Deaths / Year	*47 ↓ Under-5 Mortality Rate Per 1,000 Live Births	487K ↑ Births	*315 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	7.3M	1.4M	44K	142	342K	670

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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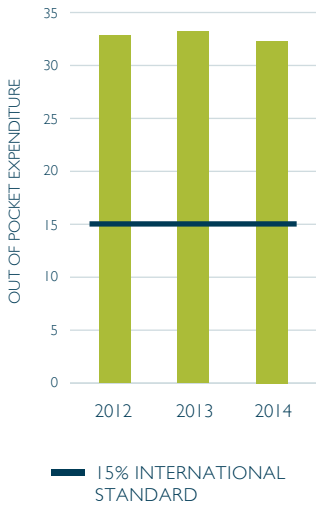
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF SENEGAL AND OTHER PARTNERS, WE HAVE:

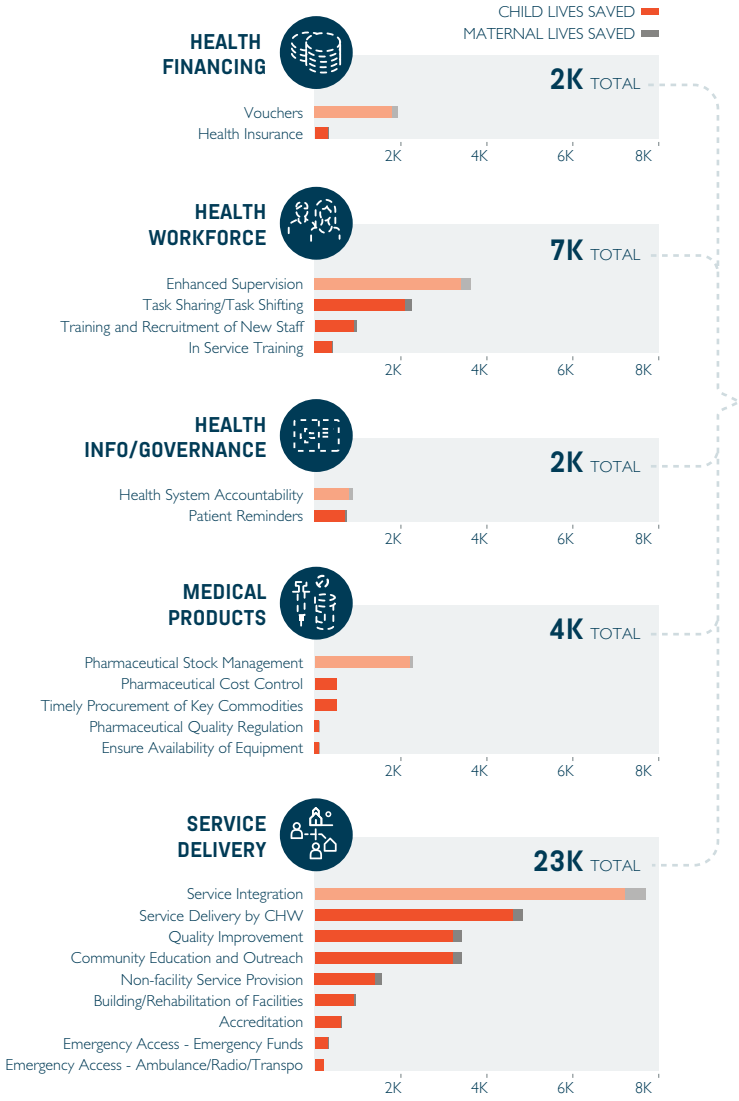
- Held 1,069 consultations integrating family planning and immunization, resulting in 33,185 children immunized and 6,742 women voluntarily adopted a family planning method.
- 964 communities supported by USAID established emergency transport systems for women who experience obstetric crises and need urgent referral to higher-level health structures.
- Provided equipment to more than 800 health facilities, more than half of all facilities nationwide, in order to implement the Helping Babies Breathe program and prevent newborn deaths related to asphyxia.
- Supported the expansion of, and membership in, community-based health insurance, known as mutuelles, enrolling 706,109 people.
- Supported the Ministry of Health to train providers on the use of Magnesium sulfate to treat pregnancy related seizures at all public health facilities.
- Supported the development of the National Strategic Nutrition Plan that defines nutrition priorities, objectives and costed activities nationwide.
- Supported the development of the 2016-2018 National Family Planning Action Plan through a direct financing agreement that defines priority interventions, costed activities and indicators for family planning Senegal.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 38K

SCALING UP HEALTH SYSTEMS ACTIVITIES

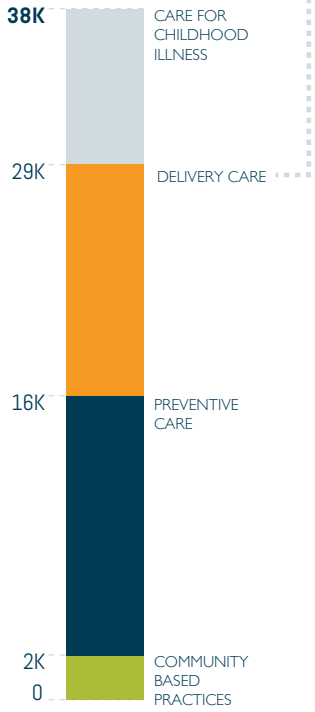
By reducing bottlenecks to services, health system activities help save lives.



1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

- SKILLED ATTENDANT AT DELIVERY
- FULL SUPPORTIVE CARE FOR SEPSIS/PNEUMONIA
- NEONATAL RESUSCITATION



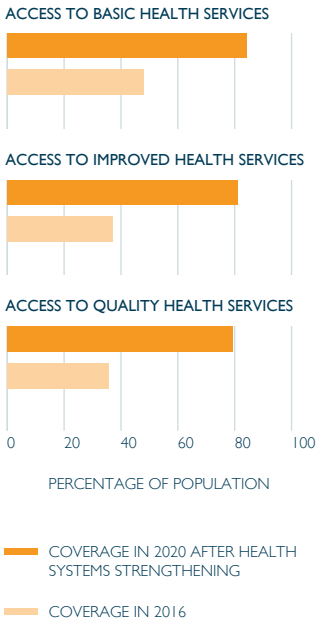
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY
- SOCIOCULTURAL ACCEPTABILITY

3 DELIVERY CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Support the MOH to elaborate the health financing strategy and develop a new policy to improve implementation of the strategic investment plan to support universal access to primary care.
- Support the review of capacity building plans with locally elected officials, members of health committees and civil society organizations in order to plan and budget for their own activities.
- Hired 55 midwives to work in four under-served regions and are working to transfer the salaries of the midwives to the MOH over time.
- Support the decentralization of logistics management for essential health products including training members of regional and district health management teams.
- For health posts in remote and rural areas without access to the internet, USAID supports the development of a mobile application for reporting critical health information into the national system.

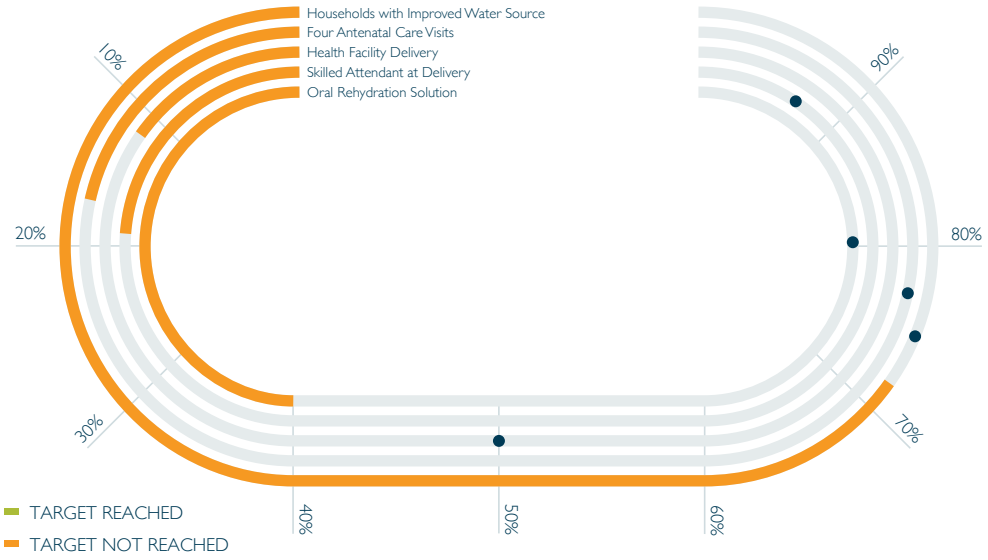
SOUTH SUDAN

* Estimate from 2015

	12.5M ↑ Total Population	2M ↑ Population Under 5 Years	*39K ↓ Under-5 Deaths / Year	*93 ↓ Under-5 Mortality Rate Per 1,000 Live Births	453K ↑ Births	*789 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	5.8M	1.1M	66.2K	252	263K	1,800

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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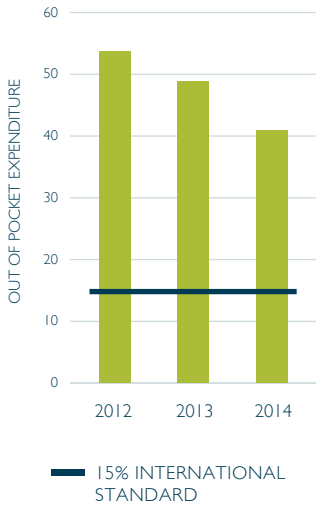
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF SOUTH SUDAN AND OTHER PARTNERS, WE HAVE:

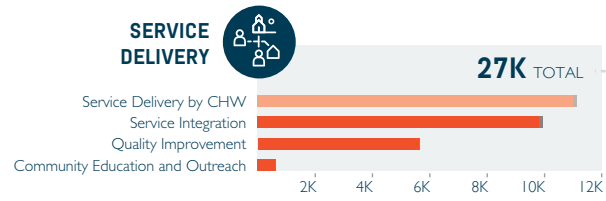
- Through a pooled health fund, USAID supports service delivery of primary health care in eight of ten states. Through a focus on emergency neonatal and obstetric care (EmONC) in select hospitals supported by the health fund, USAID has:
  - Treated about 25,000 cases of diarrhea in children under 5 with oral rehydration solution (ORS).
  - Distributed 1,486 contraceptives.
- Through a focus on emergency obstetric and newborn care in select hospitals supported by the health fund, USAID has supported 5,470 deliveries in health facilities.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 28K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.

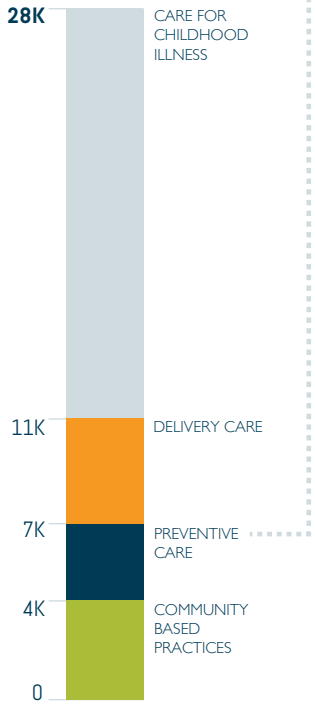


1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

- EXCLUSIVE BREASTFEEDING
- TETANUS TOXOID VACCINATION
- THERAPEUTIC FEEDING FOR SEVERE WASTING

TOTAL LIVES SAVED



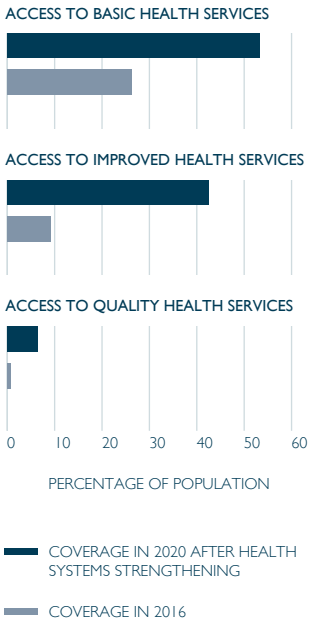
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- AVAILABILITY OF COMMODITIES
- GEOGRAPHICAL ACCESS
- AVAILABILITY OF HUMAN RESOURCES

3 PREVENTIVE CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Provided resources to train health workers and intensify surveillance and community awareness to control cholera and measles outbreaks.
- Providing assistance to the MoH to ensure regular and consistent availability of contraceptives.
- Coordinate the submission of monthly drug consumption reports from primary health facilities, state, county, and faith-based hospitals to guide distribution of drugs to states and counties.
- Developed a user friendly manual to increase utilization of the health information systems tool, which tracks attendance, links with an electronic payroll system, and helps ensure consistent and fair pay for health workers hired by the government

TANZANIA

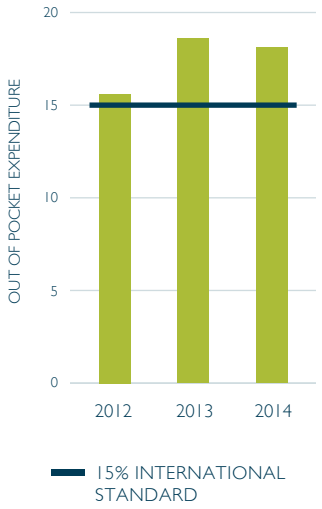
* Estimate from 2015

	52.5M ↑ Total Population	8.6M ↑ Population Under 5 Years	*98K ↓ Under-5 Deaths / Year	*49 ↓ Under-5 Mortality Rate Per 1,000 Live Births	1.9M ↑ Births	*398 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	25M	4.4M	179K	166	1M	870

INTERVENTION COVERAGE

Estimates are based on trends from most recently available surveys and therefore may not reflect acceleration due to *Acting on the Call* efforts

OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF THE UNITED REPUBLIC OF TANZANIA AND OTHER PARTNERS, WE HAVE:

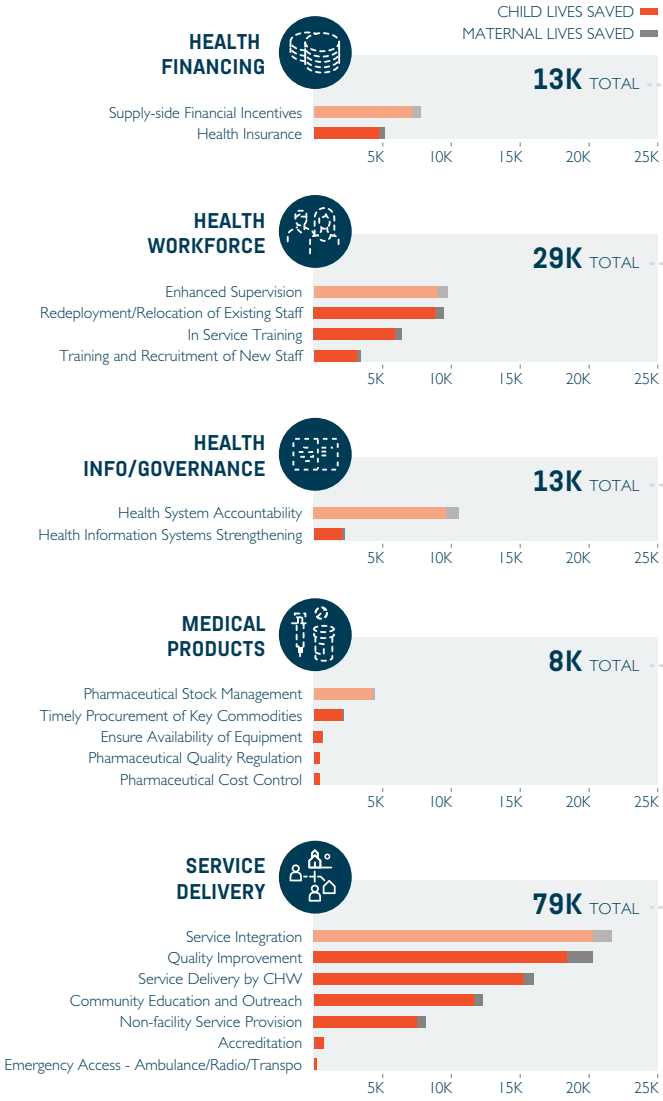
- Supported operationalization of the Reach Every Child Strategy in 13 low performing districts which resulted in the reduction of the total number of unvaccinated children by 75%, from 11,700 to about 3,000.
- Worked to establish emergency obstetric care in 14 health facilities of Mara and Kagera by repairing six obstetric theatres and training 64 providers. To ensure availability of safe blood for transfusion to women who have lost excessive amounts of blood, district blood collection teams were established and a total of 53 service providers in Mara and Kagera were trained on safe collection and utilization of blood.
- In Kagera and Mara Districts, helped establish strong district mentors to conduct quarterly, facility based mentoring on reproductive maternal and newborn care and trained 748 CHWs to conduct home visits to pregnant women in these districts. Together, these interventions resulted in a 7% increase in the number of pregnant women attending early ANC and 10% increase in facility deliveries.
- Supported Health Training Institutions (HTI) with updated teaching materials on midwifery; up-to-date technical reproductive maternal newborn and child health materials were provided in electronic format and 24 tutors were trained on their use.
- Trained 796 Health Facility Governing Committee members in ten low performing districts on planning and resource allocation to improve immunization coverage and trace unvaccinated children, which resulted in a 13% increase in the proportion of children who received the third dose of pentavalent vaccine in the past year.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 142K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.

