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USAID
ASSIST PROJECT
*Applying Science to Strengthen
and Improve Systems*

FINAL REPORT

USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project

SEPTEMBER 2020

The contents of this final report are the sole responsibility of University Research Co., LLC (URC) and do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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For more information on the work of the USAID ASSIST Project, please visit www.urb-chs.com/assist.

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On the cover

School children in Nigeria. ASSIST worked with national and State-level stakeholders in Nigeria to define evidence-based standards for services for orphans and vulnerable children and supported partners to apply these standards in their community programs to ensure needs-based service delivery.



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Acronyms

AAP	American Academy of Pediatrics
AIDS	Acquired immunodeficiency syndrome
AIIMS	All India Institute of Medical Sciences
AMTSL	Active management of the third stage of labor
ANC	Antenatal care
ANPPCAN	African Network for the Protection and Prevention of Child Abuse and Neglect
ART	Antiretroviral therapy
ASSIST	USAID Applying Science to Strengthen and Improve Systems Project
CHW	Community Health Worker
CSaZ	Congenital Syndrome associated with Zika
DEC	USAID Development Experience Clearinghouse
DREAMS	Determined, resilient, resilient, empowered, AIDS-free, mentored, and safe
ECHO	Extension for Community Healthcare Outcomes
eMTCT	Elimination of mother-to-child transmission of HIV
FP	Family planning
HIV	Human immunodeficiency virus
HRH	Human resources for health
IMNCI	Integrated Management of Newborn and Childhood Illness
IPTp	Intermittent preventive therapy in pregnancy
KM	Knowledge management
MDR	Multi-drug-resistant
MNCAH	Maternal, newborn, child, and adolescent health
MNCH	Maternal, newborn, and child health

MOH	Ministry of Health
mRDT	Malaria rapid diagnostic test
MVC	Most vulnerable children
NACS	Nutrition assessment, counseling, and support
OVC	Orphans and vulnerable children
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PHE	Public health emergency
PHFS	Partnership for HIV-Free Survival
PLHIV	Person living with HIV
PPH	Postpartum hemorrhage
PMTCT	Prevention of mother-to-child transmission of HIV
QAID	Quality Assurance and Inspection Department (Uganda)
QI	Quality improvement
QIF/SP	Quality Improvement Framework and Strategic Plan (Uganda)
R&E	Research and evaluation
REPPSI	Regional Psychosocial Support Initiative
SIMS	Site Improvement through Monitoring System
SMGL	Saving Mothers Giving Life
TB	Tuberculosis
URC	University Research Co., LLC
USAID	United States Agency for International Development
VMMC	Voluntary medical male circumcision
WHO	World Health Organization

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Application de la Science pour le Renforcement et l'Amélioration des Systèmes



URC's partner WI-HER trained the ASSIST technical team in Mali on how to conduct gender analysis and develop and analyze sex-disaggregated data and gender-sensitive indicators to identify and address gender-related issues as part of improvement activities.

Executive Summary

In June 2020, the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project completed 93 months of operation, providing technical leadership for USAID's global efforts to strengthen health systems with quality improvement approaches implemented through long- and short-term technical support to 46 USAID-assisted countries. In 29 of these countries, ASSIST fielded long-term staff and established a country office, supporting local health workers to achieve improvements in maternal and newborn care, HIV prevention and treatment, malaria treatment, chronic disease prevention and case management, and Zika prevention and case management. The project provided short-term technical assistance to address diverse health challenges in another 17 countries.

ASSIST sought to improve health outcomes in USAID-assisted countries by strengthening the delivery and quality of facility- and community-based health and social services, improving the performance of the health workforce, and strengthening community linkages with facility-based care. Implemented from October 2012 to June 2020 through a cooperative agreement awarded to University Research Co., LLC (URC), the original cooperative agreement end date of September 2017 was extended to September 2019 with a costed extension to allow the project to support USAID's Zika emergency response. A no-cost extension was granted in August 2019 to extend the cooperative agreement end date to June 29, 2020 to allow for completion of Zika activities.

URC partnered with a diverse group of global organizations to implement ASSIST: EnCompass LLC, FHI 360, Harvard Chan School of Public Health, HEALTHQUAL International, Initiatives Inc., Institute for Healthcare Improvement, Johns Hopkins Center for Communication Programs, WI-HER LLC, and the World Health Organization Service Delivery and Safety Department. Under the costed extension awarded in September 2017 to support USAID's Zika emergency response, URC added the American Academy of Pediatrics as a global partner.

ASSIST's country technical assistance drew on one or more evidence-based quality improvement (QI) approaches, as appropriate to the technical content and context. The project focused on improving the effective implementation of high-impact interventions, taking into consideration the needs of marginalized and underserved populations and gender, age, and social differences that affect access to and utilization of care.

In each long-term country, the project applied an integrated design approach to explicitly define the evidence-based improvement strategies to be implemented to achieve the objectives set by USAID and the country; how these strategies would be implemented in partnership with local stakeholders; how the improvement would be sustained, scaled up, and institutionalized; and how the activities would contribute to local and global learning. This deliberate design process

also sought to link improvement objectives with larger health system-strengthening efforts. In this way, ASSIST sought to connect point-of-care improvement work with strategies to address health system gaps (e.g., policy, health workforce, supply chain, and resource allocation) and take a whole-system approach by coordinating improvement interventions at multiple health system levels—national, district, facility, and community.

Key accomplishments of the USAID ASSIST Project include:

- ◆ Made QI simpler by creating guidance in step-by-step, plain language manuals and developing a large body of tools and examples (codified improvement knowledge) to help others improve. ASSIST also demonstrated that using such tools results in faster uptake of improvement methods and better outcomes.
- ◆ Linked process improvements to outcomes and generated evidence of the cost-effectiveness of improvement interventions and attribution of results to QI interventions.
- ◆ Strengthened health systems, particularly at district and other subnational levels, and developed district capacity to sustain improvement activities.
- ◆ Successfully adapted QI methods to community-level services and incorporated community QI into numerous country programs to ensure a full continuum of care from the household level through facility care.
- ◆ Embedded QI in national health policies and frameworks and developed QI capacity in diverse public and private institutions, including service delivery and regulatory institutions, academic institutions, professional associations, civil society organizations, and private provider networks.

- ◆ Applied QI to new areas, including voluntary medical male circumcision; Zika prevention, screening, diagnosis, and case management; non-communicable disease primary prevention and case management; nutrition assessment, counseling, and support (NACS) and engagement, adherence, and retention.
- ◆ Expanded the application of knowledge management principles and techniques to improve the efficiency and impact of QI and support scale-up, including peer-to-peer learning, country exchange visits, and change packages and other knowledge products.

This report summarizes the main activities implemented by ASSIST to institutionalize QI capacity in USAID-assisted countries and for each of the main health care areas addressed by USAID health programming, the main strategies applied, the results achieved, and the related products developed by ASSIST related to reproductive, maternal, newborn, child, and adolescent health; HIV/AIDS; health workforce; Zika emergency response; care and support for vulnerable children and families affected by HIV; malaria; tuberculosis; and community-based care and linkages. The report also describes key learning in each of these areas, as well as the results, products, and lessons in four cross-cutting areas of the project's scope of work: gender integration, global technical leadership, knowledge management, and research and evaluation.

Overview of the Cooperative Agreement

The USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project sought to improve health outcomes in USAID-assisted countries by strengthening the delivery and quality of facility- and community-based health and social services, improving the performance of the health workforce, and strengthening community linkages with facility-based care. Implemented from October 2012 to June 2020 through a cooperative agreement awarded to University Research Co., LLC (URC) and managed by the USAID Office of Health Systems, the project's activities addressed all USAID Bureau for Global Health priority health services, including:

- ◆ HIV and AIDS prevention, care, and treatment
- ◆ Maternal, newborn, child, and adolescent health (MNCAH)
- ◆ Non-communicable diseases and chronic conditions care
- ◆ Nutrition assessment, counseling, and support to improve adherence and retention in care
- ◆ Care and support for vulnerable children and families
- ◆ Reproductive health and family planning
- ◆ Malaria, tuberculosis (TB), Zika, and other infectious diseases

The specific objectives of the ASSIST cooperative agreement were to:

- ◆ Support country counterparts to achieve measurable improvements in health care and social services in USAID-assisted countries and support the development of country-specific programs to improve service quality.
- ◆ Build the capacity of host country systems to improve the effectiveness, efficiency, client-centeredness, safety, accessibility, and equity of the services they provide.
- ◆ Support the harvesting of learning from quality improvement implementation, evaluation, and research at the country level, integrating insights across countries and making that learning available in a wide variety of formats through robust knowledge management efforts.
- ◆ Support initiatives and policies such as the USAID Policy on Gender Equity and Female Empowerment and the Global Health Initiative, integrating gender as a key component of improving health care.
- ◆ Provide global technical leadership on behalf of USAID to further advance and inform the field of improvement by engaging stakeholders, USAID implementing partners, and global health organizations to expand the application of improvement approaches in their programming.

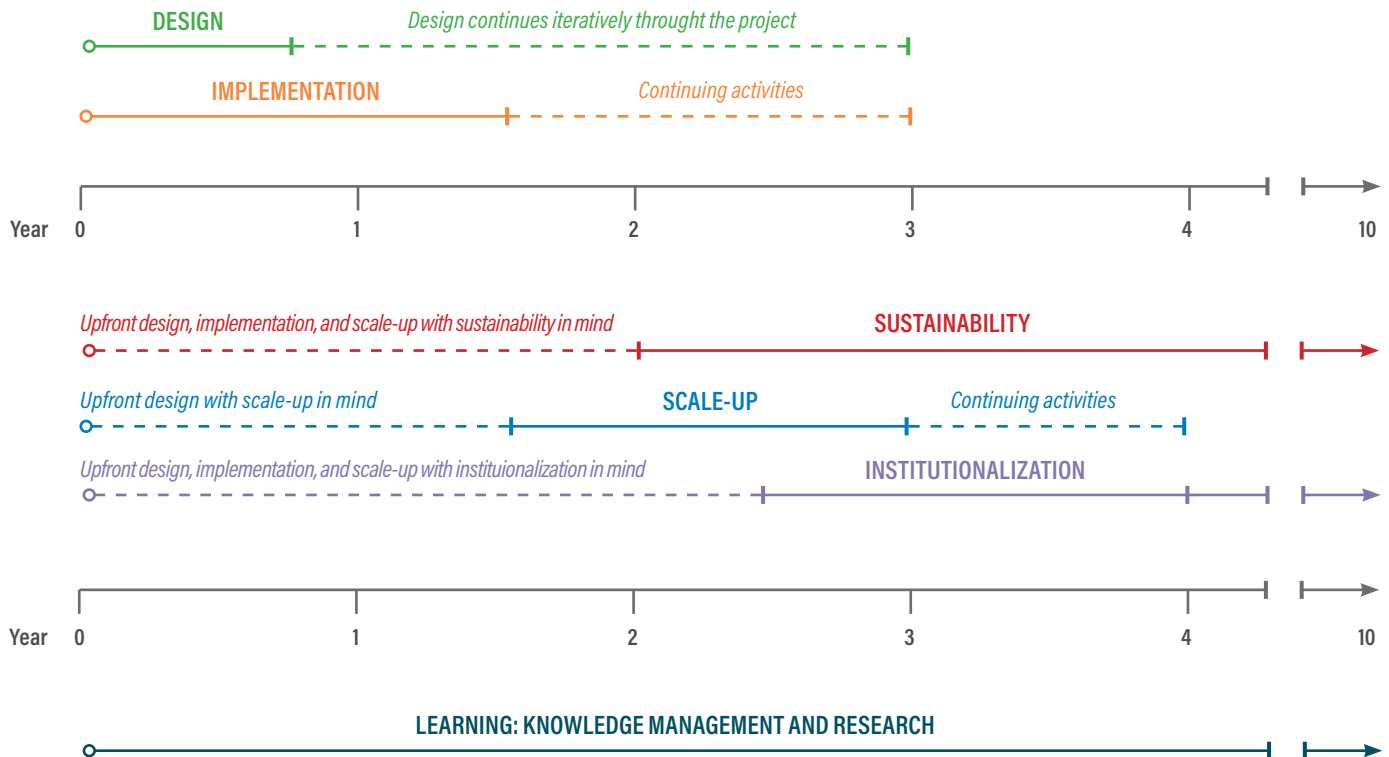
- ◆ Expand the evidence base for improvement through research and evaluation on the institutionalization of improvement process, economic analysis of improvement, and process and impact evaluation of quality improvement (QI) interventions.

To achieve these objectives, ASSIST's country assistance programs drew on one or more evidence-based QI approaches, as appropriate to the technical content and context. The project focused on improving the effective

implementation of high-impact interventions, taking into consideration the needs of marginalized and underserved populations and gender, age, and social differences that affect access to and utilization of care.

In each long-term country, the project applied an integrated design approach (see Figure 1) to explicitly define the evidence-based improvement strategies to be implemented to achieve the objectives set by USAID and the country; how these strategies would be implemented

Figure 1. USAID ASSIST Project Country Integrated Design



in partnership with local stakeholders; how the improvement would be sustained, scaled up, and institutionalized; and how the activities would contribute to local and global learning. This deliberate design process also sought to link improvement objectives with larger health system-strengthening efforts. In this way, ASSIST sought to connect point-of-care improvement work with strategies to address health system gaps (e.g., policy, health workforce, supply chain, and resource allocation) and take a whole-system approach by coordinating improvement interventions at multiple health system levels—national, district, facility, and community.

Over its 93 months of implementation, the project providing long- and short-term assistance in 46 countries, shown in Figure 2, and attracted funding from five USAID Washington offices and 23 country and four regional Missions. Table 1 summarizes the sources of the over \$210 million in obligations ASSIST received over the life of the project. The largest single source of funding was the Other Public Health Threats element which provided \$40.5 million in funding for ASSIST to support USAID's Zika emergency response in 13 Latin American and Caribbean countries. The largest Mission buy-ins were from Uganda (\$38.4 million), Mali (\$15.6 million), and Tanzania (\$15.3 million).

Table 1. Funding received by USAID ASSIST from USAID Missions, Regional Bureaus, and core element groups

CORE	Funding office	Period of performance	Obligation
	Office of Health Systems (Cross Bureau)	FY13-FY20	\$5,889,604
	Office of HIV/AIDS	FY13-FY17	\$13,673,251
	Maternal & Child Health	FY13-FY20	\$2,324,000
	Other Public Health Threats (Zika)	FY16-FY20	\$40,500,000
	President's Malaria Initiative	FY16	\$62,680
	Total Core	FY13-FY20	\$62,449,535
FIELD SUPPORT	Mission/Region	Period of performance	Obligation
	Botswana	FY13-FY17	\$4,051,000
	Burundi	FY13-FY17	\$4,150,000
	Cambodia	FY14-FY18	\$2,913,907
	Coted'Ivoire	FY13-FY17	\$5,493,206
	Democratic Republic of Congo	FY15-FY17	\$1,853,000
	East Africa Regional	FY13	\$130,038
	Europe & Eurasia Regional	FY13	\$300,000
	Georgia	FY13	\$339,626
	Haiti	FY14-FY15	\$354,928
	India	FY13-FY17	\$10,200,421
	Indonesia	FY14-FY15	\$1,000,000
	Kenya	FY13-FY17	\$12,690,276
	Lesotho	FY13-FY17	\$10,759,913
	Middle East Regional	FY16	\$592,704
	Malawi	FY13-FY17	\$2,525,000
	Mali	FY13-FY17	\$15,636,039
	Mozambique	FY13-FY15	\$680,000
	Namibia	FY16	\$150,000
	Nicaragua	FY14-FY16	\$650,000
	Nigeria	FY13-FY14	\$2,214,050
	Pakistan	FY17	\$61,170
	South Africa	FY13-FY17	\$9,993,272
	Swaziland	FY13-FY16	\$5,015,000
	Tanzania	FY13-FY19	\$15,346,514
	Southern Africa Bureau	FY16	\$509,011
	Uganda	FY13-FY18	\$38,424,556
	West Bank/Gaza	FY17	\$500,000
	Zambia	FY15-FY17	\$1,500,000
	Total Field Support	FY13-FY19	\$148,033,631
	TOTAL	FY13-FY20	\$210,483,166

Figure 2. USAID ASSIST provided technical assistance in 46 countries over the life of the project

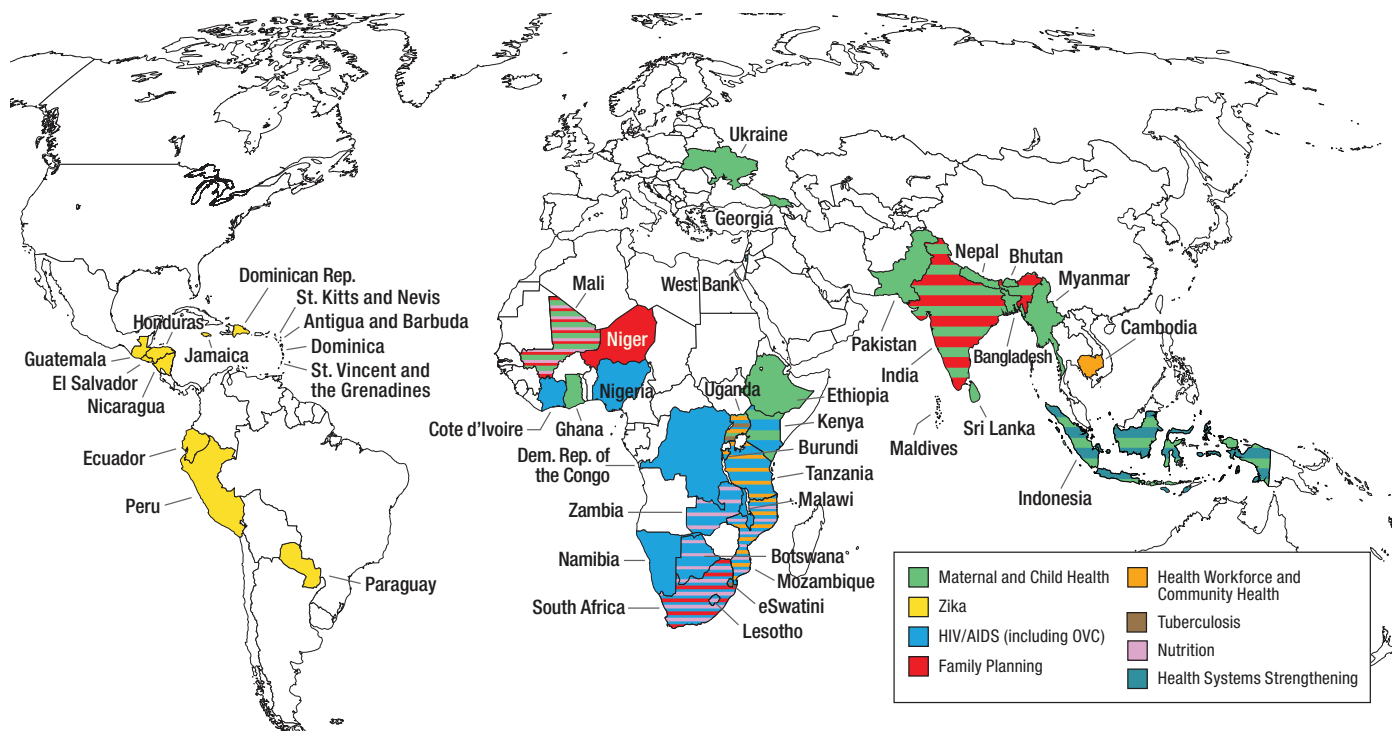


Table 2. Countries where ASSIST provided long-term and short-term technical assistance

Type of assistance	Countries
Long-term (29)	Botswana, Burundi, Cambodia, Cote d'Ivoire, Democratic Republic of Congo, Dominican Republic, Ecuador, El Salvador, Georgia, Guatemala, Haiti, Honduras, India, Jamaica, Kenya, Lesotho, Malawi, Mali, Mozambique, Nicaragua, Nigeria, Paraguay, Peru, South Africa, Swaziland, Tanzania, Uganda, Ukraine, Zambia
Short-term (17)	Antigua and Barbuda, Bangladesh, Bhutan, Dominica, Ethiopia, Ghana, Indonesia, Maldives, Myanmar, Namibia, Nepal, Niger, Pakistan, Palestine, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Sri Lanka

In 29 of these countries, ASSIST fielded long-term staff and established a country office, supporting local health workers to achieve improvements in maternal and newborn care, HIV prevention and treatment, malaria treatment, chronic disease prevention and case management, and Zika prevention and case management. The project provided short-term technical assistance in another 17 countries (see Table 2).

The original cooperative agreement end date of September 2017 was extended to September 2019 with a costed extension to allow the project to support USAID’s Zika emergency response. A no-cost extension was granted in August 2019 to extend the cooperative agreement end date to June 29, 2020 to allow for completion of Zika activities.

Appendix 1 lists the leads of ASSIST’s project management and technical units and Chiefs of Party and Resident Advisors for each long-term assistance country.