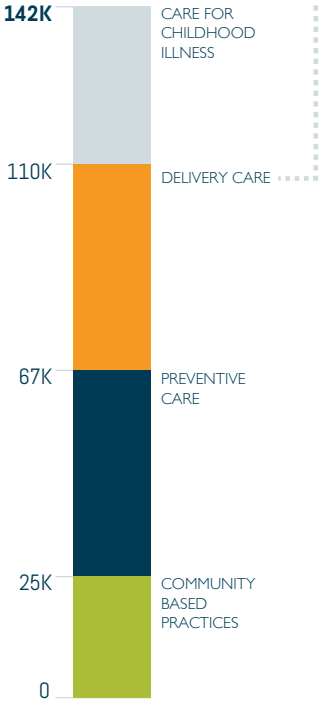


1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

- SKILLED ATTENDANT AT DELIVERY
- FULL SUPPORTIVE CARE FOR PREMATURITY
- FULL SUPPORTIVE CARE FOR SEPSIS/PNEUMONIA

TOTAL LIVES SAVED



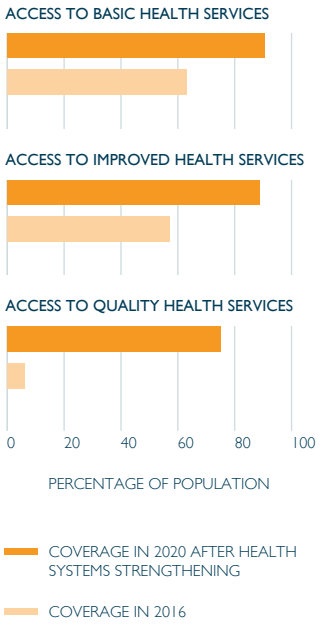
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- AVAILABILITY OF COMMODITIES
- FINANCIAL AFFORDABILITY
- SOCIOCULTURAL ACCEPTABILITY

3 DELIVERY CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

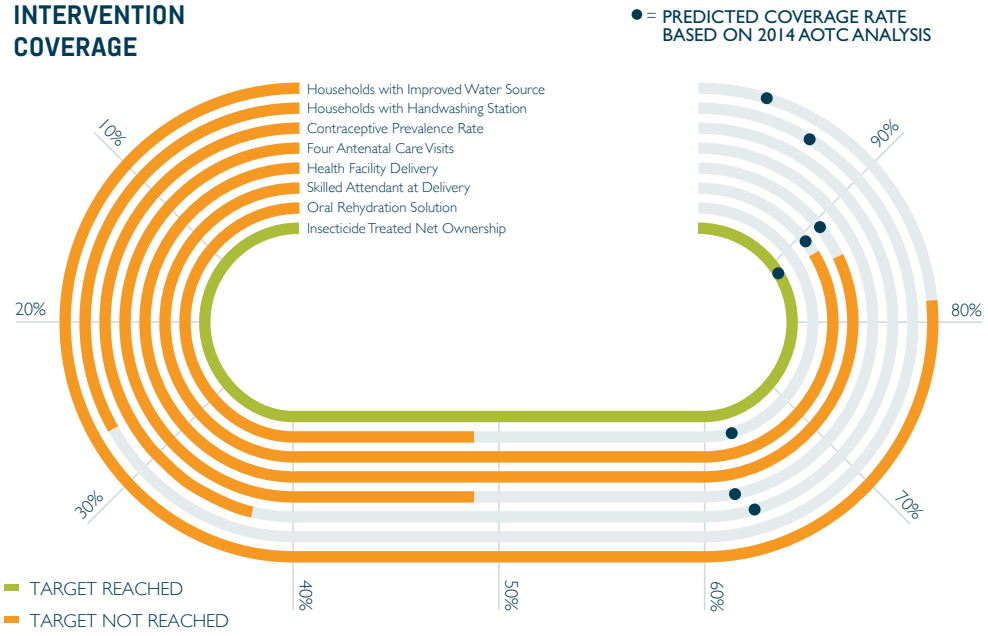
- Support the roll out of results-based financing to ensure financial management and reporting systems are in place from the lowest levels to improve resource tracking, link financing to service outputs, and improve overall data quality throughout the health system.
- Provide technical assistance to the Ministry of Health to develop the conceptual framework, guidelines, structures, and policies that are essential for the development of the National HIS to link existing information systems, improve data visualization, and inform decision making in RMNCAH and other programs.
- Use a Prioritization and Optimization Tool, developed by USAID, to assist the government to make staffing decisions by estimating the staffing required for delivering expected services of a facility, based on actual workload and the time required by each category of staff to accomplish their tasks, which will increase the equity in staffing distribution and reduce the number of facilities without skilled staff.

UGANDA

* Estimate from 2015

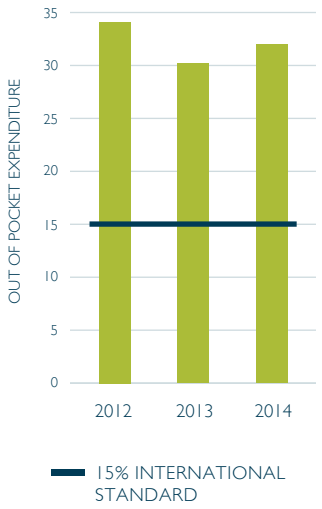
	38.3M ↑ Total Population	7.2M ↑ Population Under 5 Years	*85K ↓ Under-5 Deaths / Year	*55 ↓ Under-5 Mortality Rate Per 1,000 Live Births	1.7M ↑ Births	*343 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	16.5M	3.5M	145K	178	875K	600

INTERVENTION COVERAGE



Estimates are based on trends from most recently available surveys and therefore may not reflect acceleration due to *Acting on the Call* efforts

OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF UGANDA AND OTHER PARTNERS, WE HAVE:

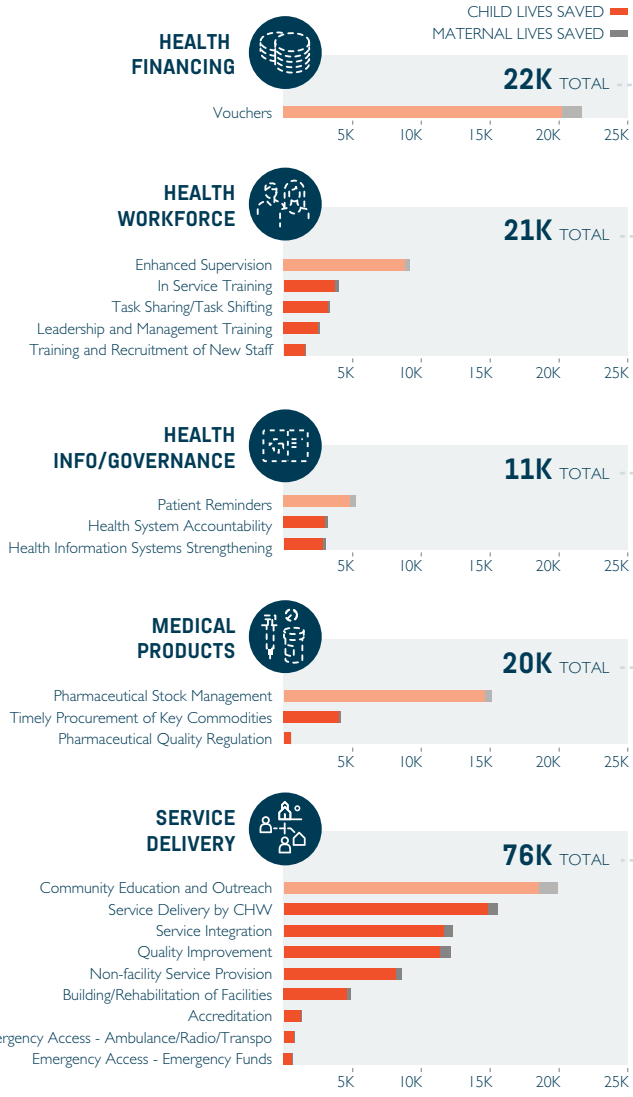
- Increased complete coverage of pneumococcal vaccine from 87% to 93% and vaccinated 1.7 million children with final dose of DPT vaccine.
- Designed a national communications program to address people's misperceptions about family planning, including fear of side effects and other health concerns at national, district and household levels which was rolled out in early 2017.
- Through the President's Malaria Initiative (PMI): procured over 2 million rapid diagnostic tests, 2.7 million doses of artemisinin-based combination therapy, and distributed 1.6 million long lasting insecticidal nets (LLIN) during antenatal care visits.
- Started implementation of Saving Mothers, Giving Life program in new districts while maintaining reductions in maternal and neonatal mortality in learning districts.
- Participated in developing the Government of Uganda's Sharpened Plan for Ending Preventable Child and Maternal Deaths, which also serves as the investment case under the Global Financing Facility in support of Every Woman Every Child, harmonizing existing resources and efforts and enabling the GoU to increase funding for health.
- Increased correct and consistent use of partograph to track pregnancy and identify complications from 7 to 74% in supported facilities.
- Increased access to voluntary family planning and reproductive health services, including integrating voluntary family planning in HIV/AIDS programs and enhancing access to youth. 43% of clients receiving voluntary family planning were under 25 years of age.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 150K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.

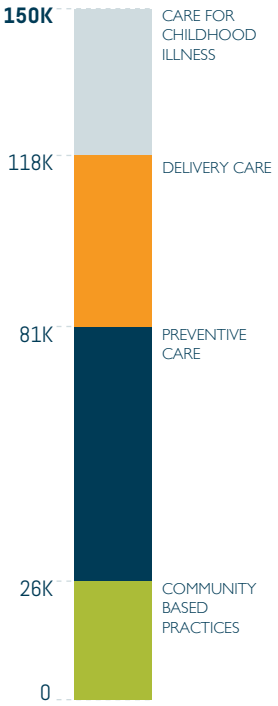


1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

- SKILLED ATTENDANT AT DELIVERY
- FULL SUPPORTIVE CARE FOR PREMATURITY
- NEONATAL RESUSCITATION

TOTAL LIVES SAVED



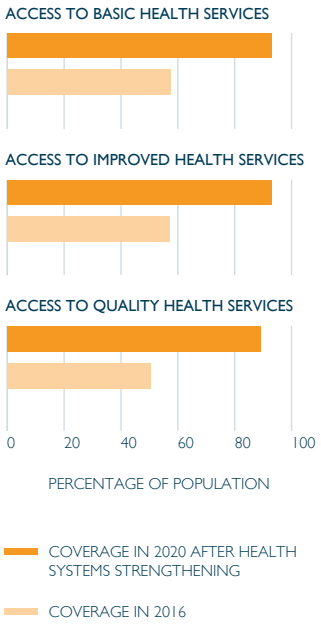
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY
- SOCIOCULTURAL ACCEPTABILITY

3 DELIVERY CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Work with the MoH to identify and correct bottlenecks in spending, which will unlock already approved resources and improve the ability of the MoH to justify health spending.
- Provide support to the MoH to understand the steps required before a universal health coverage plan can be realistically proposed.
- Provide technical assistance to support Uganda's Health Financing Strategy, which will improve planning, budgeting, and efficiency.
- Support the Ministry of Finance and Uganda Revenue Authority to improve tax collection efforts so that more revenue can be generated without levying new taxes to support health priorities.
- Support districts to operationalize a Human Resource Information System to track all trained health workers and determine gaps and future staffing needs.
- Provide assistance to improve forecasting drug requirements, monitor stock levels, and update supply plans for a range of commodities.
- Support the MoH in rolling out program-based budgeting, which ties resources to specific outcomes and increases transparency and accountability in spending.

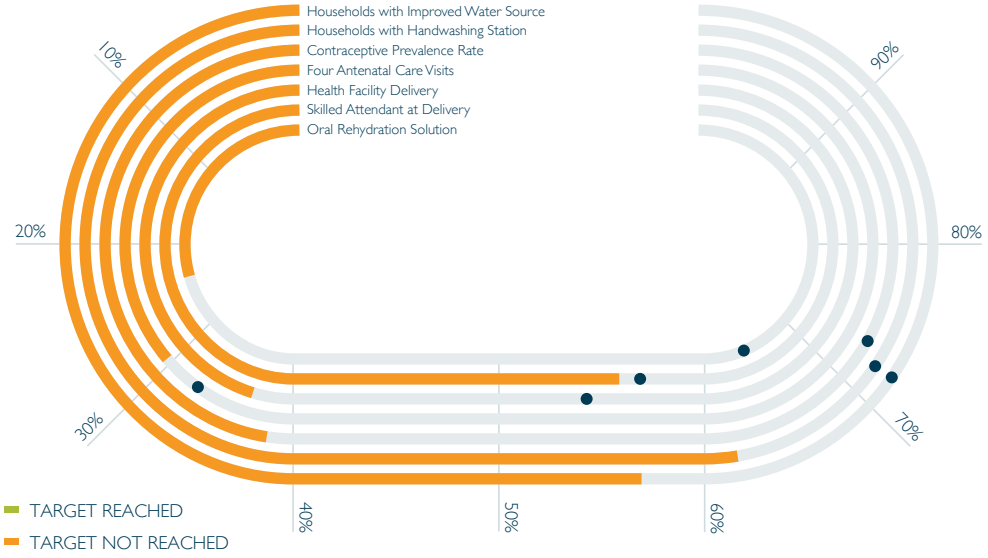
YEMEN

* Estimate from 2015

	27.4M ↑ Total Population	3.8M ↑ Population Under 5 Years	*34K ↓ Under-5 Deaths / Year	*42 ↓ Under-5 Mortality Rate Per 1,000 Live Births	800K ↑ Births	*385 ↓ Maternal Mortality Ratio Per 100,000 Live Births
2016						
1990	11.8M	2.5M	71K	125	570K	610

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS



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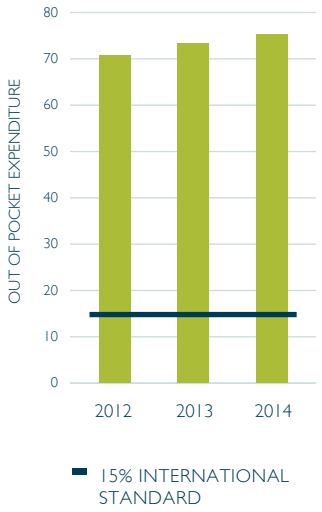
OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING

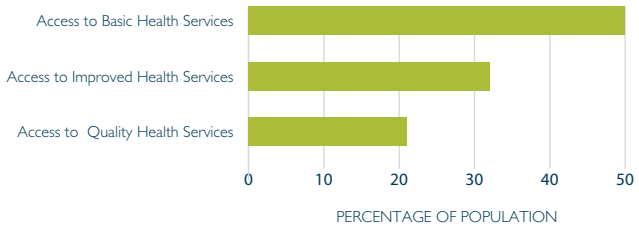


USAID/Yemen fully evacuated staff and suspended all development activities. In the fall of 2016, USAID/Yemen initiated pilot early recovery assistance activities that are helping prevent the collapse of key social service institutions and helping households cope with the effects of the conflict.

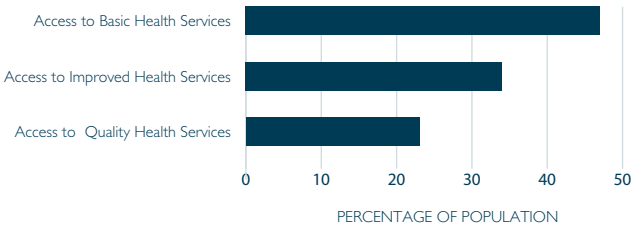
FUNCTIONING HEALTH SYSTEMS SAVE LIVES

Due to the ongoing conflict in Yemen, the population is experiencing limited access to care. The percentage of the population that is able to access quality care, or even improved care, is consistently less than the percentage accessing basic services. This is true across the care delivery platforms.

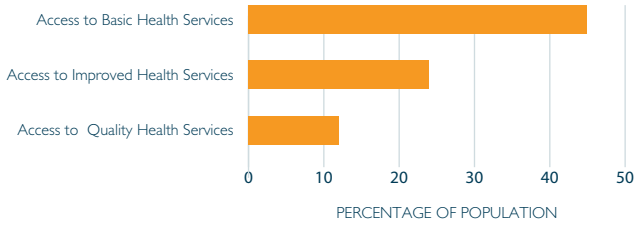
COMMUNITY BASED PRACTICES



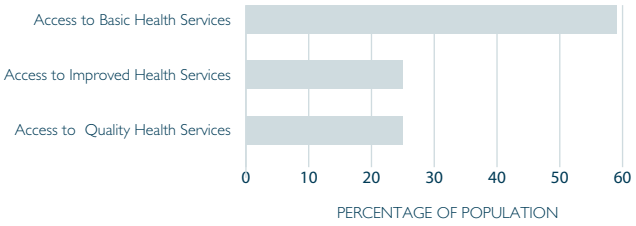
PREVENTIVE SERVICES



DELIVERY CARE



INTEGRATED MANGEMENT OF CHILDHOOD ILLNESS



Once efforts in Yemen resume, scaling up a range of evidence based health systems activities will reduce bottlenecks to receiving health services and help increase the percentage of the population able to access quality health care.

HEALTH FINANCING

HEALTH WORKFORCE

HEALTH INFORMATION/ GOVERNANCE

MEDICAL PRODUCTS

SERVICE DELIVERY

Under the current security environment, USAID will assess future investments in maternal and child health and family planning/ reproductive health, informed in part by Humanitarian Assistance partners working on the ground.

Following post-conflict assessments, USAID will assess possible improvements in access to and quality of basic healthcare services targeting Yemen's vulnerable women and children. This approach will slowly transition to a normalized development strategy once the country's basic health infrastructures, systems and workforce are stabilized.

ZAMBIA

* Estimate from 2015

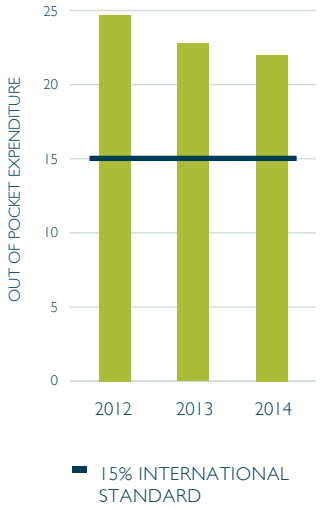
2016	15.5M ↑ Total Population	2.8M ↑ Population Under 5 Years	*39K ↓ Under-5 Deaths / Year	*64 ↓ Under-5 Mortality Rate Per 1,000 Live Births	648K ↑ Births	*224 ↓ Maternal Mortality Ratio Per 100,000 Live Births
1990	7.6M	1.4M	63K	192	339K	470

INTERVENTION COVERAGE

● = PREDICTED COVERAGE RATE BASED ON 2014 AOTC ANALYSIS

Estimates are based on trends from most recently available surveys and therefore may not reflect acceleration due to *Acting on the Call* efforts

OUT OF POCKET COSTS AS PERCENTAGE OF TOTAL HEALTH SPENDING



IN THE LAST YEAR, IN COLLABORATION WITH THE GOVERNMENT OF ZAMBIA AND OTHER PARTNERS, WE HAVE:

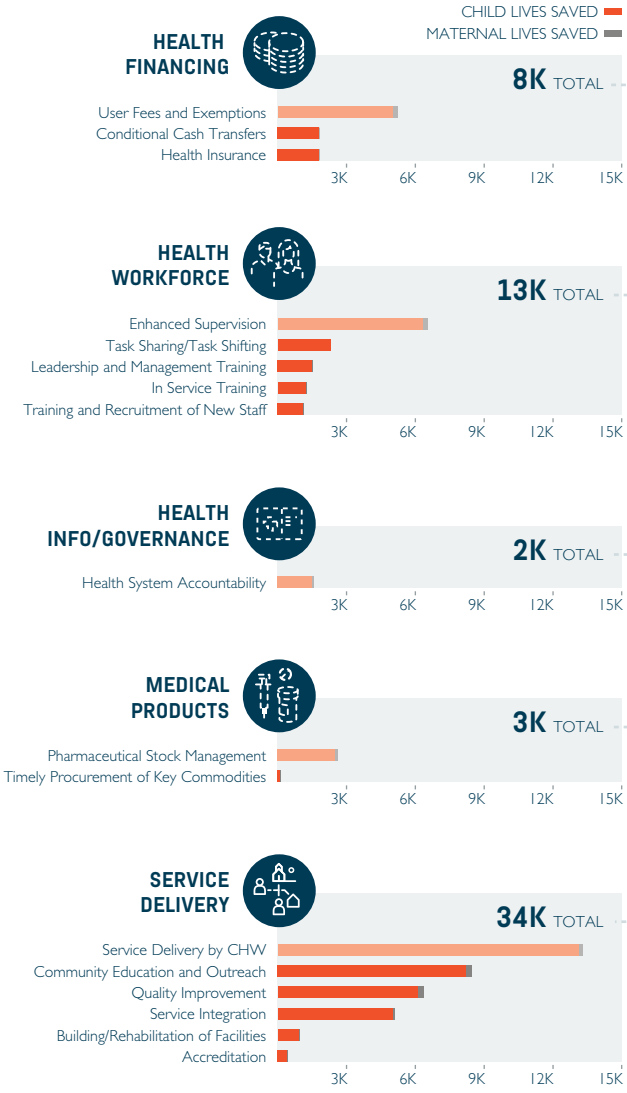
- Provided support to include Injectable Depo Provera in the community health worker training manual, which has been endorsed by the MoH and will now be scaled up nationally.
- Trained 249 facility staff in the use of e-LMIS to help improve management and tracking of commodities.
- Advocated, through the Saving Mothers, Giving Life partnership, for inclusion of the Uterine Balloon Tamponade for the prevention and treatment of post-partum hemorrhage in the national emergency obstetric and newborn care training curriculum, which will allow midwives and nurses to use the technology and increase access across Zambia.
- Disinfected over 305 trillion liters of water, resulting in the reduction of diarrheal episodes and improving overall health outcomes.
- Provided support to hire and train 1,894 new health workers to fill critical gaps in providing primary health care.
- Trained 21,000 health care workers and community volunteers in various skills around reproductive, maternal, newborn and child health.
- Trained tutors in clinical demonstration and simulation to be educators and train health care workers in seven midwifery schools.

FUNCTIONING HEALTH SYSTEMS SAVE LIVES

2016-2020 LIVES SAVED FROM HEALTH SYSTEMS STRENGTHENING: 60K

SCALING UP HEALTH SYSTEMS ACTIVITIES

By reducing bottlenecks to services, health system activities help save lives.

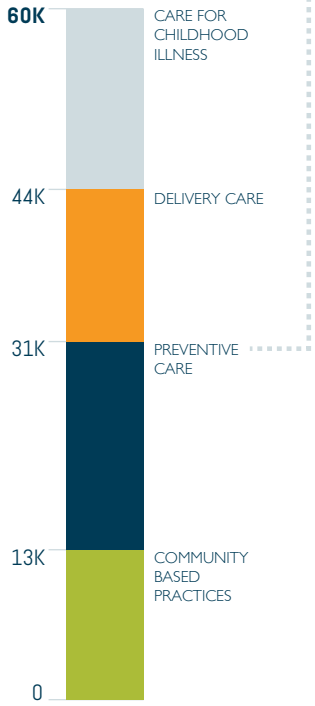


1 2016 REPORT FINDINGS

For example, interventions that benefitted the most from a comprehensive equity-based approach…

- PNEUMOCOCCAL VACCINATION
- NEONATAL RESUSCITATION
- IMPROVED SANITATION/UTILIZATION OF LATRINES OR TOILETS

TOTAL LIVES SAVED



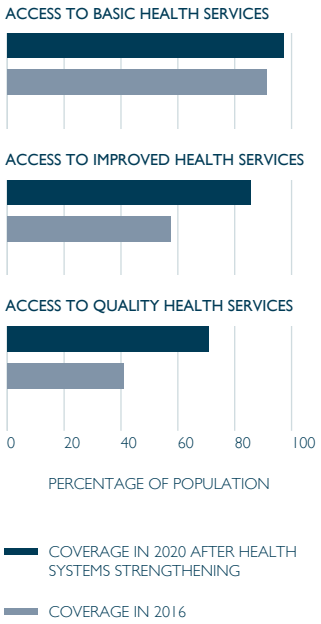
2 CRITICAL HEALTH SYSTEM CONSTRAINTS

…are constrained by critical bottlenecks across all health systems platforms…

- AVAILABILITY OF HUMAN RESOURCES
- FINANCIAL AFFORDABILITY
- SOCIOCULTURAL ACCEPTABILITY

3 PREVENTIVE CARE IMPROVEMENT

…and improved through health systems strengthening.



ENDING PREVENTABLE CHILD AND MATERNAL DEATHS REQUIRES A FOCUS ON HEALTH SYSTEMS. USAID'S SYSTEMS APPROACH INCLUDES:

- Provide technical, financing, and logistical support for the development of the Social Health Insurance scheme, which will play a significant role in achieving universal health coverage.
- Support the completion of the National Health Accounts Report which will provide information on funding flows and inform future health sector planning.
- Support the GRZ to quantify and forecast their commodity needs, strengthening their capacity to lead the exercise in future years.
- Support the "Continuum of Care model" in 6 provinces in collaboration with SIDA and DFID to improve maternal and child health outcomes. This model, which builds on the Saving Mothers, Giving Life initiative and includes high impact interventions addressing the whole reproductive life cycle of women and men.
- Roll out electronic Logistics Management Information System(e-LMIS) to an additional 100 high volume facilities.
- Increase the use of evidence for decision making through the district health information systems tool, which helps capture indicators around care as well as causes of morbidity and mortality in women and children under 5.

THE ROLE OF SOCIAL AND BEHAVIOR CHANGE IN STRENGTHENING SYSTEMS

Social and behavior change (SBC) is a critical component of successful HSS. Health systems encompass more than just clinical and curative services; they also include preventive services and behaviors as well as the communities and the individuals using those health services. USAID's SBC work targets audiences at all levels of the health system. A strong health system enables individuals to realize the maximum benefit of healthy behaviors and health services; conversely, health systems are only strengthened if those individuals functioning within the health system (e.g., clients, providers) are practicing the behaviors necessary to achieve and sustain a healthy population. In other words, health systems affect, and are affected by, individual and family lifestyles, community norms, CHWs, facilities, the public and private health sector, and policy makers.

One focus of SBC activities is on the end users or patients of the health system. There is a wide range of social and behavioral practices that can affect health outcomes and therefore contribute to the strength of health systems. Lifestyle behaviors[12] are those that people can develop and modify without involvement of the clinical health system. Some lifestyle behaviors may harm people's health, such as poor nutrition practices. Lifestyle behaviors can also be preventive or curative, such as hand washing to prevent, and oral rehydration as treatment for diarrhea.

In addition to lifestyle behaviors, some individual or household behaviors directly impact health systems. These behaviors include seeking care for illness, demand for health services and products, and treatment adherence.[13]

Social norms at multiple levels strongly influence both individual-level behaviors and the overall health system. Community norms can affect care seeking and lifestyle behaviors; facility norms can affect whether patients receive respectful quality care; and national norms can affect prioritization and funding across health areas. Effective HSS, therefore, must include a focus on changing social norms.

Another aspect of behavior change within the context of health systems is provider behavior change. More than simply a conduit for information and counseling for patients, providers have their own attitudes, customs, and context-specific professional and social norms that can drastically affect quality of care, including appropriate diagnosis and treatment. Some examples include disrespectful maternity care during labor and delivery, incorrectly prescribing antibiotics for treatment of diarrhea, and actively encouraging or discouraging specific modern family planning methods during patient consultations.

There are multiple actors that can and should be engaged by SBC efforts to strengthen health systems, ranging from patients, caregivers, and family members to providers, private sector, policy makers, community organizations and leaders, NGOs, manufacturers, and others. These actors may support or hinder the practice of desired behaviors and social norms.

Of the 18 accelerator behaviors on which USAID programs focus,[14] 13 have clear, substantial ties to health systems. Accelerator behaviors are defined as "a behavior that is practiced by a primary actor, such as a caregiver or mother, that: 1) directly or indirectly reduces the risk of maternal and child death due to a preventable cause and 2) has low uptake in a particular context." Figures 3 & 4 provide concrete examples for two of those behaviors: care seeking for pneumonia and essential newborn care. The figures provide a breakdown of specific steps encompassed by the accelerator behavior and possible program strategies that interventions should include to change the desired behavior.

Photo: Kate Holt/MCSP

Malaria testing and treatment in Uganda[15]

Due to high rates of malaria and a lack of affordable testing facilities, health programs in Uganda have told providers and caregivers to treat all fevers as malaria for more than a decade. Malaria incidence has dropped due to uptake of prevention measures, but presumptive treatment continues. This has made over-diagnosis of malaria an increasing concern. Ninety-six percent of children under 5 who tested positive for malaria received an antimalarial, but so did 48 percent of those who tested negative. This means that frontline antimalarial drugs, known as artemisinin-based combination therapy (ACTs), were being over-prescribed, resulting in stock-outs for those who actually needed the drugs. Unnecessary ACT use also risks creating resistance to artemisinin-based treatments. Unfortunately, many providers continue to rely on their own clinical judgment and experience rather than on diagnostic tests, and treatment is often given to patients with negative test results. Providers' reasons range from distrust of test results, lack of confidence in diagnosing and treating non-malaria fevers, and perceived or actual patient demand for malaria medicine, despite test results.

USAID, through the President's Malaria Initiative, collaborated with the Government of Uganda and other partners to design and execute the "Test and Treat" campaign. The campaign sought to do three things: build trust in malaria test results among clients and health providers; increase the proportion of clients with fevers who are treated appropriately; and encourage community members to get children under 5 tested for malaria before treatment. The campaign was rolled out in 24 health districts where malaria is highly endemic.

The campaign resulted in a shift in provider behavior. Providers with exposure to the campaign were more likely to test all children who reported with fever and were less reliant on clinical diagnosis. Providers who were trained and exposed to the media campaign were more likely to conduct a differential diagnosis and less likely to prescribe antimalarial drugs for children with fever who tested negative for malaria. Finally, providers who received clinical training that included interpersonal communication and counseling skills were more likely to tell caregivers that antimalarial treatment was not necessary after a negative test result and more likely to provide alternative diagnosis. The campaign also improved availability and stocking of malaria drugs, making drugs available for people who actually had malaria.

FIGURE 3: **ACCELERATOR BEHAVIOR:** CAREGIVERS PROVIDE ESSENTIAL NEWBORN CARE IMMEDIATELY AFTER BIRTH [16]

STEPS

1. Learn the components of essential newborn care
2. Obtain essential newborn care supplies for cord cutting and care, drying and wrapping, and resuscitation
3. Make sure provider follows essential newborn care
4. Adhere to provider instructions

STRATEGIES

Policies and Governance: *Clarify and enforce clear newborn care guidelines in health facilities*

Policies and Governance: *Ensure community health agents and Traditional Birth Attendants (TBAs) are included in awareness raising on newborn care practices*

Products and Technology: *Provide clean delivery and newborn care kits to mothers during ANC visits (including antiseptic)*

Quality Improvement: *Ensure health providers understand and follow national guidelines for newborn care including newborn resuscitation and counsel new mothers on take-home actions*

Quality Improvement: *Create mechanism for service outreach to offer home visits 1 and 3 days after birth*

Mobilization: *Create pregnancy and new mother support groups to discuss and normalize all aspects of newborn care*

Training: *Offer training to pregnant women and their families on newborn care steps*

FIGURE 4: **ACCELERATOR BEHAVIOR:** CAREGIVERS SEEK PROMPT AND APPROPRIATE CARE FOR CHILDREN WITH SIGNS & SYMPTOMS OF ACUTE RESPIRATORY INFECTION (ARI)[17]

STEPS

1. Recognize signs and symptoms of ARI
2. Mobilize transport, resources, and logistics to get to a qualified provider
3. Obtain care from a qualified provider
4. Adhere to full course of prescribed treatment
5. Continue to feed during illnesses and offer recuperative feeding for at least two weeks

STRATEGIES

Policies and Governance: *Formulate national policy to provide free treatment for children under 5*

Policies and Governance: *Formulate policies that ensure community involvement in how health care facilities are staffed and supervised*

Quality Improvement: *Train and equip village health workers to diagnose and treat pneumonia*

Quality Improvement: *Train private pharmacies to recognize and appropriately treat or refer children with symptoms of pneumonia*

Communication: *Implement communication activities with families to promote care seeking including materials that integrate messages about child health into religious events*

Communication: *Train and equip community leaders to reach men with messages to support caregivers*

Photo: Amy Fowler/USAID

COMMUNITY ENGAGEMENT CHALLENGE IN SANITATION

The expansion and improvement of water supply, sanitation, and hygiene (WASH) services is an important element in USAID's mission to end preventable child and maternal deaths. Improving WASH requires collaboration among community systems, health systems, and other country or local infrastructure and services. Health systems can also change social norms to improve WASH.

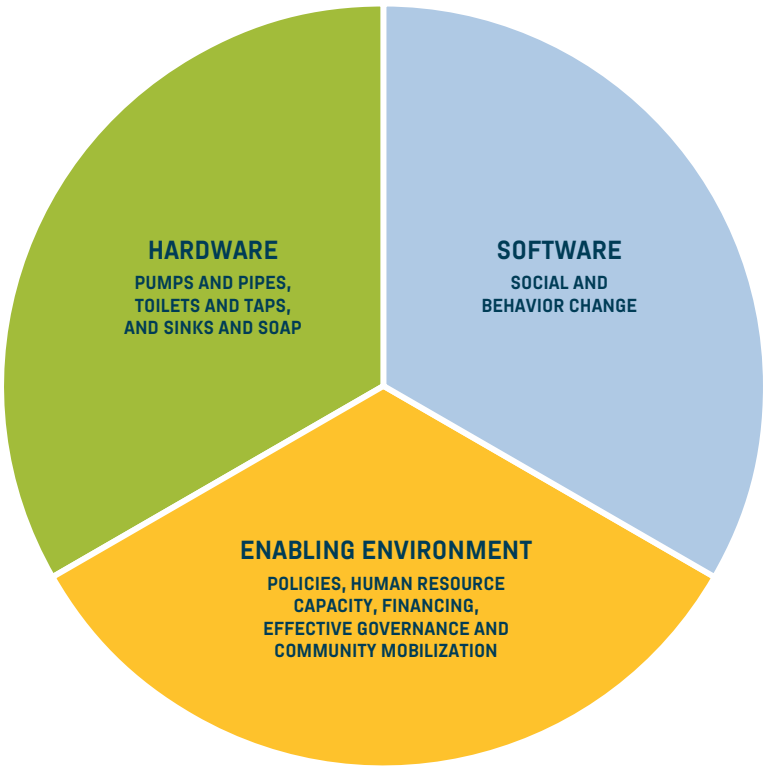
Globally, diarrhea is a leading cause of death among children under the age of 5, responsible for approximately 10 percent of child deaths.[18] Approximately 58 percent of diarrheal disease is caused by unsafe water, lack of sanitation, and poor hygiene behaviors.[19] The tremendous disease burden associated with deficient sanitation and drinking water supply services and poor hygiene behaviors is largely preventable with proven, cost-effective interventions.[20]

Successful investments in WASH require interventions in three areas to ensure sustainability: hardware, software, and the enabling environment (Figure 5). All of these interconnected components must be present to achieve effective and sustainable water and sanitation programs that have an impact on public health.

Recent research indicates that a community needs to reach at least 80 percent use of hygienic sanitation before the health benefits are realized.[21] The routes of exposure to fecal matter can affect every person in the community—through flies, fluids, fingers, and feet that track in fecal material—not just the household where the feces originated. However, there is a common perception that people don't need to dispose of their feces safely, while everyone agrees that people must have drinking water every day. As a result, people are more willing to pay for improved water supply than for improved sanitation. However, investments in sanitation are critical to achieving public health gains, making community engagement an important component of sanitation interventions.