URC partnered with a diverse group of global organizations to implement ASSIST: EnCompass LLC, FHI 360, Harvard Chan School of Public Health, HEALTHQUAL International, Initiatives Inc., Institute for Healthcare Improvement, Johns Hopkins Center for Communication Programs, WI-HER LLC, and the World Health Organization Service Delivery and Safety Department. Under the costed extension awarded in September 2017 to support USAID’s Zika emergency response, URC added the American Academy of Pediatrics as a global partner.

Table 3 lists the amount of funding received and the technical areas in which these partners provided support through ASSIST. In addition to the global partners, URC also issued sub-agreements, purchase orders, or fixed obligation grants to: the American College of Obstetrics and Gynecology (\$248,953) for Zika-related technical

Table 3. Technical areas of support by ASSIST partners

Partner	Amount obligated	Areas of technical support
American Academy of Pediatrics	\$677,079	Zika tele-mentoring, child development, neurodevelopmental surveillance
EnCompass LLC	\$1,384,541	Research and evaluation
FHI 360	\$513,240	HIV, research and evaluation
Harvard Chan School of Public Health	\$565,680	Health workforce development research
HEALTHQUAL International	\$34,908	HIV
Initiatives Inc.	\$60,573	Health workforce development
Institute for Healthcare Improvement	\$659,801	Improvement science, Partnership for HIV-Free Survival
Johns Hopkins Center for Communication Programs	\$992,527	Knowledge management, website design and maintenance
WI-HER LLC	\$1,728,749	Gender integration, knowledge management
World Health Organization Service Delivery and Safety Department	\$737,191	Safe childbirth checklist, integrated person-centered care, global learning laboratory, research

support; to Arseneau (\$234,180) for the development of the Improvement Indicator Database; to the Caribbean Regional Midwives Association (\$219,795) for Zika technical support in the Eastern and Southern Caribbean; to the Regional Psychosocial Support Initiative (REPPSI) (\$64,347) for capacity development of organizations serving orphans and vulnerable children in East and Southern Africa; to Aptara (\$50,376) for the development of online improving health care courses in three languages; and to the University of New Mexico (\$44,401) for training in its Extension for Community Healthcare Outcomes (ECHO) tele-mentoring program for use in the Zika response.

This report summarizes the key results and achievements of ASSIST in each of the main areas for which the project received Mission and core element funding, as well as in four cross-cutting areas in the project's scope of work: integration of gender considerations in improvement, global technical leadership, knowledge management, and research and evaluation.

Institutionalizing Quality Improvement Capacity in USAID-ASSIST Countries

Overview

USAID Missions and Ministries of Health in USAID-assisted countries demonstrated strong demand for ASSIST's technical support to institutionalize quality improvement capacity in priority programs and regions. Most initial requests to ASSIST asked for support to improve the quality of specific services. In many cases, over time, Missions and Ministries of Health expanded their requests for ASSIST support to develop the capacity of central and/or regional units to support quality improvement and the development of national policies and strategies for ensuring quality of care.

In addition to strengthening the QI capacity of Ministries of Health and Social Security Institutes, ASSIST, as part of its support to strengthen services for orphans and vulnerable children and families affected by HIV, was asked to provide QI capacity building support for Ministries of Social Development, Welfare, and Child Development in Lesotho, Kenya, Tanzania, and Uganda.

Key accomplishments in institutionalizing QI capacity

Uganda, which had the project's largest Mission-funded program, amply illustrates the range of QI capacity building and institutionalization activities implemented by ASSIST. The project provided direct support to facility- and community-based QI teams for maternal and newborn care, care and treatment for persons living with HIV, voluntary medical male circumcision, elimination of mother-to-child transmission of HIV (eMTCT), HIV prevention initiatives for adolescent girls and young women (DREAMS), tuberculosis, malaria, and services for orphans and vulnerable children and also trained district health teams and implementing partner staff in how to support facility- and community-level QI. The project was then asked to support the Quality Assurance and Inspection Department (QAID) of the MOH to establish QI structures and develop guidelines and tools (such as the Health Facility Quality Assessment), to monitor and coordinate QI implementation by implementing partners, and to support regional QI committees. ASSIST supported the QAID to revise the National Health Quality Improvement Framework (QIF) and Strategic Plan (SP) in 2015/2016 to build off the achievements and lessons learned from the first QIF and SP. ASSIST also supported the QAID to organize five annual health care quality

improvement conferences, including the December 2018 conference which served as ASSIST's last activity in Uganda. A key driver for the uptake of QI in the Ugandan health system was the success of QI activities (many supported by ASSIST) at demonstrating effects on health outcomes and also on reducing costs for the health system. The QAID has also embraced and prioritized knowledge management activities to document and disseminate key changes and best practices, which further supported the countrywide spread of QI and informed the development of Uganda's national health policy in various technical areas.

In **Mali**, ASSIST's second largest field support program, ASSIST's local team supported national, regional, and district managers to apply QI methods to improve and strengthen maternal, newborn, and child health (MNCH) and family planning (FP) services and monitor the quality of services, supporting almost 800 QI teams in 38 priority districts. ASSIST not only scaled up the use of QI methods but also evidence-based practices such as the Safe Childbirth Checklist, infection prevention practices, and integrated, person-centered health services, demonstrating both increased compliance with standards but also improved outcomes related to postpartum hemorrhage and maternal sepsis.

Kenya was another major focus country for QI institutionalization for ASSIST. ASSIST worked with two different ministries, the National AIDS and STI Control Program, and nine implementing partners to enhance capacity to apply QI methods to improve the quality of MNCH, FP, eMTCT, malaria, and child protection services.

ASSIST supported the MOH and priority counties in Kenya to develop institutional structures to promote quality at national and county levels, such as quality management technical working groups and including QI activities in annual work plans, and incorporated QI methods in the Ministry's monitoring and evaluation framework. ASSIST also supported three national training institutions to integrate QI concepts into core pre-service training curricula and develop the competencies of faculty in health care improvement.

In **Tanzania**, ASSIST was asked to develop the capacity of three regional health management teams and 19 council health management teams to support and sustain improvement efforts that contribute to improved access to HIV testing, linkage, and viral suppression in the Southern Highlands. Through joint facility visits and analysis of data and provision of coaching tools, all management teams developed competencies on QI methods and tools, change management, team building, and leadership (see Figure 3).

ASSIST's support to **India** followed a different model. ASSIST was initially asked to provide technical support to all 30 USAID-supported districts (and one block per district) in all six USAID-supported states in India, to develop the capacity to conduct improvement among health care workers at the national, state, district, facility and community levels, working through state and district Government of India counterparts. After reviewing current data and Government of India priorities, ASSIST proposed to focus on four care areas to reduce anemia, postpartum hemorrhage, and newborn deaths: antenatal

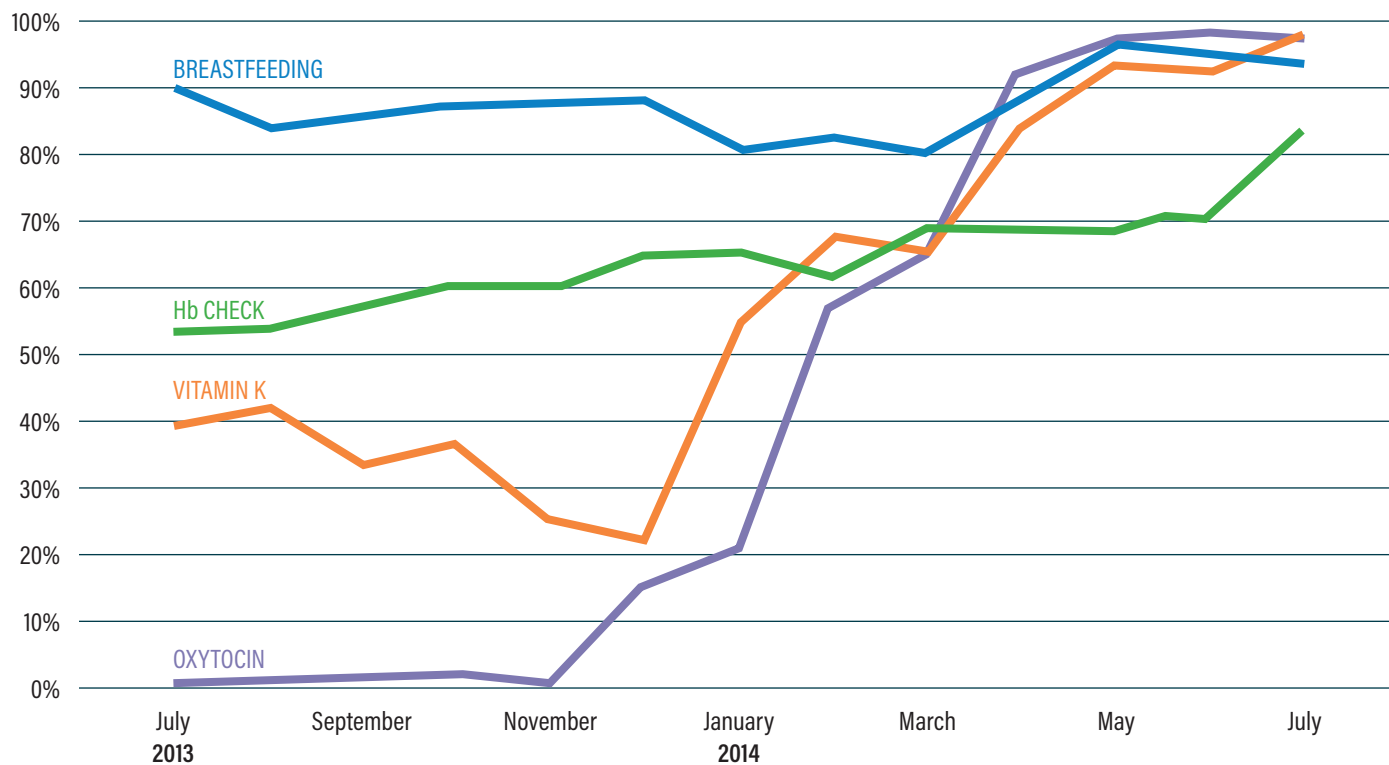
Figure 3. Tanzania: Self-assessment of QI methods and tools skills at baseline (May 2018) and end line (November 2018)



care, delivery care, immediate postpartum care, and essential newborn care. By the end of FY14, ASSIST had helped establish 263 QI teams across the six states. Sites in the high-priority districts supported by ASSIST had between 11,000 and 14,000 deliveries every month during July-September 2014. Within six months of beginning improvement work, these facilities demonstrated a progressive increase in hemoglobin measurement of antenatal women, administration of oxytocin within a minute of childbirth, administration of vitamin K to newborns, and early initiation of breastfeeding in newborns (Figure 4).

Demonstrating early results led the state and district governments that ASSIST was supporting in India to become more interested in using improvement science to reach their health goals. Three districts requested ASSIST to help them spread QI methods to other blocks, using their own funding. One of these districts, Chamba in Himachel Pradesh, asked ASSIST to train nine health supervisors and two block medical-officers-in-charge in improvement methods. The district committed to support the health supervisors to visit the 38 facilities in their district regularly for improvement coaching, including reports from the quality improvement teams

Figure 4. India: Improvement in routine care for 11,000-14,000 deliveries per month, six ASSIST-supported states (July 2013–July 2014)





ASSIST's Chief of Party Mirwais Rahimzai presents at the Third National Quality Improvement Forum in Kampala, Uganda.

THE 3RD NATIONAL HEALTHCARE QUALITY IMPROVEMENT CONFERENCE

Theme: "Clients at the Centre of Health Care Quality Improvement"

22nd - 24th August 2016

Kampala Serena Conference Center

This conference is organised by the Ministry of Health Uganda, Quality Assurance Department with support from the USAID ASSIST Project



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QUALITY IMPROVEMENT
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CULTIVATING A CULTURE
WHICH EMBRACES
SUSTAINABLE QUALITY
IMPROVEMENT



in all monthly district meetings, and funding the 38 facilities to meet quarterly for learning sessions. By the end of December 2015, the project was working with 415 facilities and 437 QI teams in India, and at that point, handed over QI technical support of these facilities to IPE Global, another USAID-funded partner. ASSIST then began to build relationships with domestic institutions in India to support them to use QI methods and teach others how to use them and providing ongoing support for interested groups to build their QI skills. For example, ASSIST organized a five-month program to support staff from the All India Institute of Medical Sciences (AIIMS) Delhi and other AIIMS campuses to learn how to use QI approaches. Through domestic partners, ASSIST was able to support 159 facilities providing care to over 445,000 deliveries per year and partnered with WHO and UNICEF to spread the QI approach developed by AIIMS and ASSIST to other countries in the region, supporting facilities delivering approximately 100,000 babies per year.

In **Botswana**, ASSIST received two different buy-ins with distinct scopes of work. The first was to support the Ministry of Health in pursuing its national goal of reducing maternal mortality from 160 to 80 per 1000 live births by setting a clear implementation schedule with explicit delegation of responsibilities and aligning activities at all levels to meet the national level goal. This assistance was completed and followed by a second buy-in to strengthen the community health system response to HIV by developing the capacity of community improvement teams in seven priority districts to support non-governmental, differentiated HIV service delivery

in their communities and reconnect “lost HIV patients” to care. This work culminated in a final, national level learning session where 11 community improvement teams from across seven districts, joined by their traditional chiefs and district administration officials, presented their local efforts to improve HIV services and community coordination to district and central government representatives from the Ministry of Health and Wellness, Ministry of Local Government, and the Office of the President. The reaction of national officials was a genuine sense of appreciation of the power and potential of community-led ‘bottom up’ problem solving and strong agreement on the strategic importance of emphasizing community-led volunteerism within a context of good community governance to coordinate quality services and system functions at the local level.

In **Cote d’Ivoire**, ASSIST was initially asked to build the capacity of facility providers and implementing partners to address key challenges related to PMTCT, including retention in treatment for the mother-infant pair; linkages and referral to treatment and care services, including food and nutrition support; male involvement and couples counseling and testing services to increase PMTCT uptake; and integration of PMTCT with routine maternal and child health/reproductive health services, adult and pediatric treatment services, and broader prevention programs. Based on improvements achieved in PMTCT, ASSIST was asked to strengthen the leadership, management, and planning capacity of the MOH Directorate of Hospital Medicine (Direction Medicine Hospitalière), which had recently been put in charge of QI with new leaders and a new organizational structure.

During 2015-2017, ASSIST organized several workshops and meetings with the stakeholders to draft a national policy and strategic plan for quality improvement. The strategic plan provided the MOH with a national plan for implementing quality improvement in health and patient safety and a framework for implementing the national health care quality policy, which had been developed with ASSIST support in 2016. The national strategic plan had 17 strategic areas, including governance, leadership, management, and research, and built on existing national policy documents. It also addressed quality improvement, public health, and health security. ASSIST and the Direction Medicine Hospitalière presented the National Strategic Plan for Quality Improvement, Hygiene and Safety to the Minister of Health during an official ceremony in May 2017.

Learning

- ◆ Institutionalization of QI capacity is a long-term process that goes beyond the relatively short-term nature of external QI technical assistance. It requires system ownership, referring to owning the QI mindset from within the system, which implies with the establishment of structures and processes supportive of QI and a commitment to ongoing learning about how to improve care.
- ◆ Institutionalization of QI capacity requires concurrent functioning of four key areas: leadership and governance of quality; methods and approaches that foster continuous improvement as “business as usual” of the health system; communications and teamwork; and professional development and human resources.
- ◆ Institutionalization does not happen spontaneously; it requires deliberate action in all four areas named above. Even then, it may or may not happen, depending principally on the commitment of leaders of the health system. ASSIST tried to influence institutionalization of QI in every assisted country and saw islands of excellence. However, that did not happen everywhere we tried.

Improving Quality of Reproductive, Maternal, Newborn, Child, and Adolescent Health Services

Overview

ASSIST-supported interventions reduced maternal, newborn and child morbidity and mortality at large scale in countries as diverse as Mali, Uganda, and India, and documented evidence of improved cost-effectiveness and efficiency of quality improvement interventions. The project reduced equity gaps such as disparate vaccination rates between male and female children in Mali through gender-sensitive improvement interventions. ASSIST provided technical and catalytic support to countries participating in the WHO-led global network for improving quality of care for maternal, newborn, and child health and contributed to a number of global goods to support improvement of reproductive, maternal, newborn, child, and adolescent health (RMNCAH) services, including quality of care assessment tools, a guide for improvement teams to improve care for mothers and babies, and frameworks for improving quality of newborn resuscitation and of postpartum family planning in low-resource settings.

The project's maternal, newborn, and child health (MNCH) direct-funded activities built the capacity of governments and partners to adapt improvement approaches to continuously strengthen essential system functions to

improve, scale up, and sustain high-impact, evidence-based health care for the leading causes of maternal, newborn, and child mortality in USAID priority countries. All ASSIST MNCH activities were in support of USAID's goal of Ending Preventable Child and Maternal Deaths (EPCMD) by 2035. ASSIST MNCH activities sought to incorporate best practices along all points of antenatal, intrapartum, postpartum, postnatal, and early childhood care from the household to hospital continuum.

At the global level, ASSIST provided technical assistance and catalytic country-level support to the WHO-led Quality of Care Network for MNCH in Ghana, Uganda, and Ethiopia and co-led its implementation through a technical working group. As part of the Global Survive and Thrive public-private partnership, ASSIST led a QI technical working group and developed a QI guide to improve care of mothers and babies, successfully implemented in seven countries. ASSIST also championed development of a universal survey toolkit to assess the quality of integrated RMNCAH care, including HIV.

At the regional level, ASSIST closely collaborated with the WHO Southwest Asia Regional Office (SEARO) and the UNICEF Regional Office for South Asia to strengthen

individual and institutional capacities of Southeast Asian countries, co-develop QI tools, and foster shared learning for improved maternal and newborn health.

Results

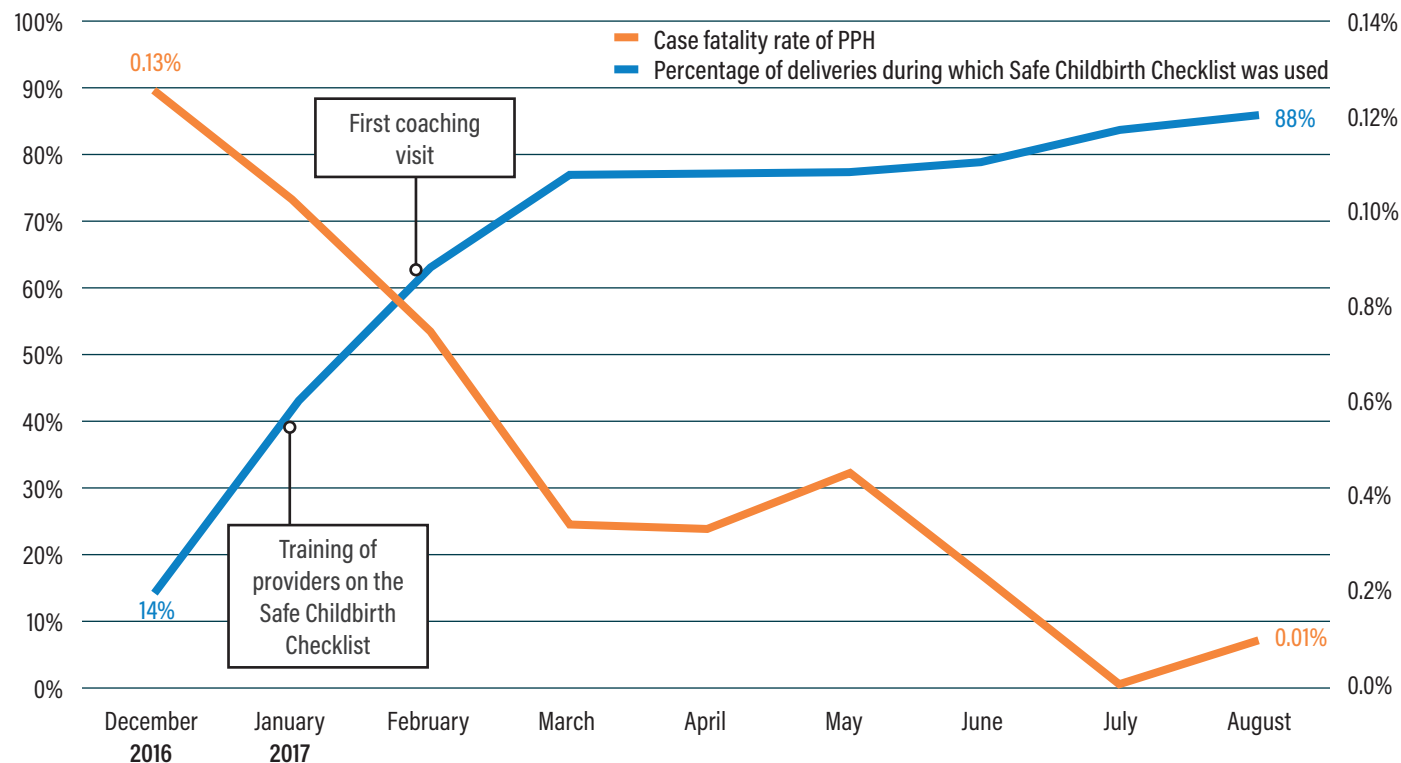
Maternal Health

◆ In **Mali**, ASSIST supported the use of the Safe Childbirth Checklist at 306 sites in five regions. Before the introduction of the Safe Childbirth Checklist, the

case fatality rate for postpartum hemorrhage (PPH) was documented only through the partograph. Because of the use of the Safe Childbirth Checklist, during December 2016–August 2017, the case fatality rate of PPH decreased from 0.13% to 0.01% (Figure 5).