Community engagement is critical to motivate individual households to invest in, and use, sanitation facilities and services, and also to encourage their neighbors to do the same. It is only through engaging the community that new social norms are created around how individuals collectively manage their feces. Evidence shows that it is not the number of times a message is heard, but the number of channels used, that is the most important factor in creating behavior change. Effective sanitation

FIGURE 5: **WASH IMPROVEMENT FRAMEWORK**



programs identify and engage the many entry points and channels that exist in communities to promote, demonstrate, motivate, and support investment and adoption of improved hygiene and sanitation behaviors.

In India, USAID supports the national urban *Swachh Bharat Mission* (SBM) known as the "Clean India" campaign by providing technical assistance to the Ministry of Urban Development (MoUD). The MoUD is implementing a broad sanitation agenda to achieve universal sanitation in cities by 2019. USAID supports the Ministry to engage communities through a competitive city level monitoring platform and achievement index that includes distinct indicators for community behavior change, a best practice e-learning platform that shares successful approaches to engaging communities between government staff, and a mobile phone application for community members to submit sanitation complaints directly to city governments.

So far this effort has resulted in over 400 cities being declared open defecation free (ODF) with 362 certified by an independent monitoring organization. Almost 100,000 people have registered for their e-learning platform, and more than 8,000 complaints reported through the mobile app have been resolved.

Community-Led Total Sanitation (CLTS)

One promising approach to sanitation is Community-Led Total Sanitation (CLTS), a participatory approach to improve access to and use of latrines in place of open defecation. Community members analyze their traditional sanitation practices and publicly discuss what happens to feces in the environment. Effective CLTS events spur latrine construction in villages and empower communities to achieve and maintain ODF status. The success of these community-based programs is made possible by environment interventions that support the proper mix of legislation, regulation, and market incentives for expanded sanitation service.

In Mali, USAID worked to create ODF villages through a CLTS approach. The project created a competition between communities, and the first two villages in a commune to achieve ODF status received support to expand their access to water. The competition motivated communities to become ODF quickly. By the end of the activity, 81 percent of villages implementing this approach were certified as ODF. USAID also worked with communities to plan for sustained ODF status by establishing monitoring visits, supporting village sanitation committees, and assisting with the development of post-ODF community action plans.

Human Centered Design

In recent years, interventions designed to generate demand for sanitation, such as CLTS, have been combined with supply-side interventions that facilitate improved markets and provide access to affordable and aspirational products that meet the needs of local communities. Such approaches have focused on a human centered design (HCD) approach that seeks to deliberately put community and consumer aspirations and needs at the center of design and sales considerations. Such sanitation marketing activities can also be combined with financial products, such as village savings groups to finance investments in sanitation improvements.

In Ghana, USAID implements a comprehensive WASH agenda with a focus on improving rural sanitation behaviors through a CLTS approach. While CLTS is key to unlocking demand for use of a toilet, USAID also supports the private sector's response to that demand through support for latrine installation. USAID partnered with a local plastic manufacturer, Duraplast, to develop an innovative latrine tailored to the needs and desires of rural consumers. By involving community members, USAID was able to introduce a product that is clean and beautiful, has an easy to operate and maintain flushing mechanism, and costs approximately 10 times less than models currently available in local marks. The first round of installation was conducted in vulnerable households, and USAID is supporting Duraplast to scale up production and sales across Ghana.

The goal of ending preventable child and maternal deaths is a worthy challenge with important roles for households, communities, governments, and donors. As the WASH sector moves from a focus on infrastructure to a focus on services enabled by the infrastructure, it is important to keep communities—where the services are delivered and used—at the center of planning and implementation.

GOVERNANCE IS KEY TO STRENGTHENING NUTRITION IN HEALTH SYSTEMS

While progress has been made in improving nutrition globally, the prevalence of undernutrition in women and children remains high, with 156 million children stunted and 50 million children wasted worldwide. An estimated 45 percent of deaths in children under age 5 are linked to undernutrition. Globally, more and more governments and stakeholders are increasing their attention to nutrition and prioritizing it as a smart investment, fundamental to the health and prosperity of a nation.

USAID addresses this global burden by targeting both the immediate drivers of optimal nutrition, such as adequate dietary intake and low disease burden, as well as the underlying drivers, which include access to and availability of sufficient, safe, and nutritious foods; education; quality health services; gender equality; and safe drinking water, hygiene, and sanitation. USAID supports country-led efforts and strategies for improving nutrition in order to leverage resources, promote coordinated action, and strengthen governance across sectors and systems of health, nutrition, agriculture, water and sanitation, education, and others.

Strengthening nutrition governance in the health system involves equipping key stakeholders across the continuum—from national policy to financing to implementation—to prioritize and actualize quality nutrition-related service delivery and capable human resources in communities and health facilities. Many health systems face challenges of underfinancing and a workforce that is limited in its number and training. Therefore, collaborative development and implementation of a national nutrition plan or policy with engagement from the health sector is critical.

Policy is the foundation of strengthening governance for nutrition. Comprehensive and multi-sectoral policies must be adopted at the national and sub-national level, and ideally begin with a process of bringing together the objectives and engagement of multiple sectors, such as health, agriculture, education, and others, to address malnutrition in all of its forms. Establishing or leveraging existing multi-sectoral platforms for coordination and collaboration among various stakeholders—government, civil society, private sector, researchers, and donors—facilitates policy design and effective implementation. USAID supports governments by providing technical assistance in designing, developing, and implementing or accelerating progress of national multi-sectoral nutrition action plans. This includes:

- support costing[22] analyses to calculate in-country investment needs to impact nutrition
- support trainings and knowledge sharing with government and local stakeholders to strengthen resource mobilization
- support skills and expertise in nutrition
- support legal frameworks to protect maternal and child nutrition and promote equitable access to services
- support research to advocate for sustained commitment
- support to monitor progress.

From Policy to Practice

To move from policy to practice, national policies must be accompanied by sustained and adequate resource allocations for nutrition, which is reflected by financial and human resource commitments in national budgets and at sub-national levels in decentralized contexts. USAID and partners developed a budget analysis tool[23] for government officials, members of civil society, and other nutrition stakeholders to estimate the amount of funding available for nutrition programming within a ministry, unit, department, or district to gain a comprehensive understanding of resource allocations and expenditures for nutrition.[24] This multi-sectoral, collaborative resource tracking process is essential to decision-making and prioritization for nutrition investments, strengthening data collection, documenting progress, and demonstrating key elements of good governance (e.g., participation, inclusion, transparency, and accountability).

The District Nutrition Coordination Committee Initiative

To strengthen nutrition governance at both the national and district level in Uganda, USAID is supporting the Government of Uganda through the District Nutrition Coordination Committee (DNCC) Initiative.[25] Multi-sectoral DNCCs are responsible for planning, implementing, and monitoring nutrition activities in their districts. However, they have faced a number of challenges including the lack of clear roles and responsibilities and inconsistencies in the ways

different DNCCs operate. To help address these challenges, the DNCC Initiative is working to strengthen the national oversight and structure for the DNCCs, enhancing awareness of and commitment to nutrition among decision makers, and strengthening local ability to plan, budget, advocate for, and monitor nutrition activities. By increasing collaboration, the DNCC Initiative will help mobilize additional funding for nutrition activities and improve the quality of nutrition interventions.

USAID supports evidence generation on the evolution of nutrition governance and technical assistance to governments to improve nutrition resource tracking in countries that have developed multi-sectoral nutrition plans. The Pathways to Better Nutrition Case Studies[26] describe the prominent examples of Uganda and Nepal. These analyses help to demonstrate the extent to which governance can be used as a lever to accelerate progress in nutrition and health, and how programming can be better adapted to different contexts.

While momentum and commitment for nutrition continues to build globally, the role of good governance remains a challenging element to achieving sustained impact. The USAID Multi-Sectoral Nutrition Strategy 2014-2025 conceptual framework identifies country commitment, ownership, and capacity; leadership; financial resources for nutrition; and knowledge and evidence as critical to promoting strong governance for nutrition and achieving sustained progress.[27] USAID investments continue to generate evidence and refine a systems approach to support country-led policies, strategies, and processes aimed to improve the nutrition, health, and wellbeing of communities, while focusing on mothers and children as the most vulnerable members of the family.

Photo: Aquaculture, Inc

FAMILY PLANNING — ENGAGING THE PUBLIC AND PRIVATE SECTORS TO MEET CLIENT NEEDS

In many countries, the public, private commercial, and private voluntary sectors have acted independently to deliver health services with limited coordination and partnerships. Despite the private sector's significant role in family planning service delivery, there was little recognition of its potential contribution to national health objectives. For example, Demographic and Health Surveys (DHS) data indicate that, among users of family planning, 38 percent in Africa, 37 percent in Asia, and 39 percent in Latin America rely on private providers to obtain services.[28] While health development previously focused on the public sector, USAID strategies shifted to support a Total Market Approach (TMA) as a critical component of HSS to improve maternal and child survival. A consensus has emerged in the international community on the importance of a TMA with the active participation of all sectors—public, nonprofit, and commercial—to achieve long-term sustainability and a strong, resilient health system.

TMA draws on the comparative advantages and complementary roles of the three market sectors to foster long-term, sustainable delivery of family planning information, products, and services to all population groups. The broader goal is to create sustainable family planning markets that maximize the core competencies of each sector and encourage broader, commercial sector participation to grow the entire market. In USAID-supported countries, the aim is for all sectors to provide a full range of family planning services with donor and government subsidized products efficiently targeted to consumers with the greatest economic, geographic, and gender barriers to access by 2030.

At a time of shrinking resources and rapidly growing populations, a TMA contributes to health system strengthening by:

- Facilitating government stewardship of a plan for a TMA in family planning services that establishes policy, coordinates the different actors, and fosters private sector approaches for the provision of high-quality family planning products and services;
- Ensuring that public sector subsidies and access to contraceptive services are targeted to the poor and vulnerable in cost-efficient and effective ways;
- Reducing or removing untargeted subsidies for those segments that are willing and able to pay for non-subsidized family planning products and services;
- Fostering evidence-based decision-making, especially related to public sector forecasting of actual contraceptive commodity needs, and the market realities of all three sectors; and
- Establishing cost-recovery strategies within the nonprofit sector to reduce donor subsidies of contraceptive products, while expanding access and quality.

USAID works to build country capacity in all sectors to implement the following key service delivery approaches to meet family planning needs:

Mobile outreach services reach new and underserved populations by bringing family planning services closer to the client.

Mobile outreach services, often implemented in collaboration with the public sector, deploy needed resources—providers, vehicles, commodities, supplies, and equipment—to poor, underserved areas. Mobile outreach clients are likely new to family planning—as is the case for 41 percent of mobile outreach clients in sub-Saharan Africa, 36 percent in South Asia and the Middle East, 47 percent in Pacific Asia, and 23 percent in Latin America. Along with other service delivery channels, mobile outreach offers an effective way to reach the poor: higher proportions of mobile outreach clients live in poverty as compared to clients of static clinics or social franchises.[29]

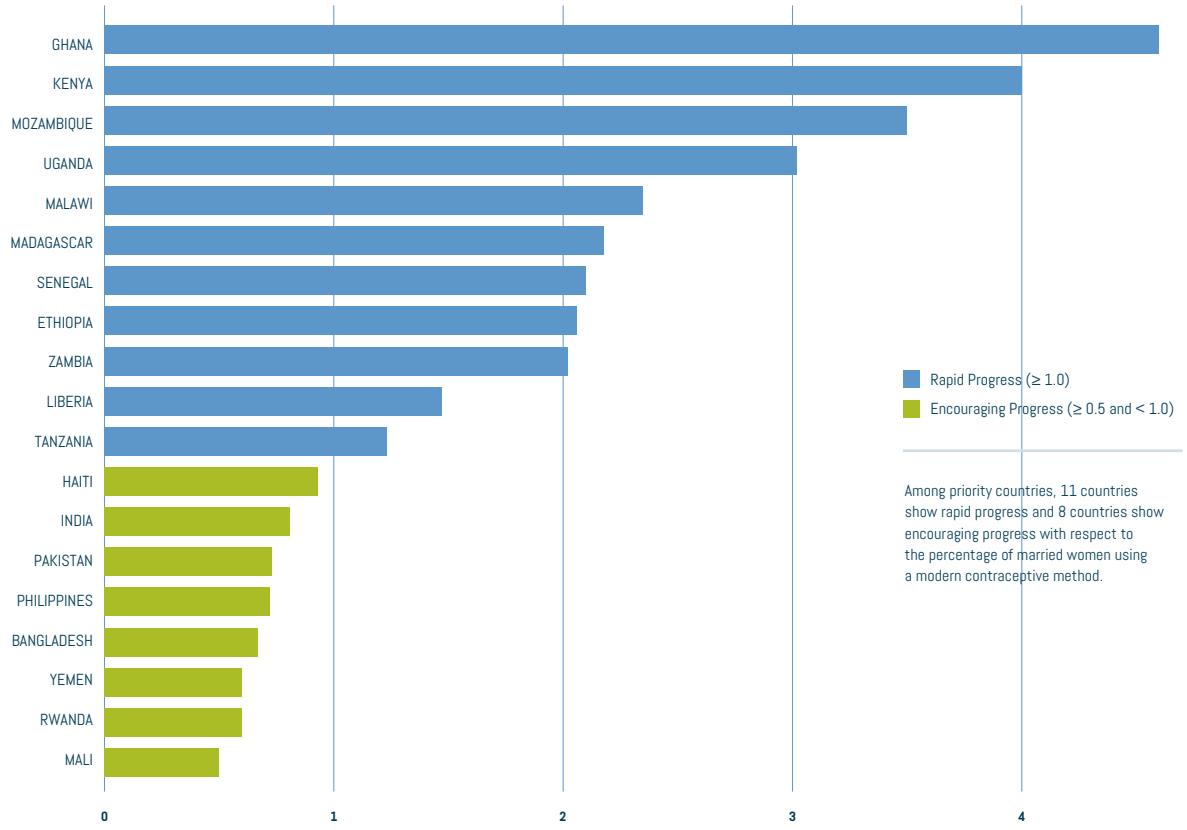
Clinical social franchising increases the volume of family planning clients, use of family planning services, and service quality.

Clinical social franchising refers to the organization of small, private health businesses, clinics, and hospitals into quality-assured networks to increase access to family planning and other priority health services. In clinical social franchising, USAID provides intensive capacity-building support for private

Photo: Amy Fowler/USAID

FIGURE 6: **ANNUAL PERCENTAGE POINT CHANGE IN MODERN CONTRACEPTIVE PREVALENCE RATE (MCPR)**

Married Women Age 15–49 between 2013 and 2016 in Priority Countries



Source: TRENDS ARE EXTRAPOLATED FROM THE LAST TWO SURVEY DATA POINTS FROM USAID DEMOGRAPHIC AND HEALTH SURVEYS, CDC REPRODUCTIVE HEALTH SURVEYS, PMA2020 SURVEYS, AND UNICEF MULTIPLE INDICATOR CLUSTER SURVEYS. COUNTRIES WERE GROUPED BY THE ANNUAL PERCENTAGE POINT CHANGE IN MODERN CONTRACEPTIVE USE SURVEY VALUES OVER TIME FROM 2013 TO 2016 INTO RAPID PROGRESS (≥ 1.0 INCREASE) AND ENCOURAGING PROGRESS (≥ 0.5 TO < 1.0) CATEGORIES.

providers including: clinical training, quality assurance, branding, behavior change communication, and commodity support, as well as help to build sustainable businesses. Evidence shows that these improvements increase use of modern contraceptive methods.[30] Social franchise networks also offer the private sector a collective platform to better engage with the government. For example, they offer the private sector an organized network to collectively advocate with governments for inclusion in national health insurance programs. At the same time, the network allows governments to more easily engage in strategic purchasing with private providers in provision of care, instead of contracting with each provider separately.

Drug shops and pharmacies are important sources of over-the-counter family planning services, products, and information.

Compared to private physicians, drug shops and pharmacies—which offer convenience, anonymity, and cost savings—are an important source of services, especially in countries facing critical health worker shortages, poorly stocked clinics, and high unmet need for family planning. Drug shops, in particular, remove barriers to family planning access in underserved areas. USAID provides training and support to drug shop and pharmacy staff on the family planning methods that they offer, and helps them create quality assurance and oversight systems. Drug shops and pharmacies are preferred by some underserved populations, including males and youth.

Community health workers bring family planning information, services, and supplies to women and men in the communities where they live and work.

Well-designed CHW programs can increase contraceptive use, particularly where unmet need is high, access is

low, and geographic and social barriers to use of services are widespread. USAID trains CHWs to improve their skills and links them with the health system using well-defined referral and supervision protocols. In some countries, USAID helps CHWs use mobile technology and integrate data into management information systems. Many studies have demonstrated that CHWs can expand contraceptive choice by providing a wide range of methods safely and effectively, including injectable contraceptives.[31] In Tanzania, CHWs use a mobile application to provide family planning counseling, while they provide contraceptives in homes and referrals to facilities for clinical methods. The application includes reminders for CHWs to follow up with clients. The program reported an increase of over 500 percent in registrations and a 15-fold increase in the number of follow-up visits, when compared to the previous paper-based system.[32]

USAID has also been a leader in the donor community by actively encouraging a stronger role for the private sector in providing supply chain services to ensure that essential family planning and health commodities reach health facilities and end users. In addition to publications and guidance documents, USAID has supported interventions to strengthen the role of the private sector in supply chain activities in many priority countries, including Haiti, Ghana, Tanzania, and Mozambique. Use of the private sector for supply chain services strengthens health systems by accessing capacities which typically do not exist (and are hard to sustainably build) in the public sector, leveraging economies of scale to reduce costs, and fostering a stewardship role (as opposed to operational management role) for the government.

One example of this work comes from Ghana. After a fire burned down the Central Medical Stores in 2015, USAID and the Global Fund used a locally-sourced private sector company to set up a parallel distribution system for donated products. Although the government was initially hesitant about the arrangement, USAID and the Global Fund successfully advocated to use this interim solution as a demonstration model for outsourcing warehousing and distribution. The government quickly saw the benefits of private sector services in the public health supply chain, including better performance and increased access to health supplies, and included "a strong commitment to outsourcing, framework contracting, and third party logistics arrangements" in a subsequent update to their national supply chain strategy.

Use of a TMA approach is contributing to family planning progress in USAID's priority countries for family planning[II] as well as improving equity by achieving rapid progress in modern contraceptive use.

[II] USAID's priority countries for family planning include 23 of the 25 ending preventable child and maternal death priority countries. Full list: https://www.usaid.gov/what-we-do/global-health/family-planning/countries

Photo: Paul Nicholson / USAID

HUMAN RESOURCES FOR MATERNAL HEALTH

USAID recognizes that "without health workers, there is no health care."[33] USAID is committed to supporting countries in developing the sufficient, fit-for-purpose and fit-to-practice health workforce needed to achieve global health goals.

The availability of motivated, sufficiently compensated, effectively deployed, and capable personnel to manage services and provide skilled care is fundamental to the survival of childbearing women and their newborns. Without competent midwives, nurses, medical officers, obstetricians, lab technicians, and anesthetists in the public and private sectors, health systems will not be able to achieve goals of delivering high impact interventions to save lives. CHWs, TBAs, and auxiliary personnel are crucial members of teams that successfully advance the delivery of timely, effective, and respectful care.

In order to meet the needs of the health care workforce at large, USAID supports innovative approaches to recruit, retain, and deploy health workers and provide them with the tools and support to be effective.

The challenges are complex. There is an enormous shortage of health care workers. All of USAID's priority countries are in crisis with respect to human resources for health (HRH).[34] Those health care workers who are available are responsible for many tasks and are often expected to assume their responsibilities in extremely difficult conditions, including attending births and managing obstetric and newborn emergencies without essential equipment, commodities, electricity, or running water. Typically, the workers need better training, supervision, and mentoring to attain, retain, and expand skills as expectations of them continue to increase.

In addition to country governments, USAID works with professional associations, which influence and provide leadership and policy direction to ministries of health and understand the issues of health care providers in the areas of recruitment, retention, deployment, and efficacy. These professional societies often advise governments and policy makers about the quality and type of pre-service and continuing education programs for midwives and others that makes them fit-for-purpose and fit-for-context without compromising quality. They also provide a link to private providers, an important and growing sector in many countries. USAID promotes programs to strengthen association governance practices, management capability, ethics, peer support and mentoring, respectful collaboration with other colleagues, and skills in communications and advocacy to advance the cause of their members and promote maternal and newborn health and survival.

Across maternal and child survival programs, USAID works on the following key strategies to increase the effectiveness of human resources for health.

Recruitment

All of USAID's priority countries are in crisis with respect to HRH,[35] and an available and accessible health worker is crucial to deliver quality service. However, the WHO estimates that more than one billion people have little to no access to health workers. More people are needed to overcome the shortfall of health workers. The 73 countries where 96 percent of global maternal deaths occur account for only 42 percent of the world's doctors, nurses, and midwives.[36] USAID supports advocacy and policy dialogue with governments, professional associations, and civil society to raise awareness and promote action to address enormous shortages in health worker availability, as well as innovative approaches such as the return of retirees to the workforce. In Zambia, the "Saving Mothers, Giving Life" partnership brought back retired midwives to serve in remote and hard to reach areas.

Retention

Meeting the needs of individuals for fair salaries, key benefits, and a career ladder so that effective workers are motivated to stay in the field is critical to the retention of health care workers. USAID supports using personnel data to conduct analyses and work with governments, professional associations, and civil society to identify issues and formulate policies and legal frameworks, as well as advocate for adequate budget to support health care workers.

Photo: Allan Gichigi/MCSP

Gender issues influence provision of maternal newborn care

Despite the prominence of women in midwifery and nursing, women are underrepresented in decision-making roles.

USAID recently supported a WHO systematic mapping of the barriers faced by midwives, titled *Midwives Voices, Midwives Realities*, that describes harassment including bullying, lack of security, fear of violence, and actual physical violence and sexual abuse, as well as social isolation.

Lack of attention to these barriers results in continued problems with recruitment and detention, as well as demoralization of those who do continue to work.

USAID is placing increased emphasis on detecting and documenting these problems and developing advocacy and policy approaches to ensure respect for the health care providers who are entrusted with the care of vulnerable women and newborns.

USAID supports programs to empower women in their work place and promotes gender-sensitive policies from Liberia to India.

Deployment

Ensuring that existing health workers are deployed to serve those communities that need them most is critical to an equity-based approach. District health managers are often confronted with situations where the skills of newly hired service providers do not match the needs of the local population. Often, the deployment of service providers is based on a formula for the type of service site managed or the size of the target population rather than the prevailing disease burden or the health needs of the facility's catchment area. With the push toward decentralized health systems, local managers need to ensure that service provider competencies match the needs of the populations they serve. Actions in this area include supporting policies for incentives for personnel to work in rural areas and community involvement in services and monitoring. For example, the Government of Uganda has put a wage bill in place to preferentially increase salaries for providers who work in health centers, rather than hospitals.

Critical to effective deployment of human resources is knowing what resources exist and with what competencies. USAID supports countries to develop and enhance their human resources for health information system (HRHIS) to provide up-to-date information on the country's health workforce. This includes information on issues ranging from geographical or training gaps to absenteeism and credential verification tracking and is used for evidence-based advocacy, planning and budgeting, monitoring, and reporting. For example, in Liberia we are working with the government on an HRHIS to track the health workforce and ensure adequate staff to deliver quality health services to women and children.

In Madagascar, USAID is using a hot spot mapping approach to pinpoint current needs. Using a tested task analysis approach, the information will be compared to information on provider core competencies needed to provide key services. The intention is to provide local managers with a tool to more closely align the health workforce with health needs and demands. The application of this tool will support management decision-making by providing information that is not captured by traditional indicators, like workforce density or staffing requirements.

Performance enhancement

Many key interventions to end preventable child and maternal deaths—those addressing childbirth and newborn care, in particular—require a technically competent workforce that provides essential services in accordance with standards of care in a timely, person-centered manner. High impact interventions can only be sustained at scale if health workers are continuously supported to deliver this care through effective policies and evidence-based approaches.

USAID focuses on building health worker skills and competencies aligned with population health needs. Examples of USAID-supported approaches include holistically assessing gaps in pre-service education, transforming in-service training and linking it to professional development activities, improving supervision activities through multi-dimensional approaches, clinical mentoring to reinforce the application of key skills, and advanced training in innovations such as uterine balloon tamponade to manage postpartum hemorrhage (PPH).

In Rwanda, the traditional in-service training is being coupled with high frequency clinical mentoring to improve provider delivery of essential newborn care including newborn resuscitation. This approach pairs a mentor, usually a more skilled provider, with a small group or team of clinicians. It leverages peer support—rather than hierarchical supervisory relationships—to reinforce application of clinical skills, implementing quality improvement efforts and management competencies, including the use of data for decision-making. In Zambia, master midwives visit health care centers routinely to mentor providers who assist in childbirth and oversee drills in specific skills such as newborn resuscitation and managing eclampsia.

While working to support professionals, USAID also strongly supports working with CHWs, including TBAs, and auxiliary personnel to develop a strong team approach and to utilize their unique competencies. People who understand and work well in their communities to reach individual families can provide culturally appropriate and individual counseling and education, detect some maternal and newborn complications, help to promote effective and timely referral, and assist in reporting on maternal and newborn deaths and conducting verbal autopsies.

Integral to achieving USAID's long-term vision of ending preventable child and maternal deaths is an available, skilled, motivated, compassionate, and respected workforce to deliver high quality care with dignity to allow mothers and their babies to survive and thrive.

Photo: Amy Fowler/USAID

IMPROVING THE QUALITY OF NEWBORN CARE

Spurred by global advocacy and national action, there has been a global increase in institutional deliveries in recent years. While more mothers are being supported by SBAs, health facilities struggle to keep up with the increased demand for quality services. Despite policies promoting quality, many newborns do not have access to life-saving interventions.

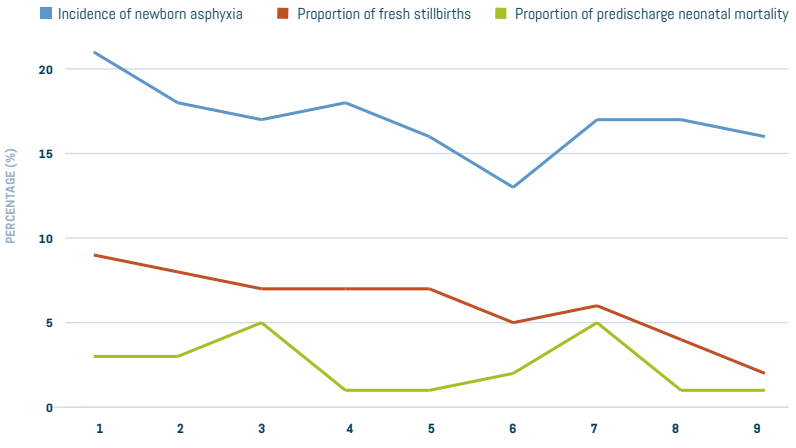
USAID's efforts to improve the quality of newborn care focus on quality care at birth, care for small and sick newborns, and improved care in the private sector. Within all quality improvement activities, USAID ensures that efforts work through country structures, have measurable clear aims, and focus on improving health care processes to improve compliance with evidence-based guidelines. These activities are responsive to clients' needs, by employing an approach that combines simulation-based training, low-dose high-frequency practice drills to retain skills, mentoring, supportive supervision, teamwork, use of data for improvement, and shared learning among and between facilities.

Quality Care at Birth and Immediate Newborn Care

Evidence indicates significant impact can occur when interventions are delivered during labor and childbirth and immediate newborn care is provided: there is a 51 percent reduction in newborn mortality and 70 percent of stillbirths are averted.[37]

In Madagascar, USAID partners with regional government managers to improve routine essential maternal and newborn care and management of complications with a focus on newborn asphyxia, PPH, and pre-eclampsia/eclampsia. Quality improvement teams in regional hospitals identify critical issues affecting their ability to provide care per standards and then test sustainable changes for improvement among and between facilities of care processes to address these concerns. Frontline providers on quality improvement teams regularly monitor and assess if the changes that they are making to the care process are leading to an improvement. On-site support is provided through supervision structures. In 275 primary health centers, the proportion of women receiving an immediate postpartum uterotonic for prevention of life-threatening PPH increased from 84 to 96 percent, and the proportion of newborns receiving essential newborn care interventions (immediate breastfeeding, cord care, and skin-to-skin contact) increased from 69 to 93 percent. As shown in Figure 7, these improvements in care at birth resulted in reductions in the incidence of birth asphyxia and decreases in stillbirth and neonatal mortality over a period of nine months.

FIGURE 7: **DECREASING PERINATAL MORTALITY: FOUR HOSPITALS IN MADAGASCAR**
November 2015 - September 2016



Source: UNPUBLISHED USAID DATA

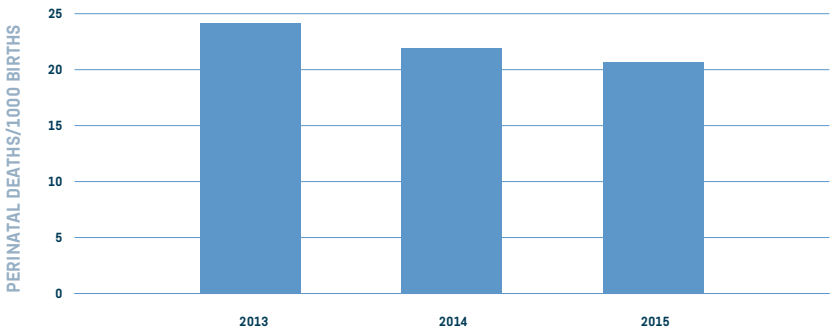
DATA FOR 2,021 DELIVERIES

Since the launch of the Bangladesh "Every Newborn Action Plan," the country has made progress in rolling out quality improvement initiatives, with a focus on evidence-based practices for routine care and management of complications during labor, childbirth, and the immediate postnatal period. Bangladesh implemented the "Helping Babies Breathe" training program nationally, reaching a total of 25,460 SBAs in all 64 districts of the country, including 3,000 private sector SBAs. Review findings show that 83 percent of SBAs had resuscitation devices, 81 percent of the devices were cleaned appropriately, and 66 percent of the providers used the device in the previous week.

The Ministry of Health and Family Welfare expanded this effort to develop a Comprehensive Newborn Care Package. The package includes capacity building and skill retention for service providers and supervisors, ensuring availability of supplies, establishing routine monitoring and reporting systems, strengthening supervision and mentoring support for quality improvement, social and behavior change communication, and incorporating indicators into the national health management information systems.

In India, USAID has built the capacity of health providers in over 120 health facilities that provide care to 350,000 deliveries per year. This effort established teams that identified quality gaps in maternal and newborn care, developed and tested changes, and sustained improvements. Within two years, the quality improvement efforts resulted in a 15 percent reduction in perinatal mortality (Figure 8). Building on this successful experience, USAID is strengthening the capacity of the All India Institute of Medical Sciences to serve as a center of excellence to spread hospital-based quality improvement among hospitals in India and in the South Asia region.

FIGURE 8: **REDUCTION IN PERINATAL DEATHS IN HEALTH FACILITIES IN INDIA**
July 2013 – November 2015



Source: Unpublished USAID Data

Care of the Small and Sick Newborn

Disparity in access to high-quality in-patient care for small and sick newborns between the poorest and richest is a growing concern. Over three-quarters of babies born in sub-Saharan Africa and Southern Asia do not have access to care if they are acutely ill.[38] Another issue of critical importance is the widespread potential to do harm in the neonatal care setting when modern technologies that are a routine part of specialized care are used by inadequately trained staff or not integrated within the health system.

Evidence indicates that a 30 percent reduction in newborn mortality is possible with appropriate care for small and sick newborns. Going forward, attention must be paid to strengthen special care for sick newborns.[39] It is equally important to focus on preventing harm to newborns as an essential first step to providing high quality care, gaining a better understanding of the quality of sick newborn care in national programs, and ensuring that all small, preterm, and sick babies receive the key signal functions of specialized care: feeding, warmth, and oxygen provided in a clean and infection-free environment.

USAID has strategically focused on addressing sepsis, or infection, management because of persistent and widespread systems challenges including: delays in care seeking by families, inability to refer many sick babies to the hospital, diagnostic challenges for frontline health workers, lack of access to antibiotics, inappropriate antibiotic use when available, and poor follow-up. These problems can contribute to preventable morbidity and mortality among newborns with treatable infections. USAID has supported the generation of evidence on the efficacy and feasibility of a simplified antibiotic regimen and approach that can be used in frontline management of sick children in settings where referral to hospitals is not accepted by families. The evidence resulted in new global recommendations endorsed by WHO.[40]

In Uganda, USAID is implementing activities to use the new WHO approach to increase access to treatment among babies who cannot get to a hospital for care. Interventions include assessment and classification of sick children and prevention and treatment of infections in young infants; regular coaching and problem solving among health providers to plan, implement, continuously assess and refine interventions; improvement in the antibiotic supply system; and capacity building for facility and district level staff.

USAID has supported global discussions regarding preterm birth care and implementation research on key issues such as the administration of antenatal corticosteroid, links between the facility and the community in the care of preterm babies, and gestational age determination. Many of USAID's priority countries are emphasizing preterm care in their national newborn policies and standards of care. Kangaroo mother care and antenatal corticosteroids are included in the majority of national policies in priority countries—20 and 17, respectively. However, numerous barriers have impeded the rollout of kangaroo mother care, which has prompted USAID to intensify its effort to address the barriers and support scale-up in at least eight countries. High quality obstetric and preterm care are prerequisites to the administration of antenatal corticosteroids; USAID's support for this intervention has been cautious and backed by strong monitoring and supervision.

Quality of Care in the Private Sector

In many countries, the private sector dominates health care; however, because this sector is largely unregulated, there are vast differences in the quality of care and pricing structure compared to the public sector. Hence, USAID's private sector program has prioritized access to affordable, quality, basic health care among the most vulnerable populations.

Improving the Quality of Services in Private Facilities

In India, the private sector accounts for 80 percent of health expenditures, 80 percent of outpatient care, and 57 percent of inpatient care. Thus, USAID has supported several innovative approaches to improve the quality of care in this sector. For example, the Merrygold social franchise has engaged over 700 hospitals and clinics in seven states to provide a minimum package of basic care at a standard cost to address the issue of variable quality and unregulated pricing structure in the private sector. The network of over 800 doctors has assisted more than 600,000 institutional deliveries and has provided ANC to more than 2 million pregnant women and family planning counseling to 1.5 million clients.

Partnering with Health Care Professional Associations

Health Care Professional Associations (HCPAs) are well-positioned to act as advocates and champions to influence health policy around key maternal and newborn priorities, set national standards of care, support the development and dissemination

of evidence-based clinical practice guidelines, provide continuous medical education and capacity building, and implement mentoring and other quality improvement mechanisms. USAID has worked with HCPAs through the "Survive and Thrive" global development alliance. U.S.-based pediatricians, neonatologists, obstetricians, and midwives have worked with national HCPAs in Nigeria, India, and Ethiopia to adapt and introduce the "Helping Babies Survive" program into national newborn programs. For example, in Nigeria, USAID supports the government in two states, as well as the Society of the Pediatric Association of Nigeria, Nigerian Society of Neonatal Medicine, National Association of Nigeria Nurses and Midwives, and Society of Gynecology and Obstetrics of Nigeria. Leveraging established supervision structures and a national standardized integrated supportive supervision checklist, government managers and members of professional associations support frontline quality improvement teams in primary health centers and hospitals by identifying quality gaps, introducing changes, and assessing progress.