◆ ASSIST implemented QI of essential obstetric and newborn care at facility and community levels to improve evidence-based MNCH and postpartum family planning (PPFP) services at facility and community levels in target districts in the Kayes

Figure 5. Mali: Percentage of deliveries during which Safe Childbirth Checklist was used and PPH case fatality rate, 306 sites, five regions (December 2016–August 2017)





In Mali, ASSIST supported health workers to use the WHO Safe Childbirth Checklist to ensure that women delivering at facilities received all appropriate services.

Region. Results for improving delivery of active management of the third stage of labor (AMTSL) are shown in Figure 6, which was accompanied by a decline in postpartum hemorrhage rates in facility deliveries in both demonstration (wave 1) and spread (wave 2) sites. ASSIST also supported improvements in community-level services to increase the birth preparedness of rural women (Figure 7).

◆ In Chamba in Himachal Pradesh state of **India**, ASSIST support started in December 2013. By May 2014, the district government saw the results and wanted to scale up the improvement work. Between June and September, ASSIST helped them plan to scale up. During this time the sites that the government was going to scale up to were trained on intrapartum and neonatal care and asked to submit monthly data on

Figure 6. Mali: Percent compliance with AMTSL norms and postpartum hemorrhage rate at demonstration vs. spread sites (October 2009–February 2014)

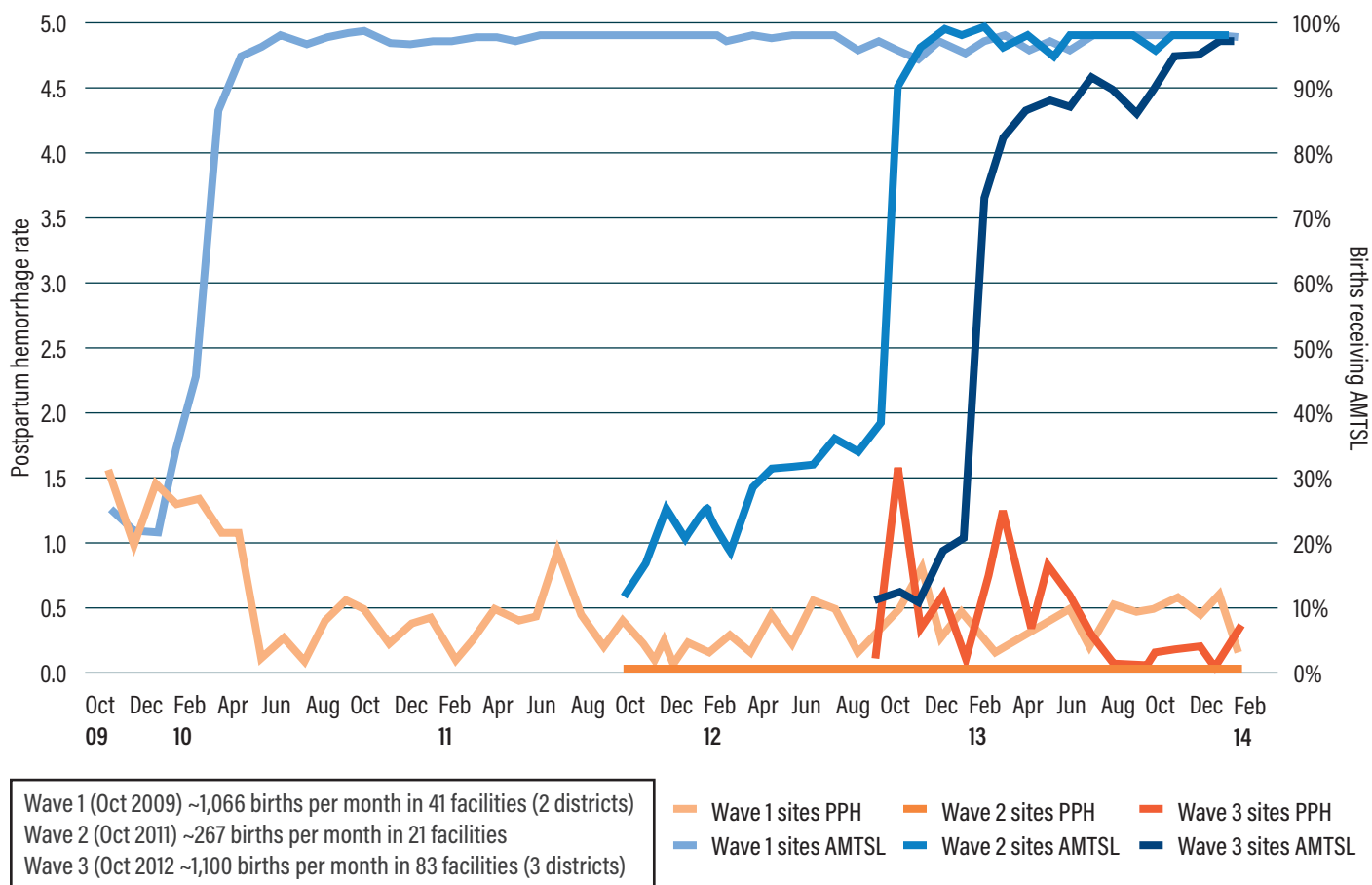


Figure 7. Mali: Birth preparedness of enrolled pregnant women at 13 community sites, Diema District (January 2011–March 2014)

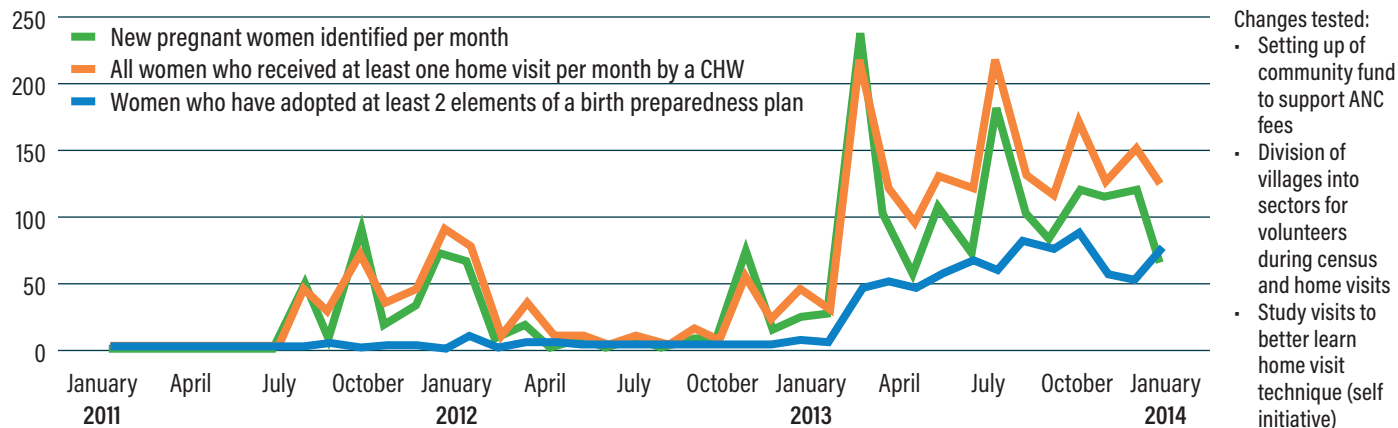
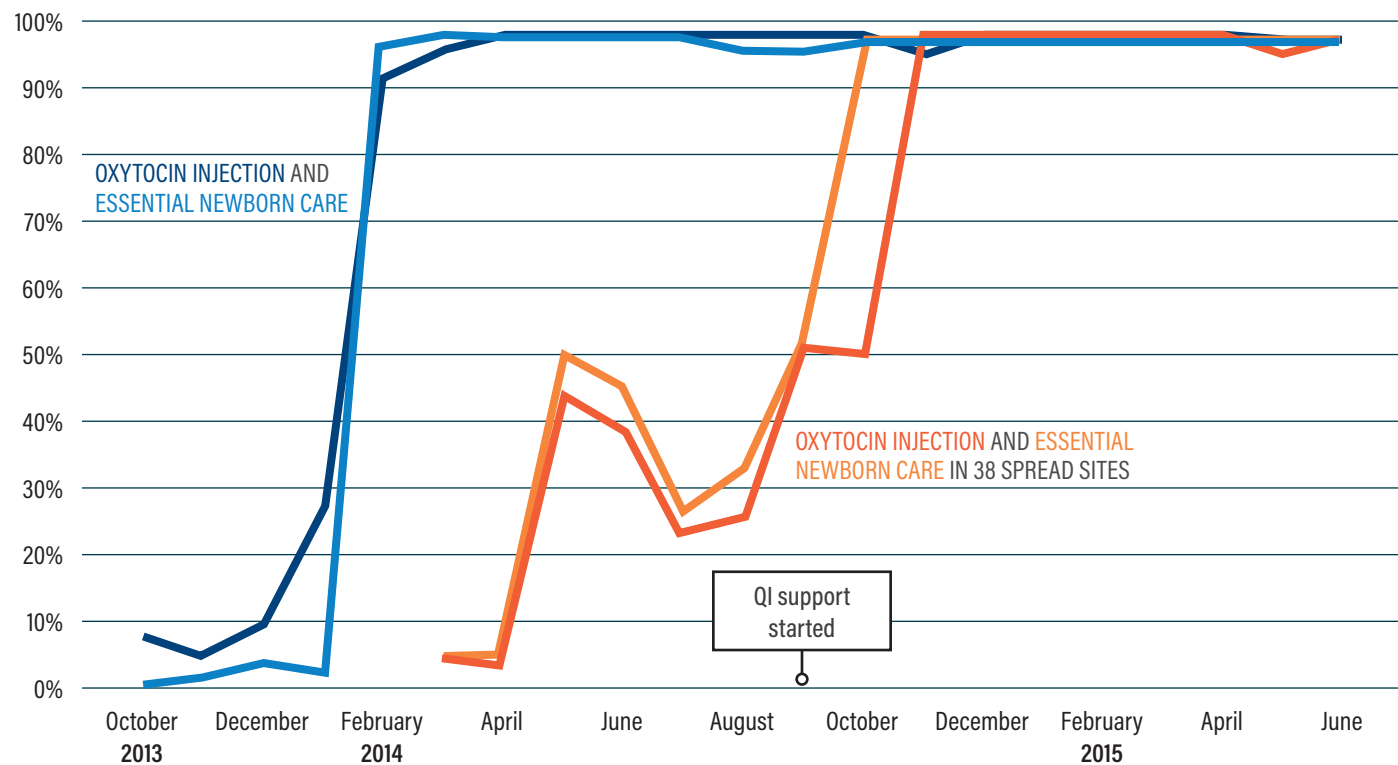


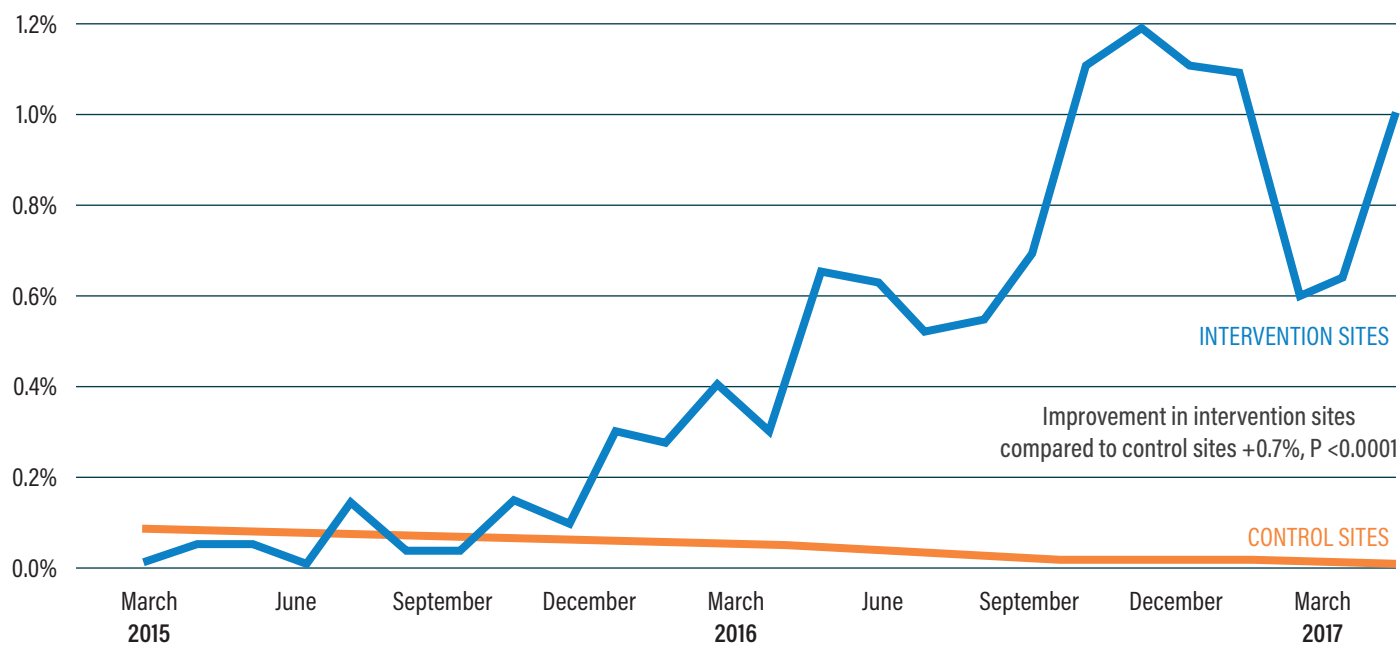
Figure 8. India: Improvements in intrapartum care in five clinics supported by ASSIST and 38 clinics supported by government coaches (October 2013–June 2015)



process indicators (percentage of women receiving oxytocin within one minute of delivery and percentage of babies receiving essential newborn care). Training and increased monitoring led to moderate, non-sustained improvement; it was only when teams started using QI methods that they were able to get good, sustained results (Figure 8). In Mansa District, Punjab, India from July to September 2014, 61.7% of women delivering at Budhlada Hospital were either moderately or severely anemic. That figure was reduced to 43.3% of women from January to March 2015. Over the same period, the condition of delivering while severely anemic was reduced, and the percentage of women delivering with normal hemoglobin levels more than doubled.

◆ In Jinja District of **Uganda**, measurement of blood pressure during ANC visits increased from an average of 48% during the baseline period (June-Aug 2015) to 98% during end line (Jan-March 2017). The percentage of women with blood pressure $\geq 140/90$ whose urine protein was also tested increased from 0% during the baseline (June-Aug 2015) to 96% during end line (January-March 2017) in the intervention facilities. Improvements in screening for preeclampsia resulted in a statistically significant increase in the percentage of preeclampsia cases diagnosed at ANC visits in the intervention facilities from 0.1% at baseline (June-August 2015) to 0.7% (January-March 2017 ($p < .0001$)) (Figure 9). No improvements were seen in the 10 control facilities.

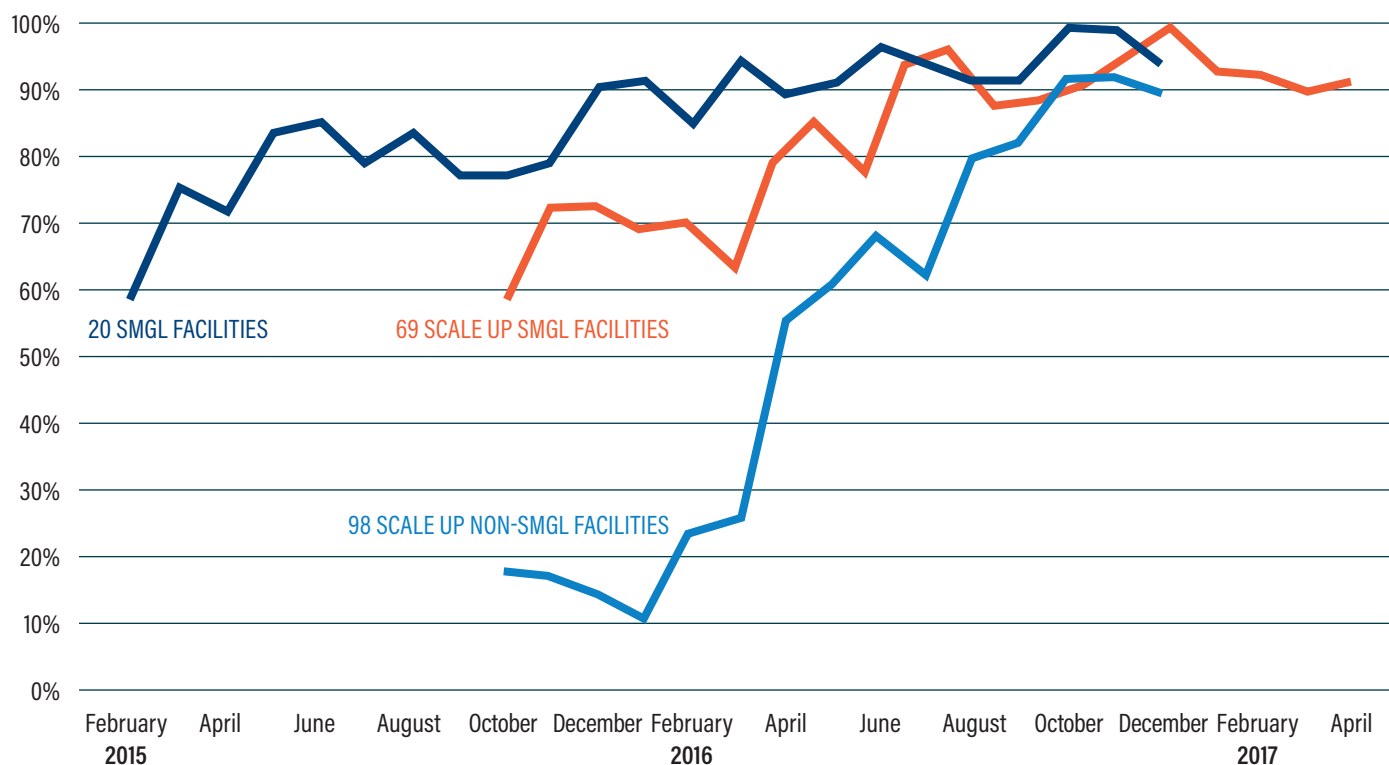
Figure 9. Uganda: Percentage of cases of preeclampsia diagnosed among all ANC visits over 20 weeks, 10 facilities, Jinja District (March 2015–March 2017)



◆ ASSIST, through the Saving Mothers Giving Life (SMGL) initiative, piloted improvement of maternal and newborn care (labor, delivery, and newborn care) in 30 high-volume facilities of four districts in Western Uganda (January 2012–June 2015). A package of successful tested changes was developed by ASSIST and applied in the scale-up phase of SMGL in six districts of Northern Uganda. The scale-up to Northern Uganda was in three waves. Wave I targeted 20 high-volume facilities where 64% of deliveries, 74% of newborn deaths, and 95% of

maternal deaths occurred in FY13. Wave II involved 60 medium-volume health facilities (mainly health center IIIs), and Wave III involved low-volume health facilities (health center IIs that do conduct deliveries) (Figure 10). The change package from western Uganda was adapted in the 20 Wave I facilities of Northern Uganda using experienced coaches from Western Uganda. During Wave I, 40 regional and district-based improvement coaches/mentors were trained in the six districts of Northern Uganda.

Figure 10. Uganda: Spread of best practices in routine provision of ENC package from 20 SMGL facilities to 69 non-SMGL facilities and 98 scale-up SMGL facilities (February 2015–April 2017)



- ◆ Through support for the Saving Mothers Giving Life (SMGL) initiative, ASSIST helped four districts in Northern Uganda to improve screening for pregnancy-induced hypertension from 80% in January 2016 to 98% in December 2016. Sites in the four districts also increased partograph use to monitor the progress of labor from 30% of deliveries in February 2016 to 90% in December 2016. The practice of AMTSL in 20 SMGL-supported sites increased from 56% in February 2016 to 100% in December 2016. The facility maternal mortality ratio in supported sites decreased by 12.9%, from 215/100,000 to 187/100,000 live births. Maternal mortality from direct obstetric causes was reduced by 10.1%, from 185.9/100,000 to 167.2/100,000 live births. The institutional neonatal mortality rate was reduced by 37.3%, and the perinatal mortality rate, by 37.5%.
- ◆ In **Botswana**, ASSIST operated in all 26 districts of the country, establishing QI teams in 72% of 122 facilities providing inpatient maternity services. The number of maternal deaths was reduced from 90 deaths in 2013 to 68 deaths in 2014. The median in 2014 reduced to 5.5 deaths/month compared to eight deaths/month in 2013.
- ◆ In Kitui County, **Kenya**, 12 facilities receiving technical support from ASSIST increased the percentage of women giving birth with a complete partograph from 31% in January 2015 to 90% in May 2017. The 12 sites increased the percentage of deliveries for which oxytocin was delivered within one minute of delivery from 42% in April 2015 to 82% in January 2016. In supported sites in Turkana County, the percentage of deliveries with complete partographs increased from 13% in April 2016 to 84% in May 2017. In Migori County, partograph use increased from 6% in July 2015 at one site to 91% by May 2017 in six sites. Oxytocin

delivered within one minute of delivery increased from 83% in July 2016 to 94% in May 2017.