Photo: Amy Fowler/USAID

IMPROVING AVAILABILITY, QUALITY, AND USE OF ESSENTIAL MEDICINES IN CHILD HEALTH SERVICES

Ensuring access to and utilization of high quality medicines for the treatment of the most common childhood illnesses is an essential component of strengthening health systems to improve child health. USAID's approach is to work simultaneously on ensuring availability and access to appropriate, quality-assured medicines and supplies, while also strengthening the service delivery platform in which these products would be utilized to improve child health outcomes.

Increasing Access to Essential Medicines for Child Health

USAID recognizes that the goal of ending preventable child deaths will only be reached if caregivers of sick children have timely access to quality-assured medicines. Even well-trained health workers cannot appropriately treat childhood illnesses if they lack access to essential medicines. As such, USAID helps to improve the supply of essential child health commodities by addressing health system challenges. Such challenges include lack of access to oral rehydration solution (ORS) and zinc for treatment of diarrhea, amoxicillin dispersible tablets (DT) to treat pneumonia, as well as diagnostics to correctly diagnose pneumonia. Lack of availability of these essential medical products is often a result of stock outs and poor forecasting of demand.

Availability

To ensure the availability of high-quality commodities in the geographic areas where they are most needed, as well as strengthen existing local supply chains, USAID supports the manufacturing of quality-assured medicines for child health. USAID's support helps increase access to a steady supply of essential medicines of assured quality, safety, and efficacy, thus improving local health systems and creating a sustainable market for medicines. For instance, USAID has supported the local manufacturing of zinc tablets and syrups for diarrhea in more than 10 countries in Asia and sub-Saharan Africa. USAID also supported the WHO prequalification of the first zinc dispersible tablet from one of these manufacturers. USAID's efforts in this area have been critical to ensuring that scores of manufacturers in priority countries are producing quality medicines that are available to the most vulnerable populations through public and private sector channels.

Under the President's Malaria Initiative (PMI), USAID works to improve access to malaria prevention, treatment, and diagnostic services by procuring and delivering quality malaria products. In FY2016, PMI procured over 30 million insecticide-treated mosquito nets (ITNs), over 44 million ACTs, and over 77 million rapid diagnostic tests (RDTs). Although availability of these critical products has improved, many system challenges still impact access. PMI invests in strengthening in-country supply chains to address these challenges and ensure that children have access to malaria diagnostics and treatment. In many countries, PMI promotes access at the community level by providing malaria products through national integrated community case management (iCCM) programs, including those in DRC, Ethiopia, Ghana, Madagascar, Malawi, Senegal, Uganda, and Zambia.

In Nigeria, which contributes to an estimated 13 percent of all global deaths under 5 each year, national iCCM implementation and task shifting guidelines allow trained community resource persons to distribute oral antibiotics at the community level to treat pneumonia. Until recently, regulatory barriers had prevented this practice, making it especially difficult for children in harder to reach communities to access treatment. In 2016, USAID worked closely with the Federal Ministry of Health's Family Health Division, Pharmacist Council of Nigeria, National Agency for Food and Drug Administration, National Essential Medicines, Standard Treatment Guidelines Committee, and other public and private partners to update and align key national policy and regulatory documents to allow over-the-counter dispensing of amoxicillin DT for the first-line treatment of childhood pneumonia. Having reached this national policy milestone, USAID

now works in selected states to further demonstrate the feasibility, safety, and efficacy of amoxicillin DT distribution by these community providers. As a complementary effort, USAID is also working with the local drug manufacturer to increase the availability and reduce the cost of local, quality production of amoxicillin DT.

In the DRC, which accounts for an estimated 5 percent of all global under-5 deaths each year, USAID supported the MOH to revise the national essential medicines list and standard treatment guidelines, incorporating key child health medicines such as chlorhexidine for newborn cord care and amoxicillin DT for childhood pneumonia. Procedures were also established for future revisions of these key policy documents which frame the procurement and use of commodities as well as the training and supervision of health care providers. Further, USAID supported the MOH to improve the registration system of medicines, reducing the average time for the registration of a medicine from 82 to 58 days and increasing the percentage of products on the essential medicines list that have items registered in the regulatory authority database from 44 percent to 72 percent. These efficiencies are important to assure the availability of safe, quality-assured medicines in both public and private sectors.

Quality

USAID has also worked to strengthen medicines regulatory agencies' capacity in countries with emergent health systems on a range of maternal, newborn, and child health (MNCH) commodities including those needed to treat the most common childhood illnesses. USAID collaborates with the regulatory authorities, national quality control laboratories, academic institutions, and other stakeholders on

Photo: Kate Holt/MCSP

all aspects of the quality of medicines to strengthen institutional capacity to regulate, monitor, and test the quality of medicines entering or produced within their borders.

Use

USAID has worked to build stronger national systems to produce sustainable improvements in access to and appropriate use of quality child health products. Working with local governments and their partners, USAID has supported efforts to integrate public health programs with national supply systems to ensure that commodity availability and management is considered as an essential component in all stages of child health programming, from design and planning to evaluation. USAID has supported the development of guidance on planning for the introduction of new RMNCH commodities. This guidance highlights actions to take and factors to consider that are often not considered in the early phases of introduction (e.g., ensuring appropriate pharmaceutical policies and effective medicine management, as well as strengthening regulatory systems).

Pharmaceutical services go beyond product supply and include medicine information and counseling, rational use, and pharmaceutical care. USAID supports the design and implementation of interventions for health care providers and the public to improve medicine use, including disseminating educational materials and improving prescribing, dispensing, counselling, and the monitoring of adherence. USAID also supports the introduction of new child health commodities by contributing to the testing of service provider job aids. For example, also in the DRC, USAID supported the validation of job aides on the use of amoxicillin DT, which are essential tools to ensure that the new product is used appropriately.

Information plays a key role in quantification and ultimately the availability of needed medicines and supplies. Consequently, USAID has supported efforts to harmonize information systems to effectively manage pharmaceutical data; for example, by helping to establish interactive dashboards that display stock levels at district and facility levels.

Financing child health medicines is still a bottleneck in many countries, despite their relatively low cost. This has been evidenced in countries that are receiving Global Fund support for their iCCM platforms, but lack funding for the pneumonia and diarrhea medical products. To address this financing challenge, USAID has worked at the global level and with countries directly to find solutions, providing guidance on resource mobilization, supply planning, and the management of child health medicines and supplies.

Looking Deeper: Improving Treatment Outcomes in the Private Sector

In many of USAID's priority countries for maternal and child health—particularly Nigeria, Uganda, Indonesia, India, Bangladesh, Nepal, and Pakistan the private sector is the primary source of care for common childhood illnesses such as pneumonia, diarrhea, and malaria, and more caregivers seek care from the private sector than from the public sector or other sources.

Recognizing the private sector's growing role in the provision of child health products and services, several USAID projects have focused on improving access to quality child health services and medicines across the total health system by engaging the private sector. This has included partnering with local pharmaceutical manufacturers, importers, and wholesalers to distribute essential medicines through existing supply chains, and by strengthening and expanding training and supportive supervision to enhance the knowledge and skills of private, formal, and informal providers to deliver appropriate treatment, care, or referral for pneumonia, diarrhea, and malaria. Medicines that circulate in the private sector depend on a country's regulatory system that is administered by the public sector. Therefore, efforts to strengthen medicines regulatory capacity will help assure the quality and safety of products in both the public and private sectors.

Figure 9 reflects the percentage of children with symptoms of acute respiratory infection who received care in the private or public sectors or elsewhere. In Asia, the majority of these children are taken to private facilities; in Africa, use of private and public facilities is more mixed.

In Ghana, USAID's private sector program worked closely with Ghana's Pharmacy Council to train 9,000 drug sellers nationwide on diarrhea management protocols, and partnered with two local manufacturers to ensure the availability of affordable, quality zinc products. As a result, more than 4 million treatments of zinc were supplied to the Ghanaian market, and caregiver use of ORS and zinc increased from 1 to 29 percent in four regions in three years.

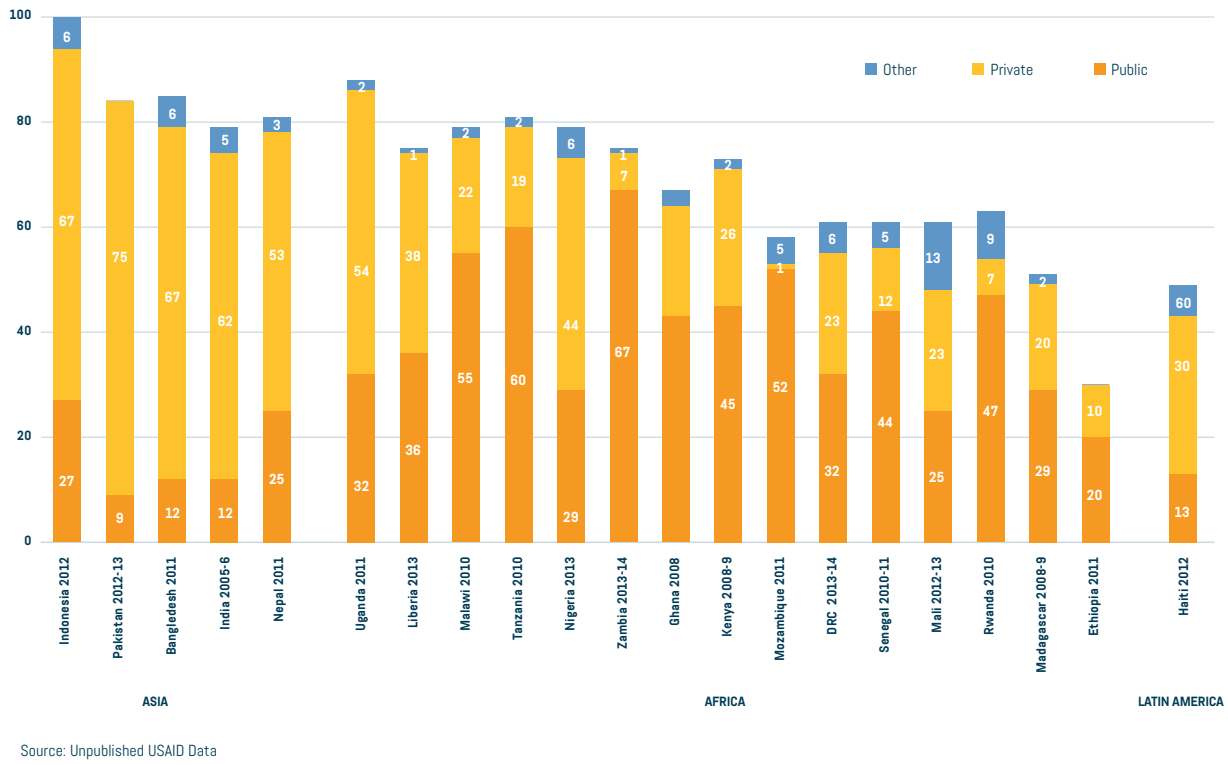
Gaps and Way Forward

Child health medicines are essential for health systems to appropriately treat cases of childhood illnesses and improve overall child health outcomes. However, in many areas of the world, these products—particularly those to treat pneumonia and diarrhea—do not reach sick children. Efforts to reduce preventable child deaths will not be successful without addressing this gap.

A multi-dimensional approach is needed to ensure that all health systems have the capacity to adequately quantify the amount of various child health medicines and supplies needed, source the financing to pay for them, and effectively manage their distribution down to the last point of care in both the public and private sectors. In addition, all health providers that work with children need to be supported to prescribe and dispense medicines appropriately and to counsel caregivers on the proper use of all medicines. Caregivers are critical to improving child health outcomes and should be involved in efforts to increase the number of sick children who are recognized as sick, taken to a health care provider, and given the appropriate treatment.

While most child health medical products are relatively inexpensive, especially for diarrhea and pneumonia, available resources remain tight, particularly at the national level. USAID focuses on stengthening systems to ensure that products are available and medicines and supplies are effectively managed to prevent child deaths. However, contributions will be required from a wide variety of stakeholders, including national governments, to enhance access to safe and efficacious, quality-assured medicines and assure success in health programming designed to protect the health of children and safeguard their lives.

FIGURE 9: **ACUTE RESPIRATORY INFECTION TREATMENT BY PLACE OF CARE**



Source: Unpublished USAID Data

SUSTAINING FINANCING FOR IMMUNIZATION

Immunization is among the most cost-effective health interventions[41], averting an estimated 2 to 3 million child deaths each year and providing a 16-fold return on investment. USAID supports national governments in building strong routine immunization systems and extending equitable access to lifesaving vaccines to all. With new babies born each year who require immunizations to stay healthy, sustaining new vaccine programs and maintaining support for existing programs requires enduring political and financial commitments.

A critical piece of USAID's effort to expand access to life-saving vaccines is carried out through an annual contribution to Gavi, the Vaccine Alliance. Since 2001, USAID has contributed more than $1.6 billion to Gavi to improve access to new and underused vaccines for children living in the world's poorest countries. In part due to USAID's support, Gavi has immunized nearly 580 million children and averted more than 8 million deaths since 2000 through support for 10 vaccines in 73 countries, including all 25 of USAID's priority countries.[42] Recently Gavi adopted new policies that will help promote sustainable country financing of immunization as a priority.

A successful transition from Gavi support requires predictable financing for immunization, human resource and institutional capacity to deliver vaccines, and strong country ownership and political will to maintain immunization programs in the absence of external funding. Recognizing that vaccines are only as effective as the health systems that deliver them, USAID and other partners at the country level work closely with local ministries of health and finance to promote strong technical and financial decision-making, support longer-term health program planning and budgeting, and ensure that immunization programs are well-resourced and executed to reach every child.

Previously, Gavi eligibility was determined by an annual, single-point estimate of a country's Gross National Income (GNI) per capita. A GNI in excess of $1,580 per capita triggered transition from Gavi support.[III] However some countries, such as Ghana, which worked with Gavi to introduce a large number of new vaccines and then experienced rapid economic growth, reached the transition threshold many years earlier than expected. To accommodate for rapid economic increases, Gavi's new policy calculates GNI per capita on a three-year rolling average of the latest World Bank estimates, and provides flexibilities for countries experiencing a sudden, single-year GNI per capita increase, as may be the case in commodities-driven economies.

The revised policy also calls on countries to pay an increasing proportion of their vaccine costs as their national incomes grow, until they reach the GNI threshold (GNI per capita greater than $1,580) after which their Gavi support is phased out over a five-year period. Co-financing is a critical step in preparing countries for transition out of Gavi support and encouraging countries to make financially-informed decisions prior to specific vaccine introductions. Under the revised policy, countries are also able to access prices similar to those that Gavi pays for an additional five years post-Gavi transition through inclusion in UNICEF tenders for specific vaccines. The current cost for the full package of vaccines for a single child in a Gavi-eligible country is estimated at around $35,[IV] not including the cost of vaccine delivery.[43] For countries no longer eligible for Gavi support, the cost is even higher. By 2020, an estimated 20 countries, including several USAID maternal and child survival priority countries, will have transitioned out of Gavi support.[44]

[III] This threshold is updated annually to account for inflation.

[IV] This is the cost to immunise a child against 11 diseases, not all of which are supported by Gavi (tuberculosis, measles, rubella, diphtheria, tetanus, pertussis, hepatitis B, Haemophilus influenzae type b, poliomyelitis, pneumococcal diseases, and rotavirus).

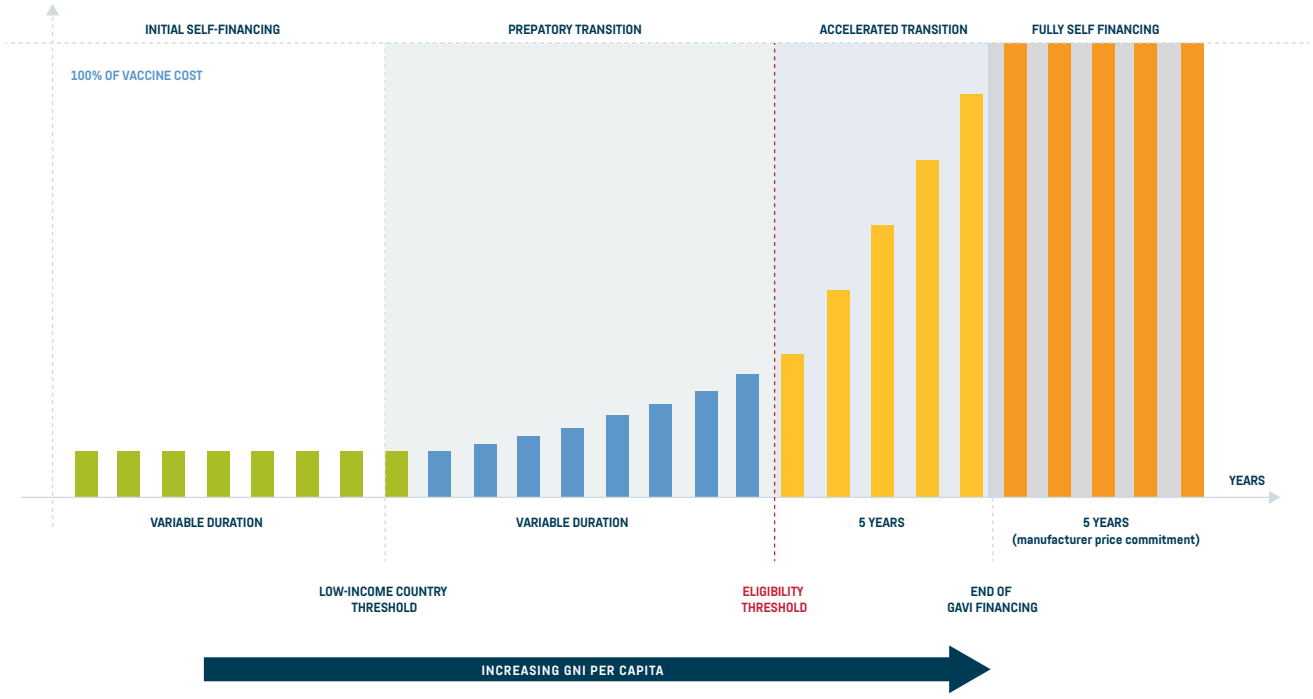
Photo: Allan Gichigi / MCSP

Gavi's new country-centric approach ensures that all technical assistance provided by Gavi partners at the country level is identified through a country-led joint appraisal process. USAID engages in this process to ensure that Gavi and USAID bilateral investments are strategically aligned to address the most pressing immunization challenges.

In Nigeria, USAID recognized the immense challenges associated with creating sustainability within the immunization program at all levels. USAID health focus states, Bauchi and Sokoto, have some of the lowest coverage rates globally, making it clear that doing business as usual was not making a difference. USAID entered into two unique memorandums of understanding (MOUs) with the Bauchi and Sokoto state governments, along with other key immunization partners—the Bill & Melinda Gates and Dangote Foundations. After Bauchi and Sokoto states demonstrated a clear commitment to improved immunization outcomes, state-owned and state-led quadripartite agreements were established. These MOUs make clear the roles and responsibilities of each partner to support locally-led and owned efforts to build and strengthen sustainable delivery of routine vaccines and increase vaccination coverage in the two states. Elements include governance and leadership, financial management, supply chain and delivery, programmatic and technical improvement, and demand side efforts such as linking communities and working with local leadership.

Immunization coverage in Tanzania has been among the highest in sub-Saharan Africa for many years.

FIGURE 10: **GAVI VACCINE FINANCING ELIGIBILITY AND TRANSITION**



Source: Gavi, the Vaccine Alliance. *Eligibility and transition.* Accessed January 2017. http://www.gavi.org/about/governance/programme-policies/eligibility-and-transition/

Eligibility: Eligibility to apply for Gavi support is directly related to each country's ability to pay as measured by its GNI per capita.

Co-financing: Gavi-supported countries contribute to the cost of buying their own vaccines; their payments increase as they enter into the preparatory transition phase and as their GNI per capita rises.

Transitioning out of Gavi support: Gavi works closely with countries to put them on a trajectory towards long-term programmatic and financial sustainability.

After Gavi support ends: After countries transition from Gavi support and become fully self financing, they can continue to procure vaccines at a lower cost for five years through UNICEF or self-procure at the full cost.

Source: Gavi, the Vaccine Alliance. *Making Immunisation Sustainable.* Accessed January 2017. http://www.gavi.org/support/sustainability/

Nevertheless, a review of sub-national immunization coverage data indicated that there remained persistent pockets of under-vaccinated children in several regions, including Kagera, Tabora, and Simiyu. Since 2013, USAID has supported efforts to improve vaccination coverage in 13 selected councils in these three regions that had coverage far below national standards. USAID supported the effective implementation of the reaching every child/community approach (REC) in these provinces.

The REC strategy employs five operational components, including the planning and management of resources to ensure that financial bottlenecks are identified and mitigated from the national level down to the communities that deliver life-saving vaccines. Through its support in Tanzania, USAID has contributed to a 75 percent reduction in the number of unvaccinated children in select regions and improvement of immunization coverage to meet and, in some cases, exceed national standards.

Through our investments, USAID will work to ensure that immunizations remain a central component of primary health and protect children around the world from the threat of vaccine-preventable diseases.

Photo: Allan Gichigi/MCSP

GLOBAL LEADERSHIP

An end to preventable child and maternal deaths is a global vision. It requires that all development partners work with country governments to strengthen health systems to achieve the targets outlined in USAID's *Acting on the Call*. USAID continues to be a global leader in maternal and child survival efforts. Over the past year, USAID has developed strategic documents, led influential studies, and continued to rally a global consensus around a new and evolving set of high impact interventions and implementation approaches. USAID continues to create and build on established global partnerships with public, private, and multilateral entities so that all interested parties can play a meaningful role in achieving results.

May 2016

USAID was a key supporter in developing the WHO **Global Strategy on Human Resources for Health: Workforce 2030**, which was adopted at the ninth World Health Assembly. USAID remains a key stakeholder in implementation efforts through its flagship HRH2030 program, which is aligned with the global strategy objectives and will help country governments establish and maintain qualified workforces.[45]

June 2016

With USAID and other partner support, findings from phase one of the **Global Early Adolescence Study** showed that adolescents aged 10-14 commonly endorse norms that perpetuate gender inequalities, and parents and peers are especially central in shaping such attitudes. Based on study findings, USAID plans to pilot test new activities that address the needs of younger adolescents and prevailing gender norms to promote equitable gender attitudes in youthful populations.[46]

The **U.S. Government Nutrition Coordination Plan** was launched as a guide to strengthen the impact of the many diverse nutrition investments across the U.S. Government through better communication, collaboration, and linking research to program implementation.[47]

July 2016

The **Global Food Security Act** was signed into law to build upon Feed the Future efforts and enshrine the U.S. Government commitment to supporting countries to achieve food security and improved nutrition for their citizens.

September 2016

USAID embarked on a major update of the Agency's **National Supply Chain Assessment** (NSCA) tool to create an objective, user-friendly, publicly available tool to measure health supply chain performance and guide technical assistance. To start the update process, 50 stakeholders participated in a consultation workshop to provide input on strategic aspects of the redesign and pledged continued support for the tool.[48]

The **USAID Contraceptive Security Initiative** (CSI) partnership ended and celebrated seven successful years of USAID-Bayer cooperation. The partnership introduced a commercially-sustainable—yet low cost—oral contraceptive product, Microgynon®Fe, into multiple markets for millions of consumers across sub-Saharan Africa and moved those markets toward decreased dependence on donor/government subsidies.[49]

A USAID project published an evidence review on programming for **men as contraceptive users.** The review showed that while there are few programs that address men's contraceptive use, there is ample evidence of men's desire for information and services, as well as men's positive response to existing programs, to warrant further programming for men and boys in contraceptive services. Based on the lessons learned in this review, USAID plans to strengthen programming for men as contraceptive users in new projects and activities, especially aiming to reach them in urban and rural workplaces.[50]

October 2016

The first-ever, ground breaking global survey of midwives conducted by the World Health Organization and supported by USAID, **Midwives Voices, Midwives Realities**, shows that more than a third (37 percent) of polled midwives in 93 countries have experienced harassment at work. Harassment at work is a key barrier in providing quality care. USAID promotes gender-sensitive policies in countries around the world and supports programs to empower women in their workplace through advocacy for fair compensation, rational deployment, and career ladders to promote nurses and midwives to policy-making roles.[51]

USAID and WHO published a consensus statement on **Classification of Contraception** that defines modern contraceptive methods as having a sound basis in reproductive biology, a precise protocol for correct use, and evidence of efficacy under various conditions, based on appropriately designed studies. A clear and consistent classification of modern and traditional contraceptives will help coordinate and align programming across partners.[52]

The U.S. Government released its **Global Food Security Strategy**, which guides agencies across the government in implementing the Global Food Security Act.[53]

December 2016

The USAID-supported **EquityTool** was released, providing a simplified, mobile- and tablet-based survey to measure beneficiary wealth. Data from the tool can be used by program managers to adjust service delivery models to better reach the poor, after viewing instantly calculated results.[54]

The **Saving Mothers, Giving Life 2016 Annual Report** highlights a decrease in maternal deaths by 55 percent in target facilities in Zambia and 44 percent in target districts in Uganda. SMGL is a public private partnership that addresses the three major delays to care: delays in seeking care, delays in accessing care, and delays in receiving quality care to improve maternal and neonatal health.[55]

January 2017

The **Survive and Thrive Progress Report** announces that since 2010 the partnership has trained 355,000 health providers in more than 80 countries and has improved more than 5,000 health facilities through training and equipment. This partnership leverages skillsets of different partners to support and sustain high quality, facility-based MNCH interventions and strengthen professional associations.[56]

February 2017

USAID is a key supporter of the **Quality, Equity, Dignity Network** that was launched by WHO and the Government of Malawi. In support of the Every Woman and Every Child movement, national governments from nine first wave countries and partners have joined forces to establish a network to improve the quality of care provided to mothers, newborns, and children, with an ambitious target of halving maternal and newborn deaths in facilities in five years. The network aims to operationalize the vision for QoC for mothers and newborns through coordinated actions and investments.

March 2017

The **Institutionalizing Community Health Conference** brought together country delegations to share their progress, challenges, and priorities for action and strategies to make community engagement in systems a priority at the national and local level.[57]

A LOOK AT THE DATA

The data in this report reflects the maternal and child lives saved in each country due to the scale up with partners of a package of health systems strengthening strategies (HSS), as reflected by input from USAID's country teams. It reflects a realistic best-case scenario for 2016-2020, and allows an evidence-based consideration of the likely impact of scale up of a country specific package of health systems strategies. If scale-up of any one strategy differs from the best-case estimation, or if country bottlenecks, political priorities, or baseline health indicator coverage were to change, these projections would also change. Each component of the health system works synergistically with the others to achieve maximum impact.

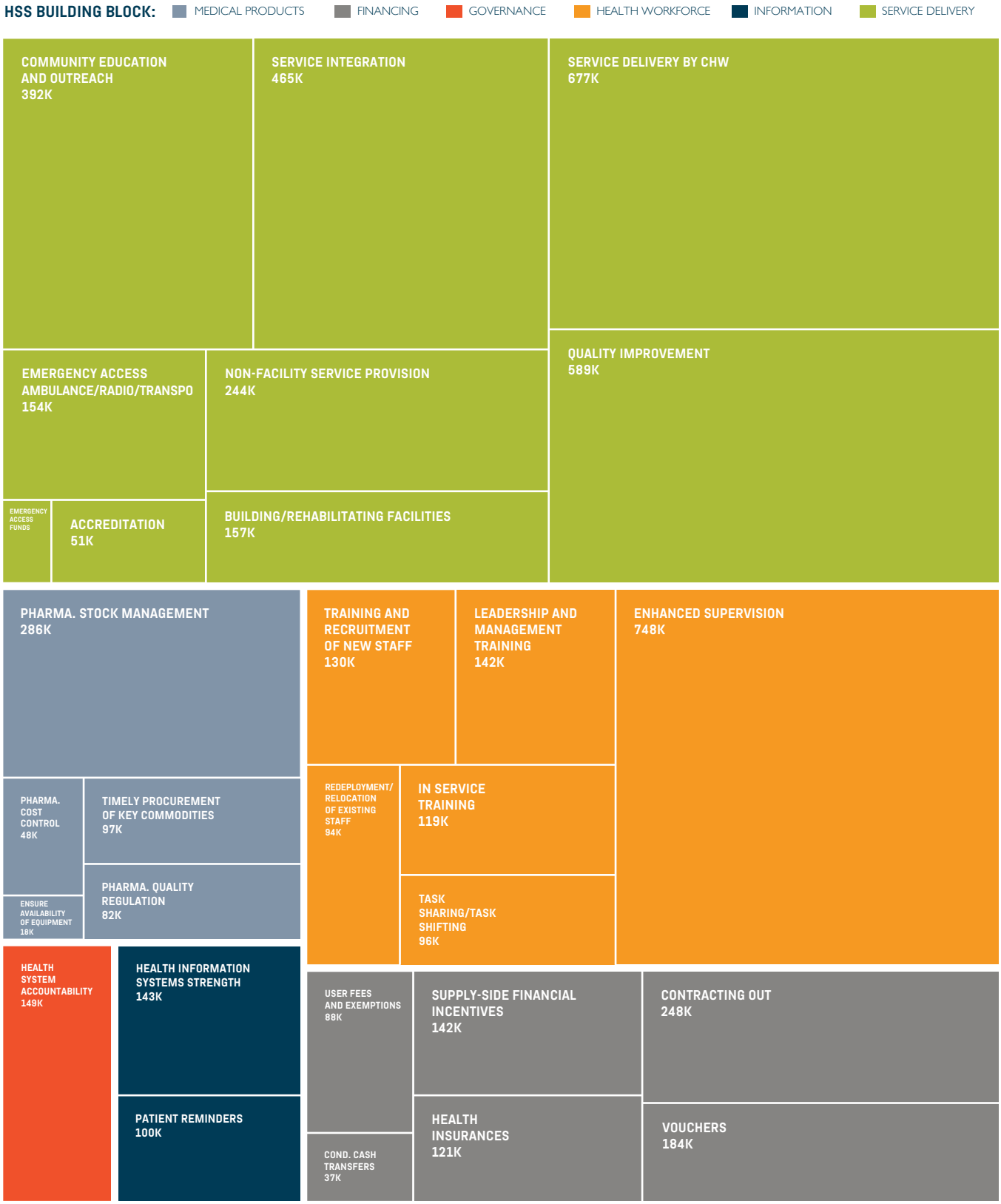
Figure 11 shows aggregated data from across our priority countries.

- For the first time we are able to demonstrate that health systems strengthening strategies, across all six building blocks have a direct link to saving lives
- While building blocks related to service delivery and human resources predictably have the biggest impact on lives saved, it is important to understand that this impact is augmented by strategies in the other building blocks, which also have directly attributable impact in and of themselves.
- In addition to a clear link to impact on lives saved—we would also expect these health systems strategies to have impact on other health systems outcomes of resilience, responsiveness, financial risk protection and overall sustainability.

With an increased emphasis on building strong and resilient health systems, and a relentless focus on our goal, working together we will save 15 million children and 600,000 women between 2012 and 2020.

Photo: Allan Gichigi/MCSP

FIGURE 11: **MATERNAL AND CHILD LIVES SAVED BY HSS BUILDING BLOCK AND STRATEGY 2016-2020, 24 EPCMD COUNTRIES**



HSS strategy and sum of rounded value. Color shows details about HSS Building Block. Size shows sum of value. The marks are labeled by HSS strategy and sum of rounded value.

GLOSSARY OF TERMS

Critical Health Systems Constraints, or bottlenecks, are issues in a health system that reduce the ability of the population to access quality care.

They include:

Availability of Commodities

Availability of Human Resources

Financial Affordability

Geographical Access

Sociocultural Acceptability

These bottlenecks may be more or less critical depending on the setting in which care is delivered. For the purposes of the analysis in this report care delivery settings are grouped into four categories:

Community based practices (WASH, bednets, breastfeeding);

Preventive Care (family planning, antenatal care, immunization);

Delivery Care (normal and emergency obstetric and neonatal care); and

Care for Childhood Illness (treatment for child illness including pneumonia, diarrhea, malaria, neonatal sepsis, etc).

Health Systems Activities[v] improve some, or all, of the constraints:

Health Financing helps countries mobilize sufficient resources to pay for health needs and aim to reduce catastrophic health costs to individuals, thereby improving access to and availability of services that improve and save lives.

Conditional cash transfers are cash payments made to individuals or households for medical spending and are contingent upon certain behaviors (i.e. school attendance) or use of particular services (i.e. immunization).

Contracting out refers to governments establishing contracts with health care providers to offer publicly-funded health care services to a specified population.

Health insurance collects regular and predictable payments from large numbers of people to "pool" resources and disburse payments to eligible individuals for health care when it is needed.

Supply-side financial incentive programs—including performance-based financing, performance-based incentives, and pay-for-performance programs—provide rewards to providers or facilities that are based on the achievement of specific health outcomes, increased service use and/or improved service quality.

User fees are point-of-service charges patients pay to receive care. User fee exemption policies aim to reduce the financial burden on vulnerable patients and increase access to health care services by reducing or eliminating fees for certain services (i.e., delivery care) or certain groups (i.e., pregnant women or under-five children).

Vouchers provide coupons to individuals, based on eligibility criteria, to receive free or reduced-price access to care.

Health Workforce interventions aim to improve the availability and accessibility of qualified health care providers to a population in order to save lives through adequate and appropriate service delivery.

Enhanced Supervision is a broad set of supervisory interventions that improve provider performance through team-based, learning approaches, including supportive supervision, the use of checklists and in-person visits.

Leadership and Management Training is the provision of training of health workers and facility managers in management and leadership skills to improve care delivery.

Relocation of Existing Staff is the process of redistributing the existing health workforce to optimize population access to health care services, especially in rural and underserved areas.

Task sharing / Task shifting is the redistribution of duties for health care workers as a way to increase patient access to service delivery.

[v] Developed by the EQUIST Expert Review Panel

Training and Recruitment of New Staff is the action of increasing the supply of qualified health workers.

Health Information *interventions aim to improve the collection, analysis, dissemination, and timely use of health data in evidence-based decision making at all levels of the health system in order to save lives.*

Health Info Systems Strengthening is the effort to improve the organizational, behavioral and technical capacity of the health information system so that decision making at the national and subnational levels is informed by timely, complete and accurate data.

Patient Reminders are electronic communications sent to patients to increase compliance with appointments and adherence to treatment.

Health Governance *interventions help improve the responsiveness of health systems to their populations, thus addressing perceptions of poor quality or mistreatment which may impede populations from accessing health services.*

Health System Accountability is the existence of appropriate policies and strategies to promote transparency in the health system and encourage that all actors answer for their actions.

Photo: Karen Kasmauski/ MCSP

Medical Products interventions aim to ensure that people have sustained access to and make appropriate use of safe, effective, and quality medical products to improve their health status and save lives.

Ensure Availability of Equipment is the procurement of all necessary equipment within the supply chain, from the central medical store to a health facility, necessary to safely and effectively deliver medication and supplies.

Pharmaceutical Cost Control is the practice of managing or reducing costs for medicines and supplies required by the health system, while maintaining quality.

Pharmaceutical Quality Regulation is the set of rules or policies that ensure the quality and integrity of pharmaceuticals.

Pharmaceutical Stock Management is the effort to maintain a continuous and sufficient stock of appropriate drugs and supplies in facilities and other patient serving settings.