Newborn Health

- ◆ In ASSIST supported sites in **India**, there was a 5.9% reduction in perinatal mortality due to a 15.6% reduction in in-hospital neonatal mortality and a 3.3% reduction in stillbirths from July 2013 to November 2015 (Figure 11). This is equivalent to 19 deaths averted per month compared to before ASSIST started working in these facilities. Spreading this improvement to the entire country could save 31,000 newborn lives per year.
- ◆ In October 2015, lessons learned on how to improve the quality of essential newborn care (ENC) through routine provision of the ENC package were spread to 98 facilities (health center IIIs and health center IIs) within the six SMGL-supported districts and later to 69 facilities in the nine non-SMGL supported districts of Northern **Uganda** (January 2016). To reduce the number of newborn deaths due to preventable causes such as asphyxia, newborn sepsis and prematurity, ASSIST conducted monthly coaching to 190 facilities offering maternity services. Focus was on improving skills of health workers in the use of partographs to monitor labor, resuscitation of asphyxiated babies, kangaroo mother care, and administration of corticosteroids for preterm babies. These efforts increased the delivery of essential newborn care to over 90% of babies. Data from DHIS2 showed a 33% reduction in the fresh still birth rate, a 24% reduction in newborn death rate (0-7 days), and a 17% reduction in total perinatal death rates between June 2014 and May 2017 in the 137 ASSIST-supported sites in Northern Uganda (Figure 11).

Figure 11. India: Perinatal mortality, 115 facilities (July 2013–November 2015)

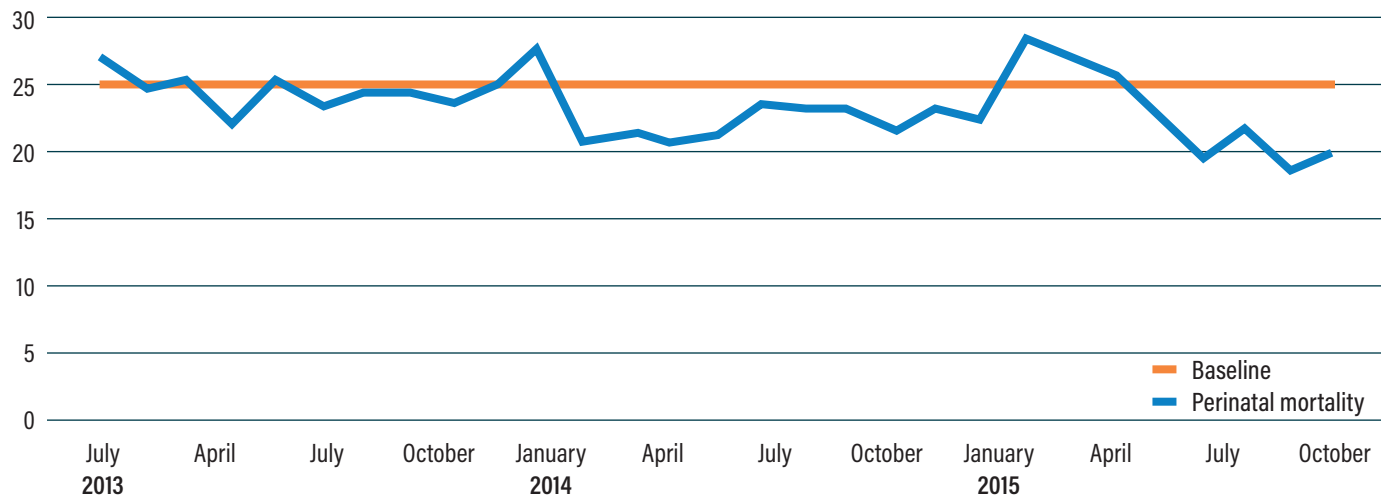
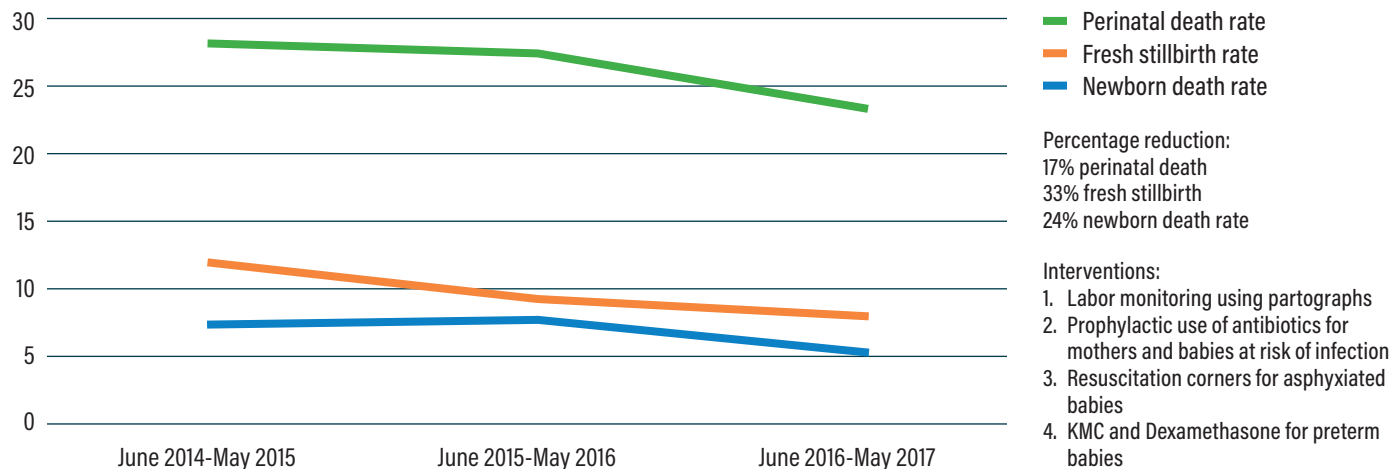


Figure 12. Uganda: Perinatal, still birth and newborn death rates, 137 sites, Northern Uganda (June 2014–May 2017)





ASSIST staff member accompanies a community TB supporter on a home visit to a TB patient. ASSIST supported intensified case finding in Kampala City to identify and evaluate TB suspects and screen household contacts for active TB.

Child Health

- ◆ From July 2015 through March 2017, ASSIST worked with the MOH in three districts of Northern **Uganda** to improve the quality of outpatient pediatric health services in 10 health facilities. ASSIST developed the clinical and improvement skills of health care providers in supported facilities and district health coaches of the MOH and supported them through coaching and development of QI teams to test changes. The sites also prioritized task shifting by mentoring non-clinical staff to take vital measurements and conduct routine assessments daily. After 11 months of improvement activities (January 2016-November 2016), medical chart review of outpatient care of children under five years revealed improved assessment and classification of sick children and young infants, including improved documentation. The following results were achieved:
 - % of children assessed for nutritional status increasing from 10% (January 2016) to 88% (June 2017) in 10 sites.
 - % of children with pneumonia who received a recommended first line treatment increased from 65% (January 2016) to 92% (June 2017) in 10 sites.
 - % of children with diarrhea who received the recommended combination of zinc and oral hydration salts increased from 46% (January 2016) to 97% (June 2017) in 10 sites.
 - Compared to control sites, attributable improvement by intervention sites in assessment and documentation of sick children between 2 months

and 5 years was: temperature, 53% ($p<0.0001$); danger signs, 32% ($p<0.0001$); respiratory rate, 51% ($p<0.0001$); nutritional status, 63% ($p<0.0001$); and vaccination status, 80% ($p<0.0001$).

- Improvements were also achieved in assessment and classification of sick infants less than two months of age. According to medical documentation review, severity assessment and based on the WHO integrated management of newborn and childhood illness (IMNCI) classification improved by 56% and 25% respectively in intervention facilities compared to control sites after the intervention ($p<0.0001$). Improvement of assessment and classification practices was also confirmed by routine, bi-weekly monitoring results of selected IMNCI indicators and direct observation of outpatient visits of children and young infants.
- Improved evidence-based prescription practices among children and young infants included prescription of recommended first choice medication on one hand and reduced unjustified treatment on the other. Specifically, medical documentation review revealed improved care of young infants, including improved evidence-based treatment of young infants with antibiotic prescription (difference in differences +80%, $p<0.0001$) and improved care of young infants with possible severe bacterial infection or any relevant diagnosis (difference in differences +68%, $p<0.0001$), including initial treatment and referral (difference in differences +31%, $p=0.0046$) and prescription of full

outpatient treatment (difference in differences +94%, $p < 0.0001$). Similarly, the first-line antibiotic treatment of children for pneumonia in correct dosage improved by 80% ($p < 0.0001$), while unjustified use of antibiotics for cough or cold, malaria, and diarrhea in intervention facilities, compared to control sites and the baseline, declined by 56%, 29%, and 47%, respectively ($p < 0.0001$ for all results).

- After conducting IMNCI training, a refresher, and needs-based clinical capacity building, the average provider knowledge score on outpatient management of children between two months-five years improved from 50% to 92% in intervention facilities. Knowledge among health providers of signs of critical illness in young infants improved by 19 percentage points (from 31% at baseline to 50% at end line) and by 54 percentage points for severe infection (19% at baseline; 75% at end line).

Reproductive Health

- ◆ In **Niger**, ASSIST worked in close collaboration with the Ministry of Health (MOH), managers and front-line providers to promote Healthy Timing and Spacing of Pregnancy (HTSP) via improved integration of family planning (FP) counseling and services into routine public and private sector MNCH services in two urban Niamey districts and one rural Birnin Konni district. ASSIST promoted client-centered FP services to improve client choice and adherence with selected FP methods of choice to reduce unmet FP need and achieve healthy timing and spacing of pregnancies and reduced maternal and child mortality. From

October 2013 to December 2014, these 16 sites documented the following improvements:

- % of women counseled for PFP increased from 4% to 96%
 - % of women selecting a modern PFP method increased from 2% to 83%.
 - % of women discharged with modern PFP method of choice increased from 0 to 23%
 - % of births after which couple received PFP counseling prior to discharge of mother increased from 0.1 to 14%.
- ◆ ASSIST supported 18 health facilities in Western **Uganda** to prevent unintended and high-risk pregnancies and reduce maternal and newborn mortality by increasing the uptake of modern FP methods. With support from ASSIST and implementing partners, the facilities applied improvement methods to systematically address barriers to the supply of and demand for family planning. One facility, Bukuuku Health Center IV, made changes at both the facility and community levels to ensure that women in the community had accurate information about contraceptive options and that FP services were more accessible. In just four months, the improvement team increased the proportion of women at immunization clinics who were counselled on family planning from 38% in March 2014 to 93% in July 2014. The proportion of counselled women who left the facility with their chosen family planning method rose from 17% in March 2014 to 38% by July 2014 and continued rising, reaching 79% by March 2015.

A birth champion together with a mother and her baby, delivered at Musulwa Dispensary in Kwale County, Kenya. ASSIST supported county governments and service delivery partners in Kenya to improve and strengthen maternal, neonatal, child health, and reproductive health services.



Key RMNCAH Products Developed by ASSIST

- ◆ [Assessment of Quality of Integrated Reproductive, Maternal, Newborn, Child and Adolescent Health and HIV Care in Uganda and Kenya](#)
- ◆ [Botswana Maternal Mortality Reduction Initiative: Final Report](#)
- ◆ [Effectiveness and Cost-effectiveness of Quality Improvement Interventions for Integrated Management of Newborn and Childhood Illness in Northern Uganda](#)
- ◆ [Ghana Situational Analysis of Inpatient Care of Sick Newborns and Young Infants](#)
- ◆ [Improving Care of Mothers and Babies: A Guide for Improvement Teams \(English-Africa, English-Asia, French, Spanish\)](#)
- ◆ [Improving Quality of Basic Newborn Resuscitation in Low-resource Settings: A Framework for Managers and Skilled Birth Attendants](#)
- ◆ [Improving Quality of Postpartum Family Planning in Low-Resource Settings](#)
- ◆ [Improving the Quality of Integrated Management of Newborn and Childhood Illnesses in Gulu, Omoro, and Nwoya Districts in Northern Uganda](#)
- ◆ [Point of Care Quality Improvement \(POCQI\): Coaching for Quality Improvement](#)
- ◆ [Point of Care Quality Improvement \(POCQI\): Improving the Quality of Care for Mothers and Newborns in Health Facilities \(Learner Manual\)](#)
- ◆ [Point of Care Quality Improvement \(POCQI\): Setting Up and Managing a Quality Improvement Program at District Level](#)
- ◆ [Quality of Integrated Reproductive, Maternal, Newborn, Child, and Adolescent Health and HIV Services: Assessment Toolkit](#)
- ◆ [Saving Mothers, Giving Life Approach for Strengthening Health Systems to Reduce Maternal and Newborn Deaths in 7 Scale-up Districts in Northern Uganda](#) [Journal link](#)
- ◆ [Strengthening integrated family planning/maternal and neonatal health postpartum services and associated health system functions in Niger](#)
- ◆ [Towards Integrated People-centered Maternal, Newborn, and Child Health Care in Mali](#)
- ◆ [Using Collaborative Improvement to Enhance Postpartum Family Planning in Niger](#)

Learning

- ◆ **Improving efficiency and reducing waste:** ASSIST demonstrated significant cost-savings over the course of project implementation by focusing on improving effectiveness and efficiency of RMNCAH interventions with parallel reduction of waste and non-evidence-based practices.

- ◆ **Deliberate knowledge management (KM) is a critical strategy for improvement and scale-up.** ASSIST effectively used knowledge management for scale-up by gathering, synthesizing, and sharing experiences in improving care from pilot sites with new sites. ASSIST applied KM principles in learning sessions and QI activity design to foster peer-to-peer learning (across facilities, districts, and countries) and integrate key insights about how to improve care. Throughout ASSIST's RMNCHA work, emphasis was placed on strengthening learning systems at sub-national, national, regional, and global levels. This was done through fostering peer-to-peer learning through learning sessions and national forums, developing case studies and change packages to convey learning about how to improve RMNCHA services, supporting virtual communities of practice, and supporting the

learning agendas or regional and global initiatives like the Partnership for HIV-Free Survival and the Quality, Equity, Dignity Network for Improving Quality of Care for MNCH.

- ◆ **Fostering team-based problem-solving, driven by data.** Our approaches did not rely only on training and external supervision; instead we paired clinical training with simulation and hands-on teaching and follow-up mentoring with QI capacity building and team-based problem solving. This approach was built upon the evidence that integrating team-based problem solving with training interventions is five times more effective than training alone. Fundamental to the science of improvement and ASSIST's work are testing changes to systems and using real-time data to make decisions about what changes are and are not effective in improving RMNCHA and other services. It is therefore essential that the relevant health service data be accurate and reliable, especially when used to inform policy and programmatic decision. In each of its supported countries, ASSIST supported facility, community and district level teams to collect and use real-time data and improving the accuracy of reporting through coaching and learning sessions.

Improving Quality of HIV/AIDS Services

Overview

Technical support to countries to improve the quality of HIV and AIDS services was a large part of ASSIST's portfolio of Mission-funded work in Botswana, Burundi, Cote d'Ivoire, Democratic Republic of Congo, eSwatini, Kenya, Lesotho, Malawi, Namibia, South Africa, Tanzania, Uganda, and Zambia. To improve the quality of HIV and AIDS services, ASSIST supported QI teams to increase linkage, retention, and adherence to HIV care and treatment in seven countries (Botswana, Cote d'Ivoire, Democratic Republic of Congo; Lesotho, Tanzania, Uganda, and Zambia); supported QI in programs to prevent or eliminate mother-to-child transmission of HIV in six countries (Burundi, Cote d'Ivoire, Kenya, Lesotho, Tanzania, and Uganda); and supported national voluntary medical male circumcision (VMMC) programs in seven countries (Lesotho, Malawi, Mozambique, Namibia, South Africa, Tanzania, and Uganda) to strengthen quality assessment, coaching, and oversight, increase post-circumcision follow-up, and reduce adverse events. ASSIST also contributed significantly to the development of the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) Quality Strategy in 2014.

Because more than half of mother-to-child transmission of HIV occurs after delivery, keeping mother-infant pairs in care and ensuring they receive the appropriate care was identified as a critical quality issue. To address

the challenges of retention and poor patient care in the postpartum period, PEPFAR, UNICEF, WHO, and the Institute for Healthcare Improvement initiated the Partnership for HIV-Free Survival (PHFS), supporting facilities in Kenya, Lesotho, Mozambique, South Africa, Tanzania, and Uganda to use QI approaches to identify and implement changes in how they delivered care in order to increase antiretroviral therapy for mothers and increase the AIDS-free survival of exposed infants. ASSIST was the lead implementer of PHFS in Kenya, Tanzania, and Uganda.

ASSIST's activities addressed many other critical quality issues in the delivery of HIV services, including: point of care HIV testing and counseling; improving post-circumcision follow-up and reducing adverse events; expanding nutritional assessment, counseling and support (NACS) and self-management support for persons living with HIV; increasing pediatric testing and case management; increasing viral load suppression; and behavioral interventions to prevent HIV infection in adolescent girls and young women.

ASSIST also sought to integrate gender considerations in the improvement of HIV services, supporting interventions to overcome gender barriers and manipulate gender dynamics as a driver rather than an inhibitor of improvement. Gender integration activities in HIV services were supported in Burundi, Uganda,

TB is curable,
the medicines are free!

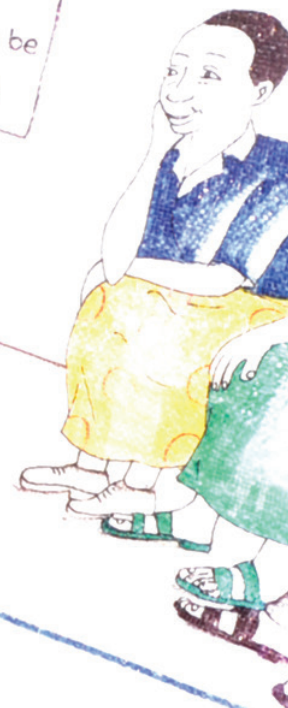


TB and HIV Health Edu

UGANDANS AND AMERICANS IN PARTN



TB is
curable
HIV can be
treated



Health worker in Uganda shows a flip chart used in counseling TB patients. ASSIST supported training of health workers on incorporating isoniazid preventive therapy in TB care as a preventive measure.

and Tanzania, including increasing male involvement in antenatal HIV testing and PMTCT, increasing female partner involvement in safe male circumcision, and addressing gender-based differences in the needs of vulnerable children.

Finally, at the request of PEPFAR, ASSIST developed a practical guide on leadership qualities and attributes in a self-study format for continuous learning. The guide includes recommendations for demonstrating key leadership competencies and provides case examples of leading HIV/AIDS service improvement.

Results

◆ Under the Partnership for HIV-Free Survival, ASSIST helped staff in supported facilities in **Kenya, Tanzania,** and **Uganda** to improve retention of mother-baby pairs in care, HIV treatment and prophylaxis, and health and nutrition care for the mother-infant pairs attending their clinic. Staff in supported health facilities were encouraged to use QI approaches to improve the data system so that health workers had complete patient information as mother-infant pairs moved among maternal, pediatric, HIV, health, and nutrition services and ensure that mother-infant pairs received appropriate care at each clinic visit. Between mid-2013 and mid-2016, health workers in Kenya (16 facilities), Tanzania (30 facilities), and Uganda (22 facilities) used QI approaches to improve data systems, improve mother-infant pair retention, and improve the delivery of facility-based care. The number and proportion of infants whose HIV status

was known at the time of discharge from the early infant diagnosis program increased in Tanzania and Uganda. Mother-to-child transmission decreased from 13.3% to 5.1% in the Kenyan sites, from 12.7 to 3.8% in the Tanzanian sites, and from 17.2% to 1.5% in the Ugandan sites. This reduction occurred during the period that these countries made the switch to using Option B+ and is likely due to the combination of the new regimen and improvements in service delivery and retention achieved through the QI approach.