Timely Procurement of Medical Products is the selection and purchasing of appropriate medications and supplies to prevent shortages and stock-outs.

Service Delivery interventions aim to ensure access to safe, effective, and high-quality services by individuals and populations when they need them in order to sustain health and well-being and to prevent illness and death.

Building/Rehabilitation of Facilities is the constructing and renovating of health facilities in order to improve access to and/or quality of health care services.

Community Education and Outreach encompasses all learning activities conducted collaboratively with individuals and groups in a community to raise awareness, transfer knowledge and skills and catalyze behavior change.

Emergency Access Interventions are programs and structural interventions designed to facilitate access to medical care in emergencies, including ambulances, radio communication, accompaniment, and maternity waiting homes.

Facility Accreditation is a process by which an independent body evaluates compliance with an established set of norms and standards that are meant to optimize the quality of services provided at the facility level.

Quality Improvement consists of systematic and continuous actions that lead to measurable improvement in health care services and the health status of targeted patient groups.

Service Delivery by Community Health Workers are services performed by a non-medical professional who is trusted in the community and trained to support, diagnose, and/or deliver culturally-competent basic health services.

Service Integration refers to a broad array of service delivery activities meant to enable patients to receive multiple needed health services in a coordinated and convenient fashion.

Service Provided Outside Facility is the provision of priority services by medical practitioners to improve access to care outside of a standard fixed health facility site.

Improvements in Care Come in Stages.

As country health systems improve and develop more facilities are able to offer evidence based standards of care to broader swaths of the population. While all people may not have access to quality services, more people are consistently able to access services of higher quality than were available to them before the systems strengthening interventions.

Improvements in Basic Health Services refers to the percentage of a population that is able to access any health care at all for key maternal and child health interventions. Depending on the care delivery setting, this may include: ownership of a net, partial breastfeeding, beginning immunization series, receiving one ANC visit, delivering in a basic health facility, or treating diarrhea with oral rehydration therapy.

Improvements in Improved Health Services refers to the percentage of a population that is able to access care that meets basic standards for maternal and child health interventions. Depending on the care delivery setting, this may include: ownership of an ITN, predominant breastfeeding, use of contraception, receipt of full immunization series, four ANC visits, delivering in a health facility capable of handling basic emergency care.

Improvements in Quality Health Services refers to the percentage of a population that is able to access high quality care, represented by correct implementation of evidence based maternal and child health interventions when and where they need them. Depending on the care delivery setting, this may include: exclusive breastfeeding, use of modern methods of contraception, ANC which includes recommended diagnostic tests, delivery in facilities capable of performing comprehensive emergency care, or treatment of diarrhea with scientifically formulated oral rehydration solution.

Photo: Karen Kasmauski/ MCSP

Photo: USAID

ANNEX

Data Sources:

The information presented on the country pages comes from common, publicly available sources as described below. Sources were chosen to maximize ability to compare across countries in a single year and based on common methodologies for estimation. Therefore, the numbers presented may vary from recently released data and/or from the official numbers used within countries.

Total Population, Population under five, Number of Births:

http://www.census.gov/population/international/

The US Census Bureau's International DataBase (IDB) estimates and projections (funded by USAID) are provided for each calendar year beyond an initial or base year, through 2050. The estimation and projection process is conducted by the statisticians and demographers of the US Census Bureau's International Programs Center, and involves data collection, data evaluation, parameter estimation, making assumptions about future change, and final projection of the population for each country. The Census Bureau begins the process by collecting demographic data from censuses, surveys, vital registration, and administrative records from a variety of sources. Available data are externally evaluated, with particular attention to internal and temporal consistency. The resulting body of data in the IDB is unique because it exists for every country and is updated annually; these single year estimates reflect the demographic impact of sudden events, such as earthquakes, wars, and refugee movements. The UN maintains the only other similar source of estimates for all countries, but updates its data less frequently; its estimates do not yet reflect the precise timing of sudden events.

*The Census International Data Base did not have estimates for India, South Sudan or Yemen. For these countries data on total population and population under-five from 2010 was taken from the UN Population Division **http://esa.un.org/unpd/wpp/unpp/panel_population.htm**. Data on Number of Births was calculated using the Under-Five Mortality Rate and the number of Under-Five Deaths (see sources below).

Under-five Mortality Rate and Under-Five Deaths:

http://www.childmortality.org/

Estimates produced by the Interagency Group for Child Mortality Estimation (IGME). IGME, established by the UN, has a membership of leading academic scholars and independent experts in demography and biostatistics who review mortality data and publish annual country level estimates of under-five mortality. To do so, IGME compiles all available national-level data on child mortality, including data from vital registration systems, population censuses, household surveys and sample registration systems, and weights these data based on quality measures. In order to reconcile differences caused by estimation technique, error rates and overlapping confidence intervals, the Technical Advisory Group of the IGME fits a smoothed trend curve to a set of observations and then uses that to predict a trend line that is extrapolated to a common reference year, in this case 2015.

Maternal Mortality Ratio:

From the recently released report: Trends in Maternal Mortality: 1990 to 2015. Estimates by WHO, UNICEF, UNFPA, The World Bank and the United Nations Population Division:

http://www.who.int/reproductivehealth/publications/monitoring/maternal-mortality-2015/en/.

The 2013 round of UN estimates (World Health Organization et al., 2013) provided an integrated evaluation of maternal mortality over the full interval from 1990 to 2013, utilizing all available data over this period. A key goal of this analysis was to create comparable estimates of the MMR and related indicators for 183 countries (or territories), with reference to 5-year time intervals centered on 1990, 1995, 2000, 2005, and 2013. The 2015 report included two key methodological refinements to enhance the quality of the data. First, the 2015 model utilizes national data from civil registrations systems, population-based surveys, specialized studies and surveillance and censuses data to estimate trends for all countries. Second, the 2015 methodology weights data from higher quality sources higher so these have a greater impact on the final estimates than data from lesser sources.

Intervention Coverage Estimates

Intervention coverage rates were abstracted from the most recently available *Demographic and Health Survey* (DHS) and *Multiple Indicator Cluster Survey* (MICS) with special data analysis for specific interventions by the Federal University of Pelotas, Brazil (*Countdown*, 2015). Where data points for 2017 were unavailable, 2017 coverage estimates were based on an

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application of the annualized rate of change from the two most recently available survey data points.

Out-of-pocket Health Spending

Estimates for out-of-pocket health spending were downloaded from the World Bank Databank (**www.data.worldbank.org**).

2016 AOTC Report Findings

The interventions that benefit most from an equity-based approach were identified in the 2016 *Acting on the Call* Report.

http://www.usaid.gov/actingonthecall

Methods for Calculating Lives Saved by HSS Strategy

The projections on the individual country pages for lives saved by 2020 represent the results from an eight-step modeling framework. The model takes into account the best available data on individual country health system bottlenecks, the effect of scaling up health system strengthening (HSS) strategies given this context, and the opinion of in-country experts about what is feasible over the next four years.

Overall, these models represent a realistic, yet ambitious best-case scenario for the impact on lives saved of scaling up selected country specific health system strengthening strategies in USAID's maternal and child survival priority countries from 2016-2020 and allows an evidence-based consideration of the likely impact of scale up of a country specific package of health systems strategies. If scale-up of any one strategy differs from the best-case estimation, or if country bottlenecks, political priorities, or baseline health indicator coverage were to change, these projections would also change. Each component of

the health system works synergistically with the others to achieve maximum impact. The chosen interventions are tailored to the individual country context, as is the impact from those interventions. The amount of impact for any given intervention will depend on the degree to which that intervention is already taking place, and the severity of the underlying bottlenecks impacted by that intervention. *Nevertheless it is clear that by 2020, across the 25 EPCMD priority countries a focus on scaling up key health systems strengthening strategies, taking into account the individual country contexts, will have a significant impact on saving lives of women and children.*

The eight-step modeling methodology proceeds as follows and is based on the EQUIST tool (**www.equist.info**) developed by UNICEF.

1. First, data on available health systems indicators in 2016 for each country was compiled by examining recent country surveys such as SPA (Service Provision Assessment, DHS), SARA (Service Availability and Readiness Assessment, WHO), Service Delivery Indicators (World Bank), Service Delivery Point Survey, or RMNCH Landscape Analysis.
2. Second, data on existing coverage of dozens of key health interventions was estimated for the population based on the recent national surveys, such as DHS or MICS.
3. Third, raw data from these surveys was used to calculate in each country the severity of health system bottlenecks that impede the effectiveness of proven intervention such as availability of commodities, geographical access, or availability of human resources (among others). These methods derive from the EQUIST tool.
4. Fourth, a high-level expert meeting in 2016 systematically reviewed hundreds of published articles to quantify the estimated impact of 29 HSS strategies on health intervention coverage. The 29 HSS strategies can be categorized within six health system building blocks per WHO, and are the basis for the breakdown of each of the country "Scaling up Health Systems Activities" charts. It is important to note that this selection leaves out many HSS strategies where formal studies were not conducted describing effect size.
5. Fifth, in-country experts at the USAID mission, in collaboration with local partners, reviewed the 29 strategies and estimated to what extent the country could realistically scale up each by 2020. If the strategy was already being implemented, teams only assessed scale up in addition to current activities. These estimations often reflected existing in-country plans but assumed realization of the full potential as articulated in country plans or included additional scale-up judged to be feasible by country teams, in collaboration with local partners where possible. Therefore this input represents a realistic "best-case" scenario. The in-country experts applied the 29 HSS strategies to four service delivery platforms separately: community-based practices, preventive care, delivery care, and care for childhood illness, and estimated the planned scale up of each HSS strategy for each service delivery platform.
6. Sixth, the modeling team used the plans outlined by in-country experts, the estimated impact of each intervention, the baseline status of existing bottlenecks, and the baseline health coverage of dozens of key interventions to estimate the improvement in health determinant coverage (e.g. immunizations, skilled birth attendance), including "effective coverage" (a measure that includes quality as well as reach) that such scale-up would affect.
7. Seventh, the effect of improvements in coverage was modeled in LiST (the Lives Saved Tool) to estimate the number of maternal and child deaths that would be averted from 2016-2020.
8. Eighth, the percent contribution of each HSS strategy to deaths averted was calculated using the above inputs.

Delivery Platforms and Intervention Packages

In EQUIST, "intervention" refers to specific preventive and curative services or care practices that have direct effect on child and maternal health and nutrition. The interventions included have proven efficacy and are directly linked to the interventions included in LiST.

"Impact" in EQUIST refers to the specific effect on health or nutrition outcomes (decrease in mortality or malnutrition rates, number of deaths averted, etc.) resulting from a change in coverage of a given intervention or group of interventions.

To systematically analyze and address health system bottlenecks, EQUIST organizes health, nutrition, and water and sanitation interventions into nine intervention packages further grouped into four service delivery platforms.

The service delivery platforms represent distinct approaches for delivery of healthcare services. Within each service delivery mode, interventions are grouped into packages based on their similarity, delivery mode, and/or beneficiaries. The critical assumption for delivery platforms is that interventions delivered via the same delivery mode and for similar beneficiaries share

similar bottlenecks. For example, if a shortage of skilled health personnel is a problem for immunization activities, the same problem probably exists for vitamin A supplementation since both interventions are usually delivered by the same type of health worker.

Family practices refer to interventions that families and communities can provide/practice by themselves or with limited inputs. A skilled service provider is not required, though a community-based worker may receive some training and guidance from professional health workers to support coverage of these interventions through information, education and other communication strategies. Three intervention packages are included under family practices: Water, Sanitation and Hygiene; Environmental Safety; and Infant and neonatal feeding and care practices.

Preventive services refer mainly to preventive care services that are delivered in facilities to a target group according to a schedule (i.e., not based on illness) and/or through outreach. Three intervention packages are included under Preventive schedulable services: Family Planning; Antenatal Care; and Immunization Plus.

Clinical services refer to childbirth delivery services and individual illness management interventions provided by trained healthcare professionals in a healthcare facility. To be effective, interventions are regularly and continually available to respond to illnesses, child birth, or complex treatment as they arise. These in turn are organized into two sub-platforms: *Delivery Care* (which includes two packages: Normal Delivery; and Emergency Obstetric and Neonatal care); and Curative Care for children (which includes a single package: Integrated management of Newborn and Child Illnesses.

Evidence base for potential effectiveness of health system strengthening strategies

Based on a thorough systematic evidence review and a high-level expert meeting carried out in 2016, an estimation of quantified effect sizes were derived for a series of health system strengthening strategies. These effect sizes were expressed in relative risk ratios. Differentiated effect sizes were derived for each of the four delivery platforms. Wherever several sources where available, the effect size was expressed as a range [max-min]. Effect of strategies was measured on changes in coverage or utilization of different interventions.

Transformation of relative risk ratios into coverage gaps reduction.

A limitation of using this form of evidence for modelling purposes is that relative ratios are quite dependent on the level of the baseline coverage. For example, in the original study, a strategy showed to increase coverage from the 35% to 70% in the intervention group, thus resulting in a relative risk ratio (RRR) of 1.5; applying this RRR to an intervention with a baseline coverage of 5% would result in an increase on coverage in only 2.5%; if however baseline coverage was 80%, the expected endline target coverage would be 120%, which is illogical. To overcome this inconsistency we have converted the RRR into relative reduction in coverage gap; in our example the coverage gap was 65% at baseline (100-35%), and was reduced to 30% (100%-70%) once the strategy was introduced. Thus, the coverage gap reduced by 54% [(65-30%)/65%]. In our examples, this would result in an increase from 5% to 56%, and from 80% to 91%.

Detailed data on the original RRR ranges and adjusted effect range (expressed as reduction in coverage gaps) can be found in the online Annex.

The resulting coverage changes were then modeled with LiST to estimate lives saved from the total HSS scale up.

The Lives Saved Tool (LiST) Methodology

The Lives Saved Tool (LiST) (Version 5.54) was used to estimate the potential impact in terms of maternal and child mortality reduction as a result of expanded coverage of key maternal, newborn, and child health (MNCH) interventions. Analyses were conducted based upon values for baseline and projected target coverage in each country provided by EQUIST.

The LiST module uses the most updated data available for mortality rates, causes of death, baseline health status, and coverage levels for effective interventions in order to create country-specific projections.

Baseline coverage of key interventions and contraceptive prevalence rates (CPR) were based upon EQUIST outputs. Trends to reach designated intervention coverage targets were modeled in a pattern of linear increase for the period from 2016 (baseline) to 2020 (target). Childbirth interventions provided at or around the time of delivery were modeled as a packaged scale-up according to expanded skilled birth attendance and health facility delivery percentages. The prevalence of exclusive breastfeeding was modeled uniformly for the <1 month and 1-5 month age groups. Trends for HIV/AIDS programming were based upon intervention scale-up as projected within the AIDS Impact Module (AIM). Increases in CPR were linear and set to reach 2020 target levels as specified by the EQUIST platform.

The resulting difference in the number of child and maternal deaths with scale-up of RMNCH interventions and contraceptive use was calculated as the total number of lives saved compared to a baseline model which incorporated no coverage change over time. The impact of contraceptive use, described as the "family planning" or "demographic impact," reflects the concurrent reduction in the number of deaths due to the CPR-driven decrease in fertility or reduction in the overall number of births projected. For the lives saved attributable to specific MNCH interventions, impact by intervention was grouped according to four EQUIST service delivery platforms: family practices, preventive services, delivery care, and curative care for children. Details of which interventions fall into which platform are in the appendix.

Allocation of Lives Saved to HSS Strategies

In order to have a sense of the relative contribution of different HSS strategies to the impact estimated, the following process was followed:

1. First, for each delivery platform the projected impact for all interventions via LiST was aggregated.
2. Second, for each of the strategies in the delivery platform, the effect size on coverage changes, and of these coverage changes on lives saved by platform, was calculated as detailed in the online annex.
3. Third, the proportion of the effect size of each strategy included as a percentage of the sum of the effect sizes of all interventions.
4. Fourth, the number of deaths averted for that delivery platform was attributed to each strategy by a percentage calculation.

Effective Coverage

Tanahashi (1978) defined a hierarchical series of five quantitative measures of "coverage" that reflected the conditions required for effective coverage. These measures are organized hierarchally so that each reflects a more constraining definition of coverage than the previous.

- Availability Coverage: People for whom the service is available
- Accessibility Coverage: People who can use the service
- Acceptability Coverage: People who are willing to use the service
- Contact Coverage: People who use the service
- Effective Coverage: People who receive effective care

By comparing the relative compliance with of each of these "conditions" one can identify the largest "bottleneck". In other words, the greatest obstacle to effective coverage is where the biggest drop exists between one measure of coverage and the next.

Over the past 30 years the Coverage Determinant framework has been refined through extensive use. To reflect the importance of adequate timing and continuity in usage of services, "contact coverage" was divided into "*initial utilization*" and "*adequate coverage*". "Effective coverage" is adequate coverage of sufficient quality. In this report, we rephrase these as *access to basic health services*, *access to improved health services*, and *access to quality health services*.

Whereas we assess directly the bottlenecks for each determinant of coverage, we infer indirectly the bottlenecks related to the "measures of coverage." Continuity bottleneck is assessed by comparing the relative "drop-off" between initial utilization and adequate coverage. Quality bottleneck is assessed by comparing the relative "drop-off" between adequate coverage and effective coverage, as illustrated by the figures on each page.

We can illustrate this through a description of antenatal services. A pregnant woman's preliminary contact with antenatal services constitutes the initial utilization. Adequate coverage can be assessed as her continuous and timely use of the services, such that she completes at least four antenatal visits. If adequate coverage is substantially lower than initial utilization, there is a continuity bottleneck. Effective coverage can then be measured as four plus visits performed by a skilled nurse, fulfilment of a ninety day intake of ferrous sulphate and folic acid, and a urine test. If there is a big difference between adequate and effective coverage we identify a quality bottleneck.

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