◆ In **Tanzania**, ASSIST's main interventions were to adapt and sustain evidence-based practices to improve access to HIV testing, ART enrollment, retention in care for HIV-infected patients, and ensuring wellbeing of people living with HIV (PLHIV). This was achieved through capacity building of Regional Health Management Teams, Council Health Management Teams, and facility-based QI teams in analyzing and redesigning processes of care, devising new care delivery models, developing QI tools, and sharing learning through governments. In all intervention sites, improvement efforts focused on implementation of a package of core interventions that included scaling up ART, prevention of mother-to-child transmission of HIV (PMTCT), orphans and vulnerable children (OVC), and voluntary medical male circumcision (VMMC) services, as well as community home-based care volunteers in line with PEPFAR 3.0 guidance. The project also supported the development of interventions and strategies to improve the quality of HIV rapid testing as well as community-based interventions to improve linkages, ART adherence, and retention. In FY17, ASSIST piloted engagement, adherence, and retention interventions to improve management of PLHIV by

applying an integrated approach of biomedical services, NACS, and counseling/self-management support in five high-volume sites in Morogoro Region, targeting client with poor adherence, weight loss, or other problems. These sites:

- Increased the percentage of clients keeping appointments from 79% in October 2016 to 83% in January 2017
 - Increase the percentage of clients taking ARVs from 80% in October 2016 to 88% in April 2017
 - Decreased the percentage of clients categorized as having moderate acute malnutrition or severe acute malnutrition from 5% in November 2016 to 1% in April 2017
 - Decreased the percentage of clients with CD4 counts less than 200 from 42% in October 2016 to 11% in April 2017
 - Increased the percentage of clients who have self-management plans from 8% in December 2015 to 89% in April 2017
- ◆ In **Uganda**, two PEPFAR-led external quality assessments evaluated compliance of service delivery sites with minimum quality standards for VMMC services. Quality gaps were identified, including lack of standardized forms or registers, lack of documentation of client consent, poor preparedness for emergencies and use of untrained service providers. In response, PEPFAR asked ASSIST to provide support in quality improvement to the MOH and a selection of implementing partners to improve the quality and safety of VMMC services and build capacity of MOH staff to continuously improve

VMMC quality. Thirty sites were supported to identify barriers in achieving national standards, identify possible solutions (changes) to overcome the barriers, and carry out improvement plans to test these changes, while collecting performance data to objectively measure whether they had bridged the gap. A 53-indicator quality assessment tool and client-level indicators were used by teams to measure progress. At baseline (February-May 2013), fewer than 20% of sites scored in the “good” range (>80%) for supplies and equipment, patient counseling, and surgical procedure, respectively; by November 2013, the proportion of sites scoring “good” rose to 67%, 93%, and 90%. Post-operative follow-up at 48 hours improved from 18% of clients in January 2013 to 93% of clients in April 2014. ASSIST supported the sites to use a color-coded performance dashboard to track the performance of sites on achieving the MOH VMMC quality standards. Red signifies scores below 50 percent and indicates “poor” performance; yellow scores are 50 percent to below 80 percent and indicate “fair” performance; and green scores of 80 percent or more and indicates “good” performance. The dashboard was developed to summarize information that was generated looking at compliance with the 53 quality standards simply, but explanatory for the site teams, district staff and implementing partners to make it easy for them to track and identify priority areas for intervention (see Figure 13).

- ◆ ASSIST trained facility staff in Uganda on gender integration in VMMC at learning and coaching sessions; supported QI teams to develop talking points and mobilization campaigns to encourage female involvement and offer female service packages at VMMC service points, including cervical cancer

Figure 13. Uganda: Dashboard showing the performance of intensive-support sites on seven areas of the VMMC quality standards

PERFORMANCE OF SITES ON VMMC QUALITY AREAS

>80% - Good	50 - <80% - Fair	<50% - Poor	Not assessed

Health Unit IP Supporting Site District	Baseline Feb-May 2013							Sep-13							May-14						
	Management systems	Supplies, equipment & environment	Registration group education and IEC	Individual counseling & HIV testing	Male circumcision surgical procedure	Monitoring & evaluation	Infection prevention	Management systems	Supplies, equipment & environment	Registration group education and IEC	Individual counseling & HIV testing	Male circumcision surgical procedure	Monitoring & evaluation	Infection prevention	Management systems	Supplies, equipment & environment	Registration group education and IEC	Individual counseling & HIV testing	Male circumcision surgical procedure	Monitoring & evaluation	Infection prevention
1	30	50	0			33		50	50	67	83	82	79	82	70	83	67	100	91	86	91
2	20	33	0			7	92	80	67	75			87	92	80	67	80			87	92
3	40	83	0			14	84.6	90	67				86	100	80	83	75			50	100
4	30	50	0			18	82	80	83	83	83	80	79	54	80	83	100	100	80	93	85
5	20	33	0			14	80	60	83	67	100	70	93	92	80	83	83	100	100	100	69
6	10	50				7	70	80	83	83	100	100	71	80	80	67	83	100	80	86	85
7	40	50	50			75	60	80	67	67	83	73	50	67	90	67	87	83	80	93	67
8	50	50	25			14	77	90	100			90	86	85	90	100	83	100	90	86	85
9	60	50	83	39	64	29	92	90	100	100	82	100	100	100	90	100	100	82	100	100	100
10	20	50	50			0	33	80	83	100	83	82	86	83	90	100	100	83	100	92	93
11	33	25	0			0		80	50	67	67	80	77	75	80	80	67	67	80	77	75
12	25	33	0				70	100	83	100	40	83	100	92	100	83	100	80	83	100	92
13	60	67	75	83	81	14	80	80	83	67	83	93	71	100	100	83	67	100	100	86	93
14	70	50	25			50	80	90	83	83	89	90	79	91	100	83	83	100	100	86	92
15	60	33	25			50	90	90	83	100	94	90	79	92	90	84	84	100	91	86	100
16	30	67	100			14	58.3	90	100	83	83	80	86	92	100	100	100	100	100	100	100
17	40	83	75	100	100	14	84.6	100	100	100	100	100	86	83	80	83	100	100	100	86	92
18	70	67	100	67	100	69	75	100	67	100	100	100	100	75	100	67	100	100	100	100	80
19	40	50	0			21	100	100	67	83		97	100	100	100	83	83	80	97	100	100
20	60	50	0			21	92	100	83	75			100	92	100	83	83	83	85	93	85
21	70	50	0			21	77	100	83				100	92	90	80	83	94	80	75	76
22	80	83	100			93	100	90	100	100	100	100	100	100	100	100	100	100	94	86	100
23	70	100	100	100	100	93	100	90	100	100	100	100	100	100	90	100	100	100	100	86	100
24	70	100	100	100	100	93	100	90	100	100	100	100	100	100	90	83	100	100	100	86	93
25	60	50	100			46	100	70	83	75	67	74	46	92	90	100	83	94	91	86	100
26	60	33	50			15	76.92	70	67	75	67	64	46	82	90	83	100	100	91	83	92
27	40	83	75	100	100	75	100	60	67	80	83	80	85	100	90	100	100	100	91	93	92
28	20	50				78	15	90	67			89	93	70	90	75	50	94	87	93	90
29	22	67	67			47	85	80	67	67	83	80	93	82	80	83	83	83	80	50	91
30	40	67				38	84.6	90	67	83	100	91	93	82	90	67	83	100	91	93	82

Number circumcised 5,294
Number counseled, tested and received HIV test results: 4,220

Number circumcised 9,942
Number counseled, tested and received HIV test results: 11,539

Number circumcised 9,146
Number counseled, tested and received HIV test results: 11,458

testing, family planning, and antenatal care services. Teams identified engaging female partners to attend educational sessions and clinic visits with VMMC clients as a change to test. From January to December 2013, the proportion of clients who attended educational sessions with partners increased from 0 to 23%. During this period, an increase in completion of follow-up visits was documented. Couples who attend VMMC visits were offered HIV counseling and

testing, and female partners were encouraged to access reproductive and other health services during the visits. By December 2013, two health facilities reported an increase in uptake of other health services (e.g., family planning and immunizations) as a result of engaging female partners.

- ◆ Based on achievements in continuous quality improvement of VMMC services in Uganda, ASSIST was asked to conduct an assessment of the quality of

VMMC services in sites supported by USAID and CDC in South Africa in 2014. ASSIST provided technical support to the National Department of Health and Provincial Departments of Health in five provinces of South Africa to apply continuous quality improvement (CQI) to VMMC services from 2015-2017. ASSIST's VMMC CQI support was expanded to Tanzania, Mozambique, Lesotho, and Malawi until the end of FY17, when USAID asked ASSIST to transition all VMMC CQI support to the AIDSFree Project. ASSIST also played a lead role in developing the capacity of USG, Ministry of Health, and implementing partner staff to conduct QI and external quality assessments (EQA) of VMMC services through trainings and the publication on the ASSIST website of a VMMC CQI/ EQA toolkit to provide guidance on how to carry out CQI in VMMC programming and implement EQAs.

- ◆ In **Burundi**, low levels of male partner participation were noted during program start-up, and high rates of maternal HIV and lack of retention of mother-baby pairs in PMTCT programs led USAID ASSIST to propose a gender integration component to improve outcomes for mother-baby pairs. Changes introduced to engage male partners to attend ANC and PMTCT appointments included sharing the advantages of partner testing at gatherings and venues, a male leader sensitizing men on the advantages of HIV counseling and testing among couples, and sending invitation letters to male partners. The program saw good results, from less than 1% of women attending ANC with partners who were tested for HIV in July 2012, to 29% in November 2013. Over the same period, the number of exposed children tested for HIV at 18 months more than doubled.

Key HIV Products Developed by ASSIST

- ◆ [A Guide to Improving the Quality of Safe Male Circumcision in Uganda](#)
- ◆ [Addressing the Needs of Men, Women, Boys and Girls in HIV and ART Services](#)
- ◆ [Analysis of ASSIST program activities for improving the quality of services for PMTCT, 90-90-90 targets, and malaria in Uganda](#)
- ◆ Effective Leadership for Quality Improvement in Health Care: A Practical Guide [English](#) [French](#)
- ◆ [Evaluation of a point-of-care HIV testing improvement intervention in Kenya](#)
- ◆ [Improving Pediatric Antiretroviral Therapy in Tanzania](#)
- ◆ [Improving the Quality of Voluntary Medical Male Circumcision through Use of the Continuous Quality Improvement Approach: A Pilot in 30 PEPFAR-supported Sites in Uganda](#)
- ◆ [Integrating Gender in Voluntary Medical Male Circumcision Programs to Improve Outcomes](#)
- ◆ [PMTCT: Addressing the Needs of Women and Their Partners to Improve Services](#)
- ◆ [Quality Improvement as a Framework for Behavior Change Interventions in HIV-predisposed Communities: A Case of Adolescent Girls and Young Women in Northern Uganda](#)
- ◆ [Tested Changes to Improve Nutrition Assessment, Counseling, and Support in HIV Care in Zambia](#)

- ◆ [The Partnership for HIV-Free Survival \(PHFS\) Special Collection published in the Journal of the International Association of Providers of AIDS Care \(JIAPAC\)](#)

Learning

- ◆ **Use of simple but informative tools to understand improvement** was key to the successful uptake of QI by facility-based teams. The VMMC dashboard was one such tool that is easily understood by most of the stakeholders.
- ◆ **Facility-led QI processes are effective in quickly addressing quality gaps because they are driven by local managers and stakeholders.** Health workers have solutions to most of the gaps they have in service delivery. They only need guidance on implementation of improvement work.
- ◆ **Reducing vertical transmission and improving survival of HIV-exposed infant requires making the service delivery system easier for patients to remain in care and better at reliably providing the right care to patients at each visit.** Both present challenges to a health care system. First, health care service delivery is typically an individual activity (e.g., the nurse is responsible for one set of tasks, while the doctor has another set). Retention does not fit this paradigm – no one individual is responsible for ensuring people stay in care. Second, relying on individuals' memory about which services should be provided at each visit is fraught with the possibility of error. QI is a collective management approach that can give health workers better skills and tools for fixing problems like retention – areas that are not easily assignable to any one person – and for changing service delivery, making it less dependent on individual initiative or memory.
- ◆ **The value of a multi-country improvement network with intentional learning:** Across five countries, the Partnership for HIV-Free Survival supported 134 facilities to use QI approaches to improve PMTCT, MCH, and nutrition care for mother-baby pairs. The PHFS experience offers a model that other multi-country networks can adopt and build on to improve service delivery and quality of care. The key elements of success were: (1) breaking down problems into smaller, more specific problems; (2) addressing those problems with data-driven QI led by individual facility teams; (3) multi-stakeholder, in-country leadership; (4) on-site QI coaching; and (5) inter- and intra-country shared learning and support.
- ◆ **Getting started quickly and quickly learning:** Another PHFS success factor was keeping the focus on getting started quickly and quickly learning from the QI processes that each facility was applying to its clinical flow. The application of QI in this context led to greater efficiencies and effectiveness in service delivery. We found that having a data-driven QI approach as the underlying approach to learning brought about new dimensions of cross-country exchange compared to other learning networks without the intentional QI focus. This emphasis on data for learning coupled with knowledge-sharing approaches that centered on storytelling (emphasizing what was happening from a clinical, community, and personal perspective that made the data change, what worked, and what didn't) provided opportunities for more influential learning.

Improving Health Workforce Management

Overview

As part of the integrated design of improvement strategies, ASSIST had a clear mandate from USAID to address health workforce management and human performance factors in the design of improvement interventions. Human performance improvement interventions can include job aids, performance support, staffing selection, supervision, appraisal systems, coaching/mentoring, documentation, team building, and training, among others. In its health workforce portfolio, ASSIST developed a framework for improving the efficiency and effectiveness of in-service training, mapped task shifting experiences for PEPFAR, institutionalized pre-service training on HIV prevention and care in the medical and nursing schools of nine Nicaraguan universities, developed the regulatory framework and capacity of professional councils in Cambodia to ensure professional competence through registration and licensure, developed tools to support inclusion of QI competencies in health worker pre-service training in Kenya, and strengthened the capacity of universities across India and South Asia to train providers in quality improvement. ASSIST also supported facility- and district-level QI teams in Uganda and Tanzania to test changes to improve health workforce management and engagement.

With PEPFAR support, ASSIST also supported field interventions and studies to develop evidence for how improving health worker engagement, performance, and

productivity can also lead to significant improvements in service quality, including among community health workers (CHWs). ASSIST demonstrated that improvements in service delivery can be attained alongside improvements in human resources management and health worker engagement when factors affecting performance are addressed as part of the improvement work.

ASSIST also partnered with international, regional and national stakeholders to identify core competencies and implement strategies to integrate improvement competencies into pre-service and in-service training of health workers. These activities sought to build the capacity of health workers to be active change agents—a key precondition to institutionalizing the capability of health systems to identify and address the implementation challenges of scaling up quality HIV care.

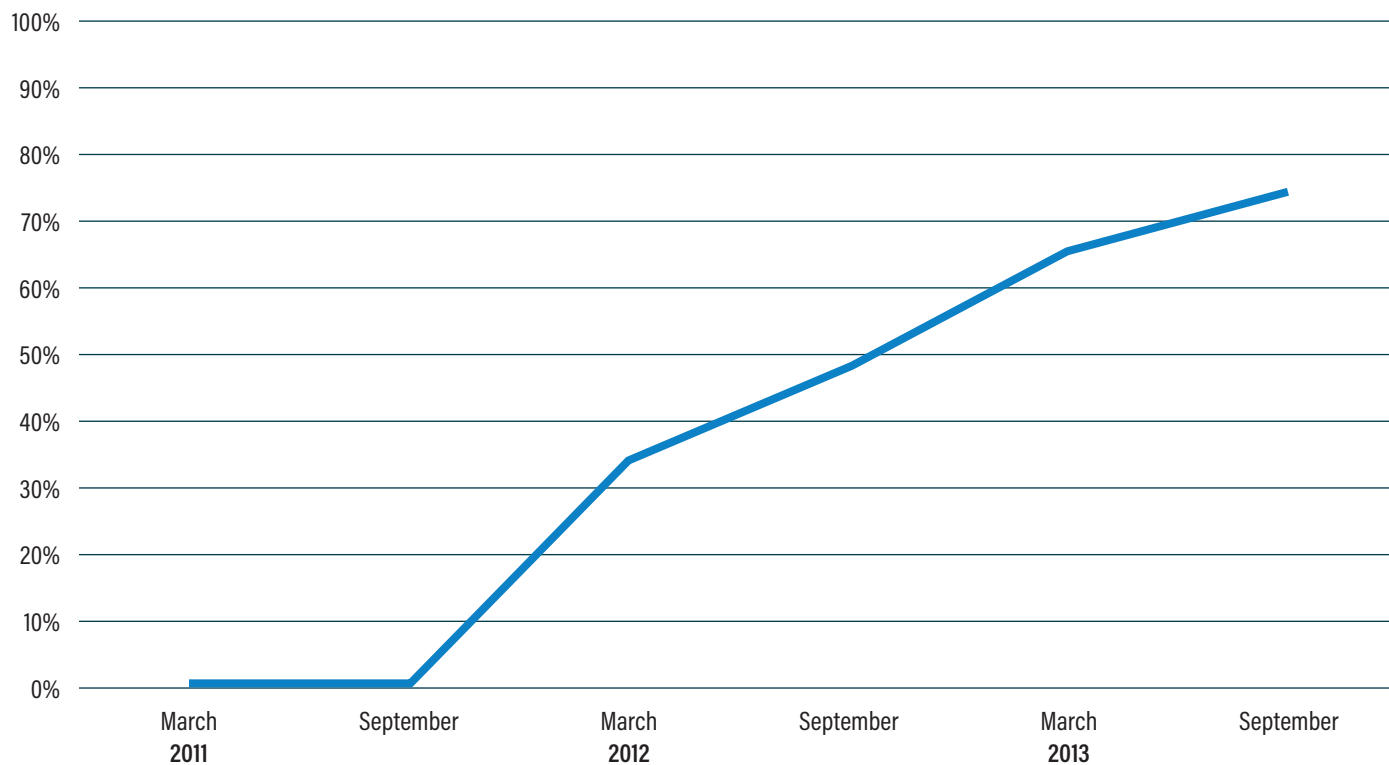
Results

- ◆ **Improving district management:** The USAID Office of HIV/AIDS (OHA) invested in efforts to test the use of collaborative improvement methods to improve human resources for health performance and productivity, primarily focused on HIV service providers. In **Tanzania**, ASSIST applied collaborative improvement interventions to strengthen the capacity of government staff at the district and facility levels to

support facility-level quality improvement and health worker performance, including strategies that increase the improvement skills of district managers and that engage existing community resources in health care quality improvement and retention of HIV patients in care. As shown in Figure 14, by September 2013, 75% of district management team members felt they were competent to perform all basic improvement tasks. This increase in confidence correlated with the project's training and coaching. Another change that proved effective was for district management teams to design a process for welcoming and onboarding

new staff whenever they arrived. A member of the district management team would assign someone to introduce the new staff member to the rest of the facility's staff, orient the person to the facility's processes and procedures, and facilitate meetings with relevant district officers. In addition, district management teams set aside money from the budget to keep an apartment ready with essential necessities provided so new staff could immediately have a place to live. Finally, the districts also set aside a small stipend to allow the new arrivals to have spending money until their payroll status was confirmed,

Figure 14. Tanzania: Percentage of management team members with basic set of improvement competencies (March 2011–September 2013)



at which time they reimbursed the advance from their paychecks. After implementing the orientation package, the percentage of new staff that were retained at the facilities after six months increased from 69% in March 2011 to 97% in September 2013.

- ◆ Task shifting and sharing have been employed as strategies for addressing ongoing human resources for health shortages in low- and middle-income countries. OHA requested that ASSIST carry out an assessment sought to explore the current status of task shifting policy development and implementation across PEPFAR priority countries with the aim of informing future PEPFAR investment in human resources and HIV service delivery models. Using an exploratory qualitative design, ASSIST's researchers conducted 67 semi-structured interviews across 26 countries. Two countries, **Nigeria** and **Tanzania**, were identified by OHA for more in-depth examination; two weeks of field work was conducted in each country. The study found that most countries had a task shifting or sharing policy or guideline, varying from an order permitting nurses to deliver certain services to a more comprehensive document including all HIV services and cadres. As of 2018, seven of the 26 countries studied had no task shifting/sharing policy (Botswana, Cambodia, Eswatini, India, Papua New Guinea, Vietnam, and Zambia). Sixteen had policies that specifically addressed HIV services; two had general task shifting policies that did not specifically address HIV services; and one had developed task shifting guidelines but had not yet officially endorsed them. The study found that facility-based testing was predominantly done by nurses with support by

community health workers (CHWs) and/or other lay workers in six countries. ART initiation was almost exclusively facility-based. Pharmacist shortages were a barrier to ART initiation, forcing countries to rely on lower level staff. Adherence counseling was most often conducted by lay cadres. Community-based HIV testing was provided by lay workers, most often supported by external donors, provided screening tests and referred patients to the facility for a confirmation test. Community-based testing was also commonly provided by facility-based outreach teams. Both community-based cadres and patient groups were engaged in ART distribution. Generation of data quantifying human resource deficits and showing potential cost savings from task shifting spurred governments to adopt task shifting policies in some cases. Broadly, interviewees agreed that task shifting and task sharing policy is needed to address chronic health workforce shortages because the policy supports lower-level cadres who were already taking on tasks previously not in their purview. Political support and key stakeholder engagement were key to completing policies and moving to implementation. Communication from central government to other levels of health system also facilitated implementation.

- ◆ In **Nicaragua**, ASSIST was given the opportunity to institutionalize QI capacity building through pre-service training institutions. The USAID Mission asked ASSIST to support medical and nursing schools in nine public and private Nicaraguan universities to incorporate HIV prevention and care topics with a quality improvement approach in the training of medical and nursing students. After analyzing the



Iringa Regional Voluntary Medical Male Circumcision (VMMC) Focal Person inspecting tools during reassessment of facility compliance to VMMC standards at Flerimo Hospital. ASSIST supported the regional health management team and implementing partners to improve the quality of VMMC services in Tanzania.

results from baseline knowledge, attitudes, and practices surveys, ASSIST supported medical and nursing faculty to adjust their study programs to include HIV topics in medical and nursing classes. They also made changes to teaching methods to incorporate checklists, case studies, discussion forums, and video testimonials from people with HIV and people of sexual diversity. In addition, they included the topic of HIV in university outreach activities held in communities and developed activities to promote respect for the rights of people with HIV and AIDS. The results of this assistance were medical and nursing graduates with up-to-date knowledge and capacity for delivering HIV prevention and treatment services in accordance with the latest scientific evidence and MOH protocols and guidelines. Graduates from participating universities were able to provide better care for HIV patients and contribute significantly to the prevention of HIV in the country. The institutionalization of the HIV module in these universities directly contributed to strengthening the Nicaraguan health system, since today's students are the future physicians, nurses, and leaders of the health system.

- ◆ ASSIST also worked with the Uganda-based Regional Center for Quality in Health Care (RCQHC) to define basic core improvement competencies that can be integrated into health worker education and training.
- ◆ Finally, another strategy for strengthening the health workforce was applied in **Cambodia**, where ASSIST was asked to develop the capacity of five professional councils to regulate and promote high standards

of care among professionals in medicine, nursing, midwifery, pharmacy, and dentistry and provide support for developing a new law on the Regulation of Health Practitioners, which enabled the councils to register health professionals and issue renewable licenses to practice. ASSIST also supported the councils to develop a business plan by which the councils could share physical and human resources to support registration and enforce standards of professional practice and sustain these functions through the collection of registration fees.

- ◆ To maximize the effectiveness, efficiency, and sustainability of human resources for health investments, particularly where evidence and guidance are limited, ASSIST brought together stakeholders in evidence- and expertise-informed processes to develop global guidance and provide country assistance for improving the efficiency and effectiveness of health worker in-service training and strengthening community health worker programs. ASSIST engaged global experts and partners from 26 countries to jointly develop and launch a Global Health Worker In-service Training (IST) Improvement Framework. This framework codified 40 recommendations under the themes of 1) strengthening IST systems, 2) coordination of training, 3) continuum of learning, 4) design and delivery of training, 5) support for learning, and 6) evaluation and improvement of training. The framework was used in **Ethiopia** to develop national in-service training strategic frameworks, in **Nigeria** to evaluate in-service training investments, and in **eSwatini** to improve in-service training coordination.

Key Health Workforce Products Developed by ASSIST

- ◆ [A Community Health Worker "logic model": towards a theory of enhanced performance in low- and middle-income countries](#)
- ◆ [A Global Improvement Framework for Health Worker In-service Training: Guidance for Improved Effectiveness, Efficiency and Sustainability](#)
- ◆ [Assessment of a quality improvement intervention to strengthen pharmaceutical human resources and improve availability and use of HIV medicines in Uganda](#)
- ◆ [East Africa Core Competency Framework for Quality Improvement](#)
- ◆ [Health Worker Engagement and Facility Performance in Delivering HIV Care in Tanzania](#)
- ◆ [Improving availability of human resources for health, essential medicines and supplies by district leaders using QI methods: Tested changes implemented in six districts of Uganda](#)
- ◆ [Improving community health worker performance and productivity: Findings from USAID-supported studies in Swaziland and Uganda](#)
- ◆ [Improving performance of district management teams in the Lindi Region of Tanzania](#)
- ◆ [Integration of Improvement in Pre-service Health Worker Training Curriculum: Lessons Learned](#)
- ◆ [Lessons Learned from Applying Collaborative Improvement Methodologies to Strengthen the Performance and Productivity of HIV Human Resources](#)

- ◆ [Measuring productivity and its relationship to community health worker performance in Uganda: a cross-sectional study](#)
- ◆ [Pre-service QI Module Outline](#)
- ◆ [Quality Improvement Self-Study Guide for Faculty at Health Worker Training Institutions](#)
- ◆ [Sustaining CHW Programs in the HIV Response: Lessons Learned from the United States](#)
- ◆ [Task Shifting/Sharing for HIV Services in 26 PEPFAR-supported Countries: A Qualitative Assessment](#)

Learning

- ◆ **Addressing factors influencing HRH performance and productivity alongside clinical care enhances service delivery results:** Significant improvements in service delivery can be attained alongside improvements in human resources management and health worker engagement when factors affecting performance are addressed as part of the improvement work. Addressing performance factors as part of an improvement approach empowered health workers to manage and improve their own performance by rationalizing and clarifying individual roles and tasks and addressing competency gaps. Performance factors that can be readily addressed in low-resource settings include unclear roles and tasks, ineffective or inefficient processes of work, lack of feedback, lack of competence to perform processes of work, and an inadequate working environment.

- ◆ **Building the capacity of health workers to manage their own performance and routinely monitor quality of care is a feasible, immediate intervention for addressing HRH performance gaps impacting HIV service delivery:** Engaging health workers in clarifying their own work processes and in defining performance expectations made health worker teams more accountable for results and led to identification of locally feasible ways to improve work processes. Health providers delivering facility-based HIV prevention and care were able to improve quality fairly rapidly with an improvement approach that engaged them in analyzing and acting on gaps in compliance with HIV standards. Many changes can be made with existing resources and in a short time frame once providers are engaged in the improvement process.
- ◆ **Improving the engagement of existing health worker teams in their work and in taking responsibility to provide the best quality of care to patients makes a difference in care quality.** The study in Tanzania found that health worker engagement was increased by supervisor support and perceived adequacy of health workers' own competencies to perform their tasks. Qualitative data indicated in addition to support from one's supervisor, feedback and praise from colleagues and patients impacted engagement. Importantly, perceived adequacy of resources was not found to influence engagement yet was raised in interviews as contributing to job dissatisfaction. These findings suggest that increasing health worker engagement within service delivery programming is a key intervention opportunity for strengthening HRH performance.
- ◆ **Applying QI at the community level with engagement of community stakeholders can increase the reach and productivity of community health workers:** A key concern for CHW programs and investments is the productivity and performance of CHWs. CHWs are frequently unable to provide services to all households due to expanding and unmanageable workloads. Communities have their own indigenous structures and systems by which community members share information, make decisions, and work together. CHW performance and productivity can be enhanced by strengthening the interface between CHWs, the community's own systems, and formal health systems – leveraging existing systems to disseminate and gather health information and identify and refer community members that need care.
- ◆ **Task shifting and sharing are effective strategies for addressing pressing and persistent human resources challenges in HIV and other health areas and support implementation of differentiated service delivery.** However, task shifting/sharing is a complex strategy to fully implement and must be tailored to individual countries based on HRH needs, health system structure, and the nature of the HIV epidemic.

Zika Emergency Response

Overview

ASSIST was granted a costed extension in September 2017 to increase the cooperative agreement's ceiling by \$25.5 million and extend the completion date to September 2019, to enable ASSIST to receive funding to support the USAID Zika response in Latin America and the Caribbean (LAC). ASSIST received a no-cost extension in August 2018 until June 2020 to allow the project to complete Zika activities.

From 2016-2020, at USAID direction, ASSIST supported Zika activities in eight Spanish-speaking countries (Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua, Paraguay, and Peru) and five English-speaking Caribbean countries (Antigua and Barbuda, Dominica, Jamaica, St. Kitts and Nevis, and St. Vincent and the Grenadines) to strengthen the national Zika response through support for the development of guidelines, training, coordination with other partners, prevention of Zika infection in pregnancy, screening of pregnant women, screening of newborns for microcephaly, screening for Zika signs and symptoms in well-child and other consultations, referral and case management of Zika-affected infants and children, psycho-emotional support, and neurodevelopmental surveillance.

From 2016-2019, through three regionally coordinated improvement collaboratives in the eight Spanish-speaking countries, ASSIST worked to increase the availability

and quality of Zika prevention and screening in ANC, including prevention counseling, screening, clinical diagnosis, and follow-up of Zika infection in pregnant women; assure correct screening of all newborns for microcephaly and improve the case detection and management of Congenital Syndrome associated with Zika (CSaZ) at birth; and strengthen psycho-social support and case management for pregnant women with suspected and confirmed cases of Zika. In Jamaica, ASSIST supported the Ministry of Health and Wellness (MOHW) to improve screening of infants up to two years of life for neurodevelopmental milestones in well-baby care clinics and increase the proportion of infants identified with potential development deficiencies who are referred for care and support services as per MOHW guidelines. ASSIST fielded long-term technical assistance teams in the eight Spanish-speaking countries and Jamaica. In the four countries of the Eastern and Southern Caribbean, ASSIST provided short-term technical assistance to each respective Ministry of Health from late 2018 through early 2020 to strengthen newborn and well-baby care, specifically focused on assessment of babies with suspected or confirmed CSaZ and to improve care and support of children and families affected by Zika.

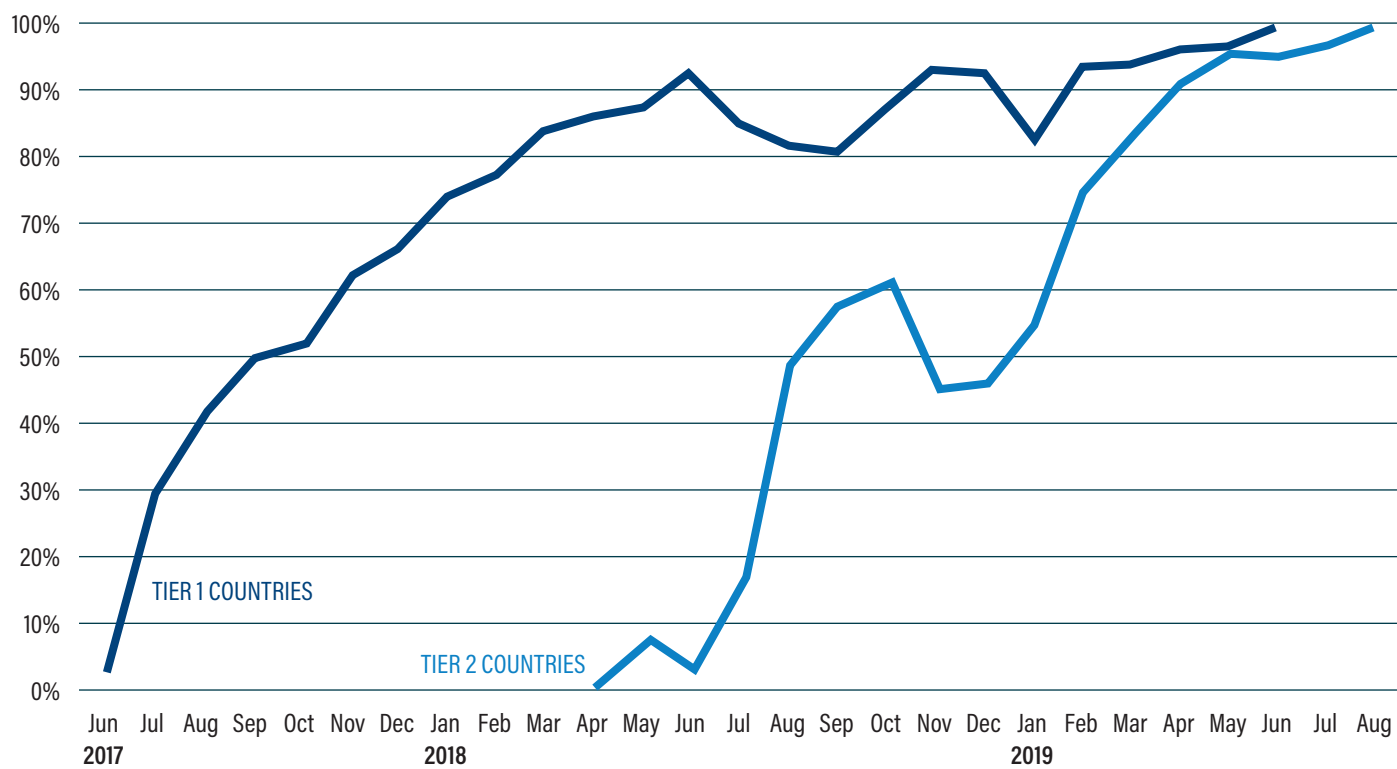
ASSIST provided technical leadership in Zika prevention, care, and support in these countries by conducting virtual and in-person training, courses, and workshops on Zika prevention, diagnosis, and care; supporting

the development of Zika care protocols and guidelines with a special emphasis on clinical, psycho-social, and non-clinical care and support for affected infants and families; and expanding health care improvement activities to address access to Zika care and support and follow-up of Zika-affected babies. ASSIST staff in nine of the 13 countries supported the work of facility-based QI teams in improving care and to support the collection, documentation, and synthesis of learning within and across countries. In all, over 800 QI teams were formed and supported by ASSIST across the 13 countries.

Results

- ◆ The Prenatal Care (PNC) Collaborative in the context of Zika worked with 291 QI teams in the eight assisted Spanish-speaking countries. QI teams tested changes to address four improvement objectives: 1) increase the screening for Zika signs and symptoms in pregnant women who come to health facilities; 2) incorporate Zika prevention messages in prenatal counseling; 3) increase the distribution of condoms to pregnant women to prevent sexual transmission of Zika during

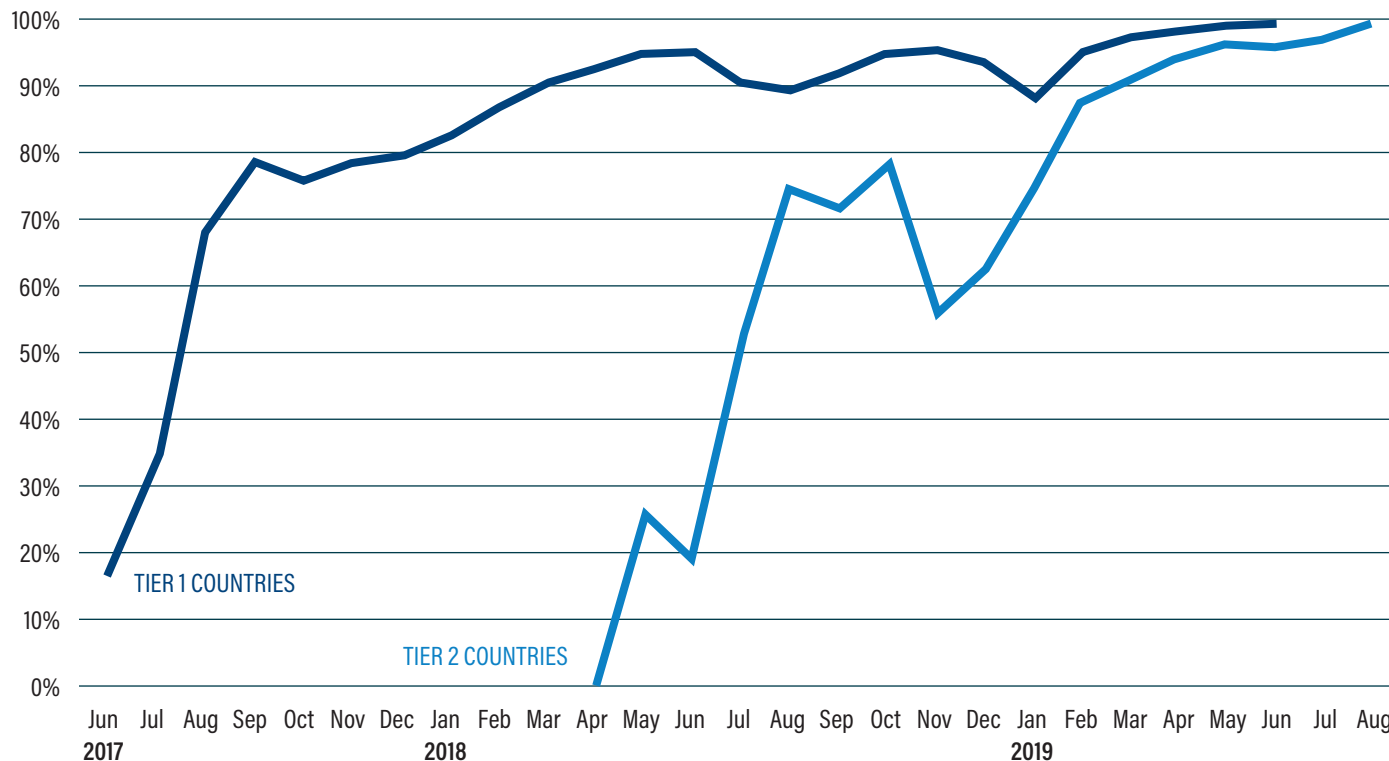
Figure 15. Percentage of pregnant women who were adequately assessed for Zika signs and symptoms during prenatal care consultations in Tier 1 and Tier 2 countries (June 2018–June 2019)



pregnancy; and 4) increase the knowledge of pregnant women about sexual transmission of Zika and the use of condoms to prevent it. Learning and effective change ideas were actively shared across teams and countries. To screen for Zika infection in pregnant women, providers ask about the principal signs and symptoms of Zika, including: rash, conjunctivitis, fever, joint pain, and muscle pain. If at least three of these symptoms were asked about, the screening was considered adequate. Figure 15 show consolidated results in which the first group of countries assisted (Tier 1: Dominican Republic, El

Salvador, Guatemala, Honduras, and Nicaragua) reached 100% in May 2019 and the second group of countries (Tier 2: Paraguay, Ecuador, and Peru) reached 100% in August 2019. Figure 16 shows the percentage of pregnant women who received counseling on Zika prevention in PNC. In the Tier 1 countries, this indicator increased from 17% in July 2017 to 100% in June 2019. The Tier 2 countries were able to achieve performance of 80% after six months. The drop in performance in the Tier 2 countries at the end of the year was compensated for by improved performance from March through August 2019.

Figure 16. Percentage of pregnant women who received counseling on prevention of Zika virus transmission during prenatal care consultations in Tier 1 and Tier 2 countries (June 2018–August 2019)



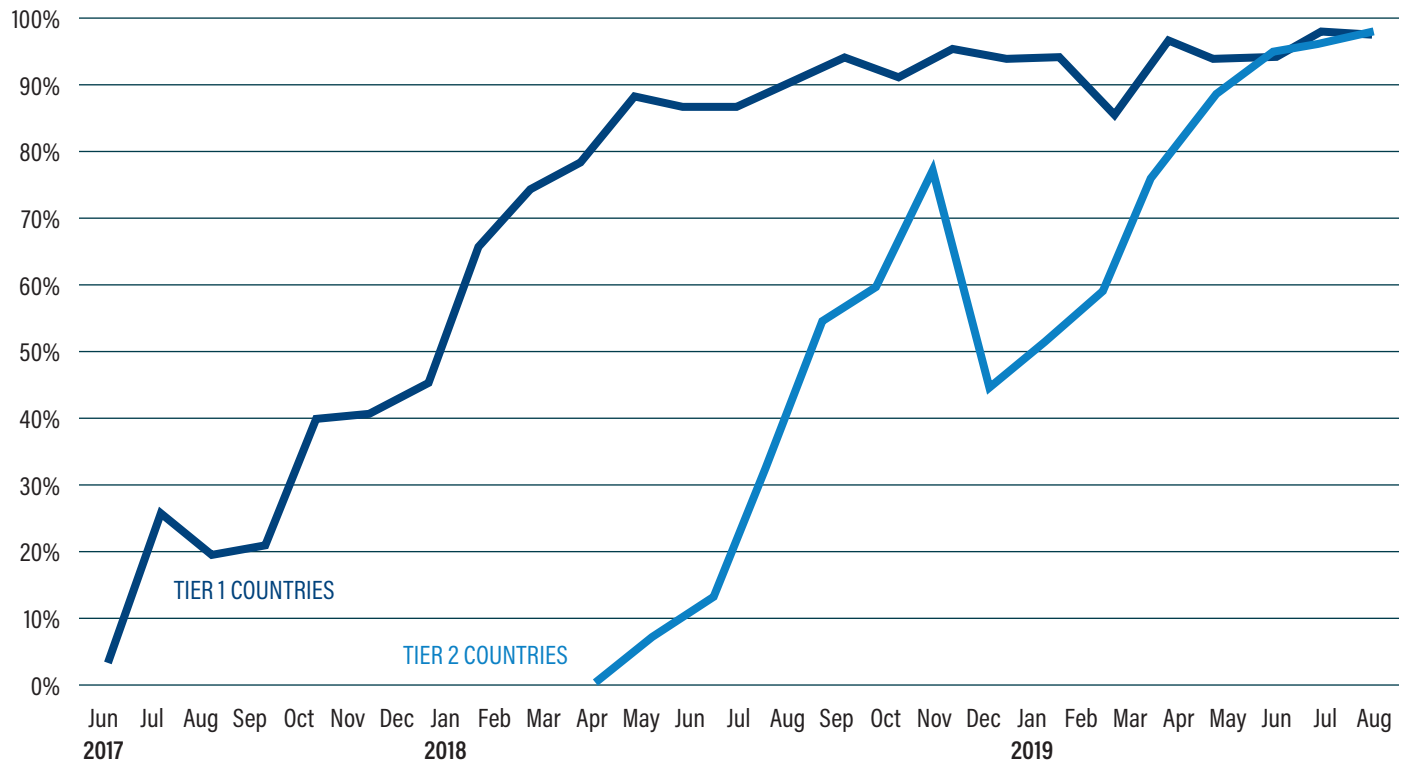


Institutionalizing capacity and procedures for correct measurement of head circumference to detect microcephaly associated with Zika virus infection in all newborns was a critical part of ASSIST support for the Zika response in Honduras.

◆ ASSIST's Newborn Care in the context of Zika Collaborative worked with 222 QI teams in the eight Spanish-speaking countries. These teams focused on diagnosing and providing initial care for CSaZ in newborns through two improvement objectives: 1) increase the screening for microcephaly in newborns through correct measurement, documentation, interpretation, and classification of head circumference in all newborns; and 2) increase the referral for clinical follow-up of newborns detected with microcephaly or other anomaly associated with CSaZ. Learning and effective changes were

actively shared across teams and countries through the regional coordination of the collaborative. The percentage of newborns who were adequately screened for microcephaly in all supported LAC countries was below 10% at baseline. Tier 1 countries improved from below 10% in June 2017 to 80% in April 2018, and Tier 2 countries improved from below 10% in April 2018 to above 80% in March 2019. The consolidated results for the second tier countries shown in Figure 17 shows a decrease in November 2018 when QI teams in Peru first began measuring performance. In general the trends in the second tier countries are

Figure 17. Percentage of newborns properly screened for microcephaly in Tier 1 and Tier 2 countries (June 2017–June 2019)

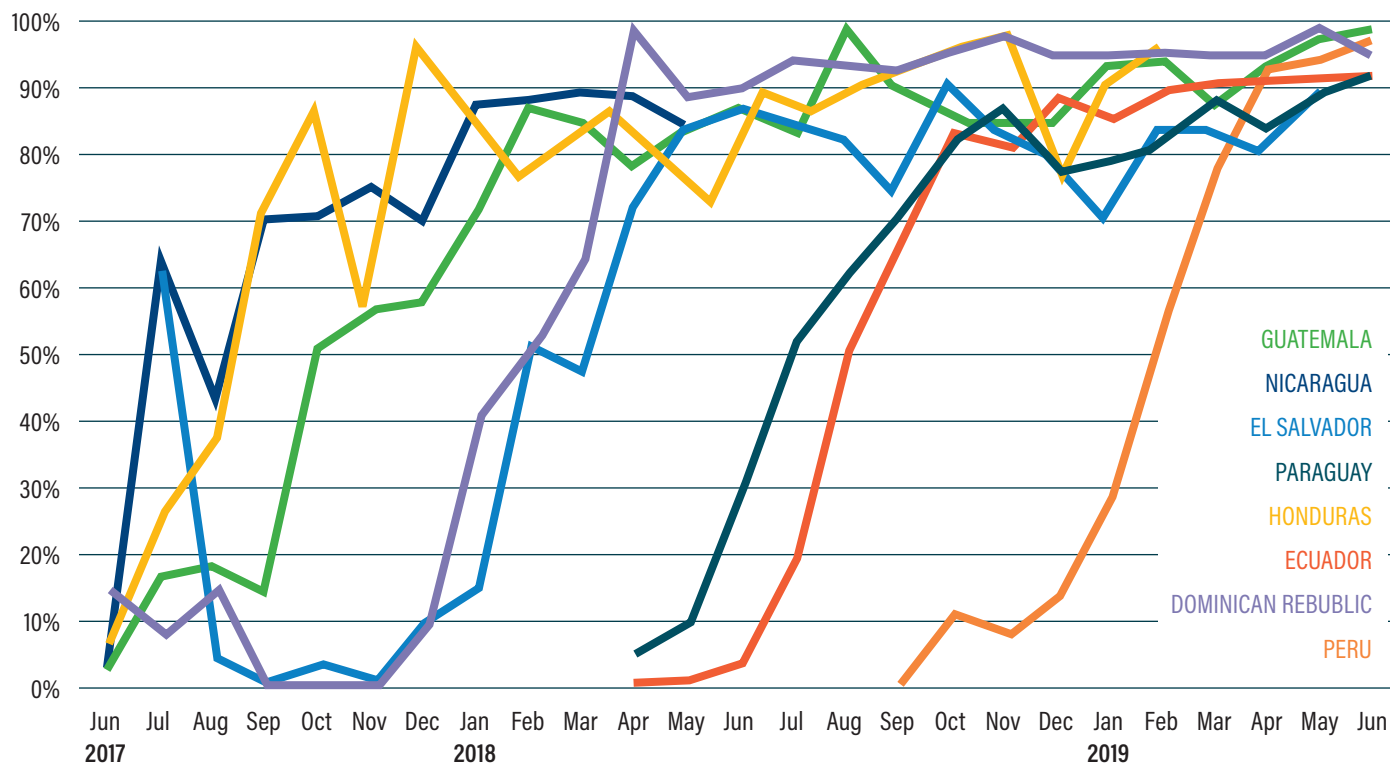


smoother, since they benefitted from learning in the first tier countries about effective change ideas. The second tier countries also benefitted from the job aids developed in the first tier countries that could be readily adapted to their national context. Figure 18 shows the percentage of newborns correctly screened for microcephaly by country.

- ◆ Referral of newborns with suspected or confirmed microcephaly or CSaZ. Figure 19 shows the number of newborns affected by Zika who were referred for clinical services in the eight Spanish-speaking

countries during the period April 2018 through June 2019. The figure shows that at the regional level, the number of referred cases showed an increasing trend, with the number of cases increasing in 2019 when QI teams in Peru began reporting data. This indicator represents teams' efforts to monitor what happened to newborns who were identified as having signs of microcephaly. Note that the indicator does not tell us about the quality of care that such newborns received; these aspects of improvement were addressed in the Care and Support Improvement Collaborative that operated in the same countries and facilities.

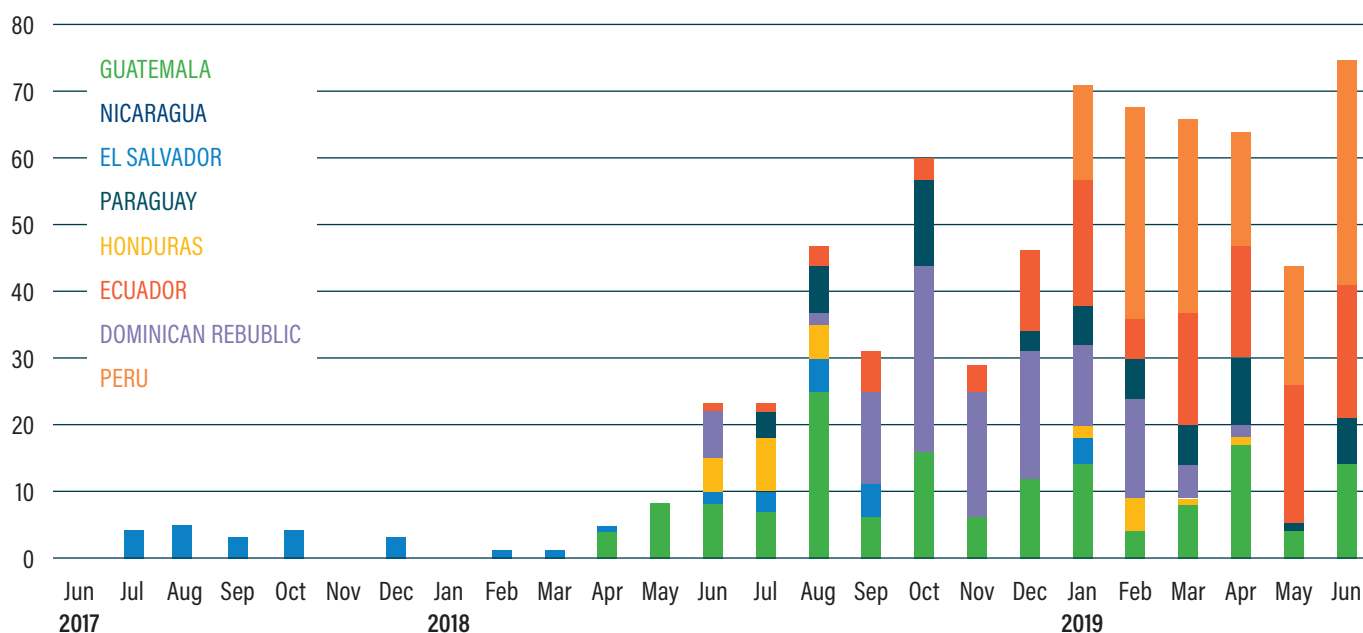
Figure 18. Percentage of newborns properly screened for microcephaly by country (June 2017-June 2019)



◆ ASSIST supported a third collaborative in the eight Spanish-speaking countries, to improve the detection and care and support for newborns and children diagnosed with microcephaly or CSaZ, including psycho-emotional support for the families. The Zika Care and Support Collaborative engaged 292 QI teams in the same number of health facilities in the eight assisted countries in the LAC region. These teams sought to: 1) Increase the identification and localization of children with microcephaly or other manifestations of CSaZ (beyond those infants born in health facilities and including those who were born in facilities but later “lost to follow-up”; 2) link those cases to appropriate health facilities and referral

facilities; and 3) provide complete and integrated care to all cases of children affected by Zika infection and provide psychological and emotional support to their families. As part of the improvement work of the collaborative, in each of the eight countries, ASSIST teams selected and trained “case managers” to improve access to care quality and completion of all the recommended assessments for children affected by microcephaly and other consequences of Zika infection, including psycho-emotional support to parents and other caregivers. In some countries, case managers were drawn from “linkage personnel” or “linkage teams” which already existed; this served to strengthen the health system governance structure in

Figure 19. Number of newborns identified with microcephaly or CSaZ who were referred for clinical services, eight Spanish-speaking countries (April 2018-June 2019)

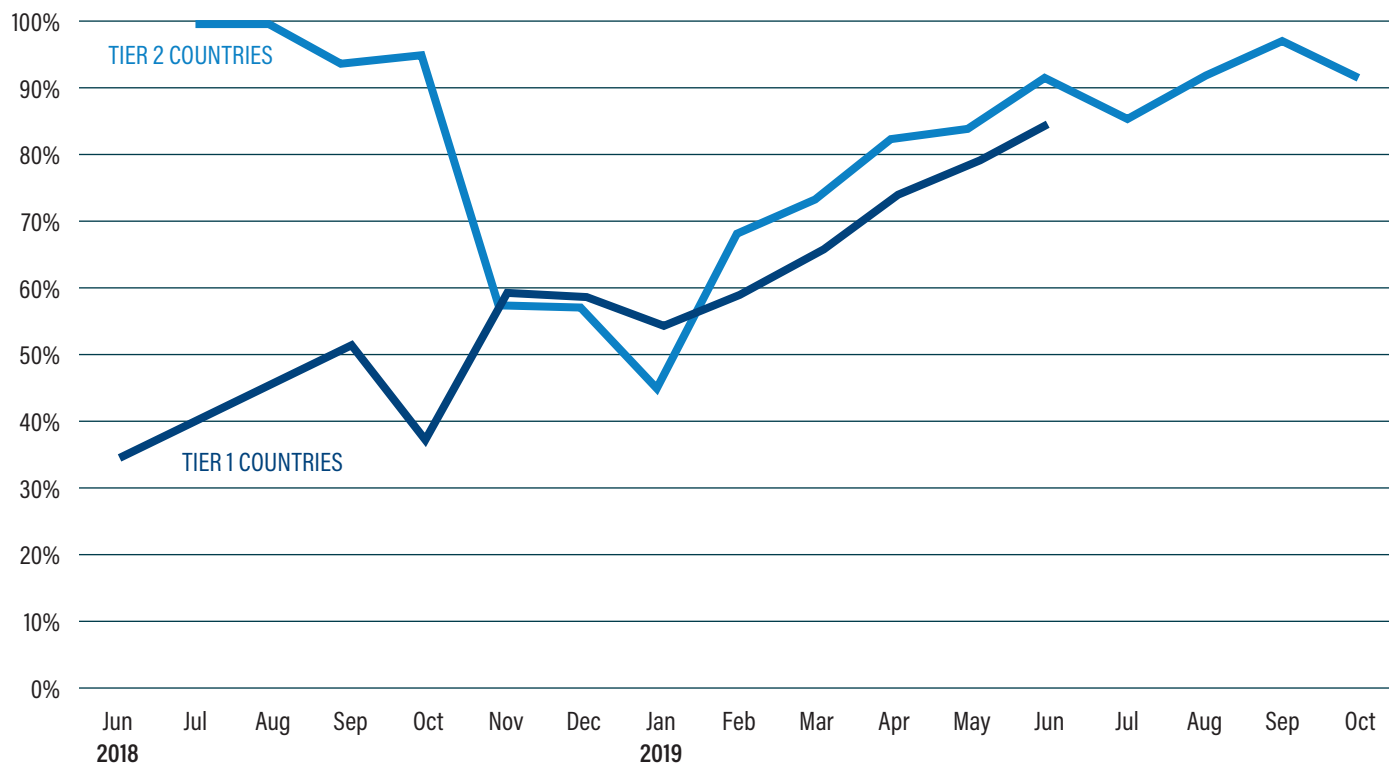


integrated service networks. Each country established its own profile for case managers and provided training in the competencies defined for their role in the country.

◆ Figure 20 shows the consolidated results for the first indicator tracked by the Care and Support Collaboratives for the two groups of countries from June 2018 through June 2019 (additional data points were available for Ecuador and Peru). In the four Tier 1 countries (Dominican Republic, El Salvador, Guatemala, and Honduras), the proportion of

microcephaly or CSaZ cases that received adequate care gradually rose from about 35% at baseline in June 2018 to 50% by September 2018, since teams were initially focused on identifying, locating, and linking cases to health services. However, as the collaborative developed, ASSIST country teams began to place emphasis on more precisely measuring that at least 80% of required services were provided in a timely way to achieve the indicator. In Honduras, for example, verifying the dates and locations of the services received by each child proved to be

Figure 20: Percentage of infants with suspected or confirmed microcephaly or CSaZ who received at least 80% of required services by age in compliance with national norms, June 2018 through June 2019 (Tier 1 countries) and July 2018 through October 2019 (Tier 2 countries)



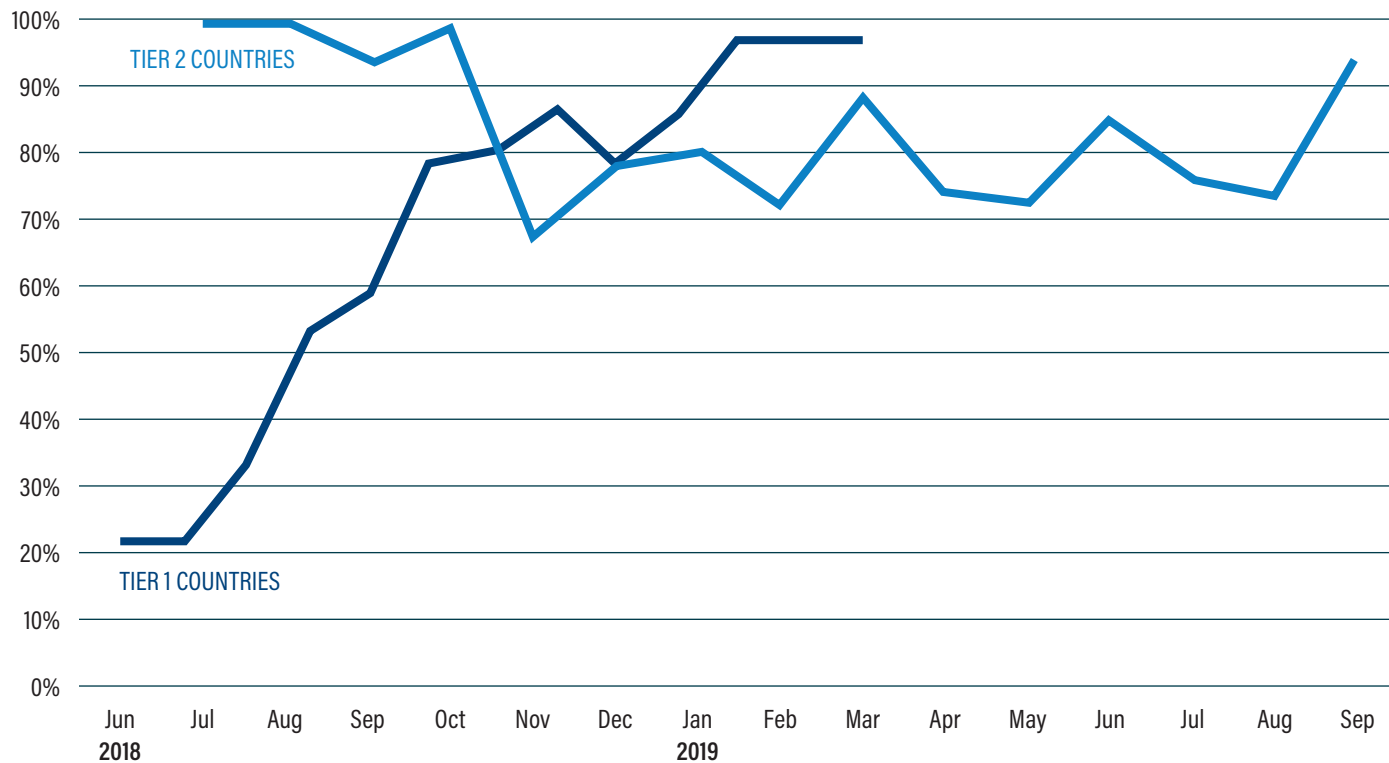


Health workers in Guatemala role play examining and counseling a pregnant patient on Zika prevention and risks during an ASSIST-led training.

difficult, and the team realized when their indicator performance seemed to be high, in reality teams were just measuring linkage to services and not necessarily receipt of comprehensive care by age. The three Tier 2 countries (Paraguay, Ecuador, and Peru) began measuring this indicator only about a month after Tier 1 countries had done so. While performance seemed initially very high, this was in fact an artifact of the small number of microcephaly and CSaZ cases initially identified in those countries. As the number of cases increased, the proportion of cases receiving adequate

services dropped to 43% in January 2019 and then began to climb and surpassed performance in the Tier 1 countries. Figure 21 shows the proportion of affected individuals who were attended by a health worker trained in providing psycho-emotional support at each visit to the health facility, June 2018 through June 2019 (Tier 1 countries) and July 2018 through October 2019 (Tier 2 countries)

Figure 21: Percentage of affected individuals who were attended by a provider trained in providing psycho-emotional support during each visit to the health facility, June 2018 through June 2019 (Tier 1 countries) and July 2018 through October 2019 (Tier 2 countries)



- ◆ Tele-mentoring through the Extension for Community Healthcare Outcomes (ECHO) program of AAP: The main hospitals in the Spanish-speaking countries that provided care for cases of microcephaly and CSaZ participated in ECHO teleclinics organized by ASSIST and AAP to strengthen the Zika case management skills of specialists, general physicians, and other health care providers. The ECHO teleclinics program used a virtual platform in which a team of specialists from the AAP, other regional experts depending on the case, and teams from the participating hospitals were simultaneously connected. In all, 17 teleclinics in Spanish were implemented, each including: a) a didactic presentation by a specialist about some aspect of microcephaly and CSaZ; b) the presentation of a clinical case by one of the participating hospitals; c) recommendations provided by the specialists to improve management and follow-up of the case; and d) comments and questions from the other participants and responses from the specialists.
- ◆ In the English-speaking Caribbean, ASSIST supported 60 health facilities in Jamaica in 2019 to improve the quality of neurodevelopmental surveillance (NDS) in well-childcare and enhance regional referral pathways for children with suspected developmental delays. In September 2019, ASSIST brought together the psychosocial support (PSS) master trainers that had been trained by ASSIST to discuss the transition and sustainability of the PSS program in Jamaica, including future training of MOHW staff, monitoring and evaluation, and curricula development. ASSIST also developed a case management framework for children identified as having neurodevelopmental

issues and in September 2019 convened with the MOHW a Case Management Consultation meeting for 27 health care and community development representatives to finalize the framework. To reinforce the training capacity of the MOHW, ASSIST produced five videos for training purposes. These videos include neurodevelopmental surveillance training of trainers and psychosocial workshops, and other psychosocial training videos on such topics as health worker burnout, delivering bad news, and the use of “teach backs” for conveying information effectively to patients. In collaboration with AAP, ASSIST facilitated an ECHO program on Neurodevelopmental Surveillance in the Age of Zika for the Jamaican Ministry of Health and Wellness, which included 11 sessions between March and July 2019. The MOHW then managed on its own a second phase of the NDS ECHO program in November 2019. The second phase included a ten-session series featuring topics such as referral to specialist care, early stimulation, and team approaches to treatment. In Jamaica, the activity resulted in over 60% improvement between May 2019 and November 2019 in the quality of neurodevelopmental surveillance of children attending well-child clinics. Similarly, capacity strengthening by AAP experts and routine coaching on neurodevelopmental surveillance in all functional health centers the four Eastern and Southern Caribbean countries using revised the neurodevelopmental surveillance tool, resulted in improved neurodevelopmental surveillance; between July 2018 and December 2019, the proportion of children ≤ 5 years attending well-baby clinics who

¿SABE USTED SOBRE EL ZIKA

MODO DE TRANSMISION:

- El virus del Zika se transmite a las personas principalmente a través de la picadura de mosquitos infectados del género *Aedes aegypti*.
- También por transmisión sexual, por contacto con sangre contaminada en laboratorio o transfusiones sanguíneas y transplacentaria o durante el parto en una mujer vírica.

COMPLICACIONES:

- Síndrome Congénito por Zika (Microcefalia)
- Síndrome de Guillain-Barre
- Otros trastornos neurológicos (trastornos del cerebro y los ojos)



SIGNOS Y SINTOMAS:

- Los síntomas pueden durar entre 4 a 7 días.
- Rash o sarpullido
 - Prurito (picazón)
 - Fiebre

PREVENCIÓN:

- Eliminar y controlar los criaderos de mosquitos
- Evitar las picaduras del mosquito
- Planificación familiar previa consejería

ZIKA

¿QUÉ ES EL ZIKA?



¿Qué es?

Es una enfermedad transmitida por la picadura del mosquito *Aedes aegypti*, el mismo que transmite los virus de dengue y la fiebre chikungunya. También se han comprobado casos de transmisión a través de relaciones sexuales.

¿Cuáles son los síntomas?

Suelen presentarse de forma moderada o aguda, después de un periodo de incubación de 3 a 12 días, e incluyen:

- Erupción pruriginosa (con picazón) y fiebre leve
- Conjuntivitis no purulenta
- Dolor de cabeza
- Dolor de cuerpo
- Dolor en articulaciones (principalmente manos y pies)
- Decaimiento
- Inflamación de miembros inferiores

¿Qué es?

Es un virus picadura del *Aedes aegypti*

Síntoma



ASSIST strengthened the capacity of health workers at facilities like Tela Hospital in Honduras to improve service delivery and provide high-quality care and support to families affected by the Zika virus.

¿Cómo prevenirte?

Al igual que el dengue y la fiebre chikungunya, las medidas para prevenir el Zika incluyen el control de los mosquitos. La principal medida tiene que ver con el mosquito que transmite el virus, eliminando y controlando su reproducción, eliminando y controlando el agua que acumula en tu casa y alrededores.



¡CROCE SIN ZANCLADOS

were appropriately monitored for neurodevelopment increased by 52%, 55%, 87%, and 58%, respectively, in Antigua and Barbuda, Dominica, St Kitts and Nevis and St Vincent and Grenadines.

Key Zika Products Developed by ASSIST

- ◆ [Application of Quality Improvement Approaches in Strengthening Health System Resilience for Zika Emergency Preparedness, Response, and Health Care: Honduras Case Study](#)
- ◆ [Barriers and Facilitators to Head Circumference and Neurodevelopmental Surveillance in Well-child Clinics in Jamaica](#)
- ◆ [Care and Support for Mothers, Infants, and Families Affected by Zika: Sharing Lessons Learned and Recommendations for the Future](#)
- ◆ [Collaborative Improvement of Care and Support for Children and Families Affected by Zika in Selected Countries of Latin America and the Caribbean](#)
- ◆ [Collaborative Improvement of Newborn Care Focused on Screening for Microcephaly in the Context of Zika in Selected Countries of Latin America and the Caribbean](#)
- ◆ [Collaborative Improvement of Prenatal Care to Prevent and Control Zika in Selected Countries of Latin America and the Caribbean](#)
- ◆ [Comparing the Effectiveness and Cost-effectiveness of On-line Versus In-person Training for Strengthening the Zika Response in Ecuador](#)
- ◆ [Counseling Guide: Preconception, Prenatal, and Postpartum Counseling in the Context of the Zika Epidemic](#) [English](#) [Spanish](#)
- ◆ [Eastern and Southern Caribbean: Gender Considerations in the Context of Zika Emergency Response Programming](#)
- ◆ [Evaluation of the Rapid, Multi-Country, Parallel Process, Multi-Tasking Approach to Startup of Short-Term Technical Assistance to Improve Service Delivery in Newborn and Child Health in the Context of USAID's Zika Response in Four Eastern and Southern Caribbean Countries](#)
- ◆ [Evaluation of the Region-Led Expansion of Zika Prevention, Care, and Support Best Practices in the Dominican Republic](#)
- ◆ [Jamaica Neurodevelopmental Surveillance in the Age of Zika ECHO Evaluation](#)
- ◆ [Latin America and Caribbean Zika Extension for Community Healthcare Outcomes Evaluation](#)
- ◆ [Male Partner Engagement in Antenatal Care and Zika-related Health Care](#)
- ◆ [Psychosocial Support for Women and their Families and Persons with Guillain-Barré Syndrome, Affected by Zika Virus: Guidelines for Health Providers](#)
- ◆ [Responding to Gender Issues to Improve Outcomes in Zika-related Health Care](#)

Learning

- ◆ **In public health emergencies (PHEs), emphasis is often on equipment and supplies; actual delivery of health services is often overlooked.** Yet QI methods improve delivery of care in significant way, at large scale, and rapidly, making them a valuable component of any public health emergency response. Modern QI methods make use of internet-based technology to reach large numbers of facilities, personnel, and sites at the same time. In PHEs, speed of response is of the essence, and our experience has shown that QI interventions can be deployed swiftly, since most critical materials are already developed and only need small adaptations and since most countries have a critical mass of QI- trained professionals to act as coaches and an existing QI program at national and sub-national levels, to which the PHE QI interventions are to be integrated. Finally, in PHEs, a serious issue is fragmentation of care and lack of coordination of the response. QI in the Zika epidemic proved to facilitate coordination and integration of services across levels of care.
- ◆ **Integrating new programs and processes into existing systems and services (e.g., well-baby visits) is key to long-term sustainability** and buy-in from health care providers at all levels. This includes using existing national, subnational, and local mechanisms and learning platforms for coaching, clinical mentoring, and sharing improvement experiences.
- ◆ **Integrating services across service delivery levels, the life-course, and the prevention, early detection, treatment, and support continuum** and multi-sectoral and multi-country/regional collaboration were particularly important to address the needs of babies and families affected by Zika. QI methods facilitated integration across levels of care because they generated solutions tailored to local communities and context.
- ◆ **Strong governance/management, on-site support, learning and data systems are needed to strengthen systems for quality health services,** including regular measurement of progress and continuous learning and adaptation at all levels help to make evidence-based improvement decisions.
- ◆ **Documenting lessons learned – what worked, what did not work, and why – enabled the rapid dissemination of best practices** in QI across facility-based teams.
- ◆ **The mental and physical well-being of health care workers needs to be prioritized during an emergency response** in order to optimize quality of service delivery. The adoption of the ASSIST-developed psychosocial support guidelines and job aids can help health care providers to identify and address provider burnout, thereby mitigating any potential negative effects on the quality of care to their patients.

Improving Care and Support of Orphans and Vulnerable Children and Families

Overview

Building on work implemented under the predecessor USAID Health Care Improvement Project, ASSIST continued to support the application of QI methods to improve the quality and impact of services for orphans and vulnerable children (OVC) affected by HIV. ASSIST pioneered standards and processes for needs-based services for orphans and vulnerable children (OVC) in eight countries: Haiti, Kenya, Lesotho, Malawi, Mozambique, Nigeria, Tanzania, and Uganda. National children's services stakeholders were supported by ASSIST to develop OVC service standards and support implementing partners and community-based organizations to apply them. ASSIST-supported OVC QI teams addressed coordination of services, matching services to individual needs, engaging community groups in OVC support, school enrollment and performance, household economic strengthening, health care for OVC, HIV testing and linkage to care, birth registration, and child protection from abuse.

ASSIST also supported two regional organizations in Africa—the Regional Psychosocial Support Initiative (REPPSI) and the African Network for the Protection and Prevention of Child Abuse and Neglect (ANPPCAN)—to develop capacity to apply QI approaches to child

protection services and to enhance parenting programs. ASSIST supported PEPFAR and USAID in convening a meeting of Africa-based and international experts in child-caregiver relationships to identify successful components of programs to build skillful parenting. ASSIST facilitated the creation of a Partnerships in Community Child Protection with REPPSI and ANPPCAN that led a series of community conversations in Kenya, eSwatini, Tanzania, and Uganda to strengthen community actions on child protection issues.

Results

- ◆ In **Kenya**, ASSIST supported the Ministry of Labor, Social Security and Services to develop and implement national psychosocial support guidelines, strengthen the national child protection system, and train County Child Protection technical working group members and implementing partners in improving case management for vulnerable children through the use of the child status index assessment tool, root cause analysis, and testing of change ideas to address gaps. Improvements were documented in the percentage of HIV-positive adolescents who were effectively referred and linked to HIV care and treatment from 41% in January 2016 to 100% by August 2016. ASSIST supported the Watano initiative in



OVC implementers in Nigeria analyzing problems with service delivery to identify changes to test in a learning session organized by ASSIST.

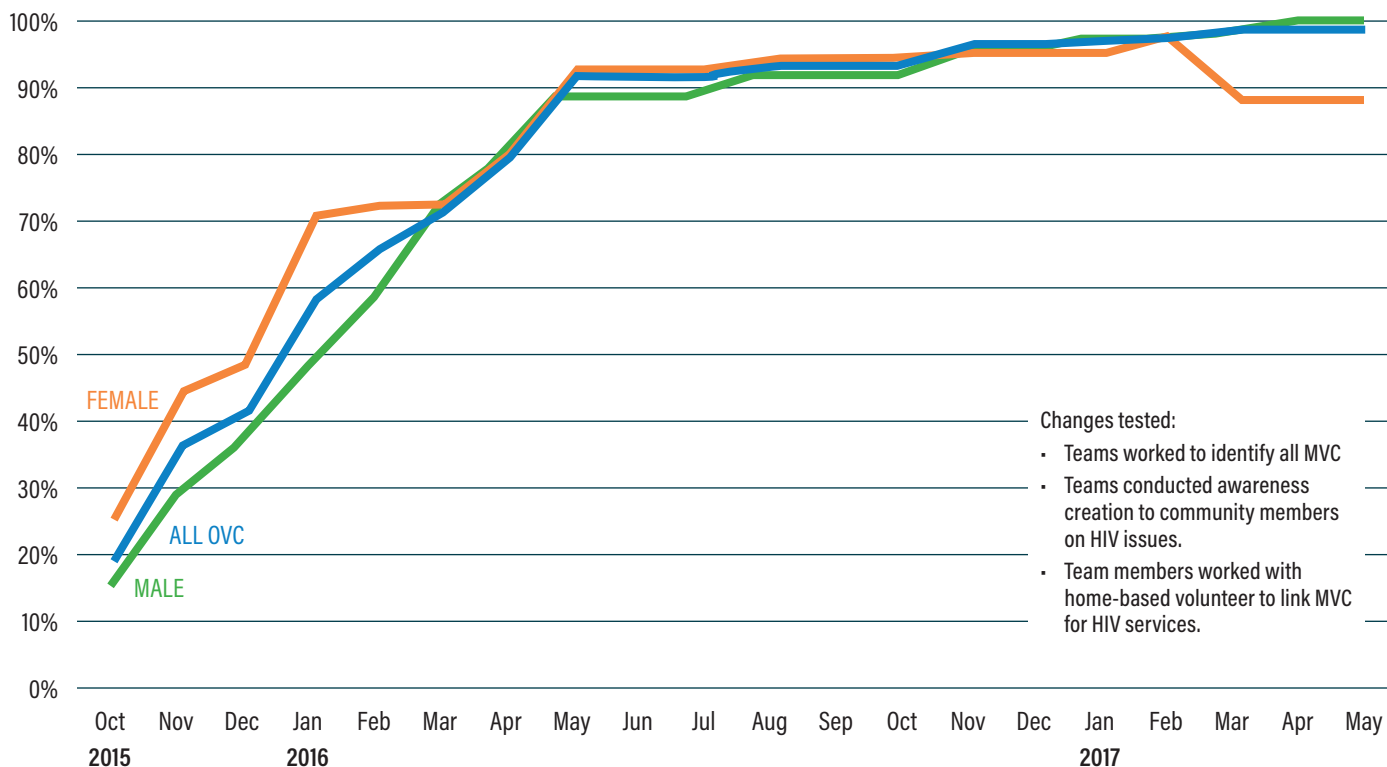
Migori County, whereby small groups of families pool resources to create a savings fund. ASSIST also linked vulnerable families to financial literacy programs to improve their financial independence. As a result, the percentage of vulnerable families who are covering school fees themselves increased from 15% in September 2013 to 86% in May 2017.

- ◆ In **Malawi**, ASSIST supported the Ministry of Gender, Children, Disability, and Social Welfare (MOGCDSW) in Malawi to improve services for vulnerable children, beginning with 10 community QI teams in two districts. In FY17, activities were scaled up to five additional districts, working closely with the One Community Project led by the John Hopkins Center for Communication Programs (CCP), to comprehensively support 286 vulnerable communities serving some 28,000 vulnerable beneficiaries. ASSIST provided support to the MOGCDSW and 24 Malawian community-based organizations to improve the welfare of these beneficiaries using QI methods. This support addressed conducting vulnerable household registration, needs assessments, early childhood development, educational performance, linking families to HIV testing and household economic strengthening activities such as village savings and loan associations, and improving food security by using modern methods of farming.
- ◆ In **Tanzania**, ASSIST supported the Department of Social Welfare of the Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC) and most vulnerable children (MVC) implementing partners to improve access to HIV

services among most vulnerable children through application of QI guidelines and strengthened community structures and systems to provide quality referral and linkage to HIV service among most vulnerable children. The National MVC QI guideline emphasized standards-oriented programming that ensures an improved quality of life among vulnerable children and families. In 2015, MVC QI activities added a focus on contributing to 90-90-90 goals: that by 2020, 90% of PLHIV know their HIV status; 90% of those who are HIV-positive are on HIV treatment; and 90% of those on HIV treatment are virally suppressed. ASSIST supported community QI teams and community-based organizations to improve access to HIV services for vulnerable children and adolescents living with and affected by HIV, and their families, including HIV testing and counselling, enrollment in care and treatment, and retention to care. Figure 22 shows the increased access to HIV testing and counseling documented by community QI teams in Kambarage Ward in Shinyanga Region.

- ◆ In **Lesotho**, ASSIST was asked by the USAID Mission to support direct service delivery of essential services to over 50,000 vulnerable children, adolescents, and caregivers, introducing comprehensive and systematic case management processes, service referrals, and linkage mechanisms. ASSIST engage 49 Community Councils in the five priority scale-up districts in Lesotho and issued fixed obligation grants to six local partners to provide case management of beneficiaries and support community improvement teams to improve services for health (HIV testing and linkage to care, immunizations, nutrition), child

Figure 22. Tanzania: Increased access to HIV testing and counseling for vulnerable children through community mobilization in six neighborhoods, Kambarage Ward, Shinyanga Region (October 2015–May 2017)



protection (abuse, violence, property rights, birth registration, psychosocial support), education (school enrollment, attendance, performance, early childhood development), and social protection (household economic strengthening, social assistance, and income-generating activities). By the end of September 2017, ASSIST had served 54,855 beneficiaries with case management processes and needs-based services, with 100% of the beneficiaries reach with effective case management processes, including identification, enrollment, and assessment,

developing care plans, service provision, monthly monitoring, appropriate referrals, and disposition plans. All six local partners reported on HIV status for all the 54,855 beneficiaries, and 53 community improvement projects were completed.

- ◆ In **Uganda**, ASSIST provided support to implementing partners, civil society organizations, and community QI teams to improve services for vulnerable children, youth, and their caregivers. In FY17, special emphasis was placed on increasing the number of vulnerable households in economic strengthening groups

whose HIV-positive members were retained in care, identifying eligible clients for HIV testing and on improving facility-community linkages.

- ◆ In **Nigeria**, ASSIST provided technical assistance to develop the capacity of State and local governments and implementing partners to improve the quality of care and support services for vulnerable children and their caregivers in 10 States. ASSIST supported the development of National Standards for Improving the Lives of Vulnerable Children in Nigeria and supported the Federal Ministry of Women Affairs and Social Development to form a national QI Task Force for Vulnerable Children to ensure that all community-based organizations in Nigeria apply the national standards. ASSIST also trained State improvement teams in how to apply the standards in community-based services.
- ◆ ASSIST developed for the Office of HIV/AIDS quality service delivery guidelines for family planning and HIV integration for adolescent beneficiaries as part of the Site Improvement through Monitoring Systems (SIMS) tools which USAID staff and implementing partners use to monitor inputs and standard indicators of services for vulnerable children and families. ASSIST developed guidelines for delivery of quality family planning and HIV services for adolescents, including a checklist of a key criteria that community service providers should meet to provide quality family planning services, and two case studies that describe how actual OVC programs went about improving their performance and outcomes for FP/HIV integration.

The guidance was developed to help OVC program staff succeed in planning and delivering quality integrated family planning and HIV services and consequently, meeting the SIMS standard in FP/HIV integration.

Key OVC Products Developed by ASSIST

- ◆ [Development of Minimum Care Standards for Orphans and Vulnerable Children in Haiti](#)
- ◆ [Improving household food security and economic status of vulnerable households in Mangochi District](#)
- ◆ [Improving education performance of children in Balaka and Mangochi Districts in Malawi](#)
- ◆ [Improving the Quality of Services for Vulnerable Children and Families in Malawi: An Evaluation](#)
- ◆ [Meeting the Different Needs of Boys and Girls in Services for Vulnerable Children](#)
- ◆ [Quality Service Delivery for Adolescent Family Planning and HIV Integration: Site Improvement through Monitoring System \(SIMS\) Guidance for Service Providers](#)
- ◆ [Supporting Most Vulnerable Children in Accessing HIV and Social Services in Tanzania through Community Quality Improvement Activities](#)
- ◆ [The role of Village Child Protection Committees to support vulnerable children with social services: A story from Katuba Village, Uganda](#)

Learning

- ◆ **Improvement can readily be applied to social services, as well as health services.** OVC services naturally involve many stakeholders, since the holistic wellbeing of children involves many actors. The involvement of government line ministries is key in leading improvement and sharing their vision for improvement with communities and implementing partners.
- ◆ **Community QI teams can be very effective in increasing uptake of health and legal services for vulnerable children and caregivers** provided they are involved in awareness creation and are mobilized and supported by leadership structures.
- ◆ **Community improvement is sustainable improvement.** Community improvement teams are sustainable and can support work of community-based organizations. Using the improvement process, rural communities identify their own priority needs and agree on sustainable solutions.
- ◆ **OVC QI efforts often need to develop processes that don't exist**, such as case management, referral processes, identification of individual needs, and definition of vulnerability. QI effectively stimulates local actors to solve these problems and come up with new ways of working.
- ◆ **Involving local community leaders increases the local ownership of QI processes** and is crucial for sustaining improvement work.
- ◆ **When initiating a community QI initiative, avoid creating new structures.** Use available structures and community groups. Strengthen them if they are weak or non-functional.
- ◆ **Frequent coaching/mentoring support to community QI teams is key to supporting action.** Communities and facilities need regular and consistent contact with district improvement coaches and external technical advisors to build their skills early in improvement work. Building capacity of district teams to support community-level QI is crucial to sustain improvement work. The role of technical advisors is only to provide guidance, not set objectives or directions for community QI teams. Community QI teams must decide for themselves what they want to do.

Improving Quality of Malaria and Tuberculosis Services

Overview

ASSIST provide technical support in Kenya, Malawi, and Uganda to improvement malaria diagnosis and case management with a focus on correct use of malaria rapid diagnostic tests (mRDTs), assessment and management of febrile illness in pregnancy, and correct treatment and follow-up of febrile children. In Kayunga district of Uganda, ASSIST also supported a study led by the U.S. Centers for Disease Control and Prevention (CDC) to determine the effectiveness of the collaborative improvement approach to improve the quality of health facility data and improve malaria case management. ASSIST supported QI teams in five health centers in Kayunga District to test changes to manage malaria suspects by the MOH test and treat guidelines and ensure that data in clinical records, registers, and monthly reports were complete and consistent.

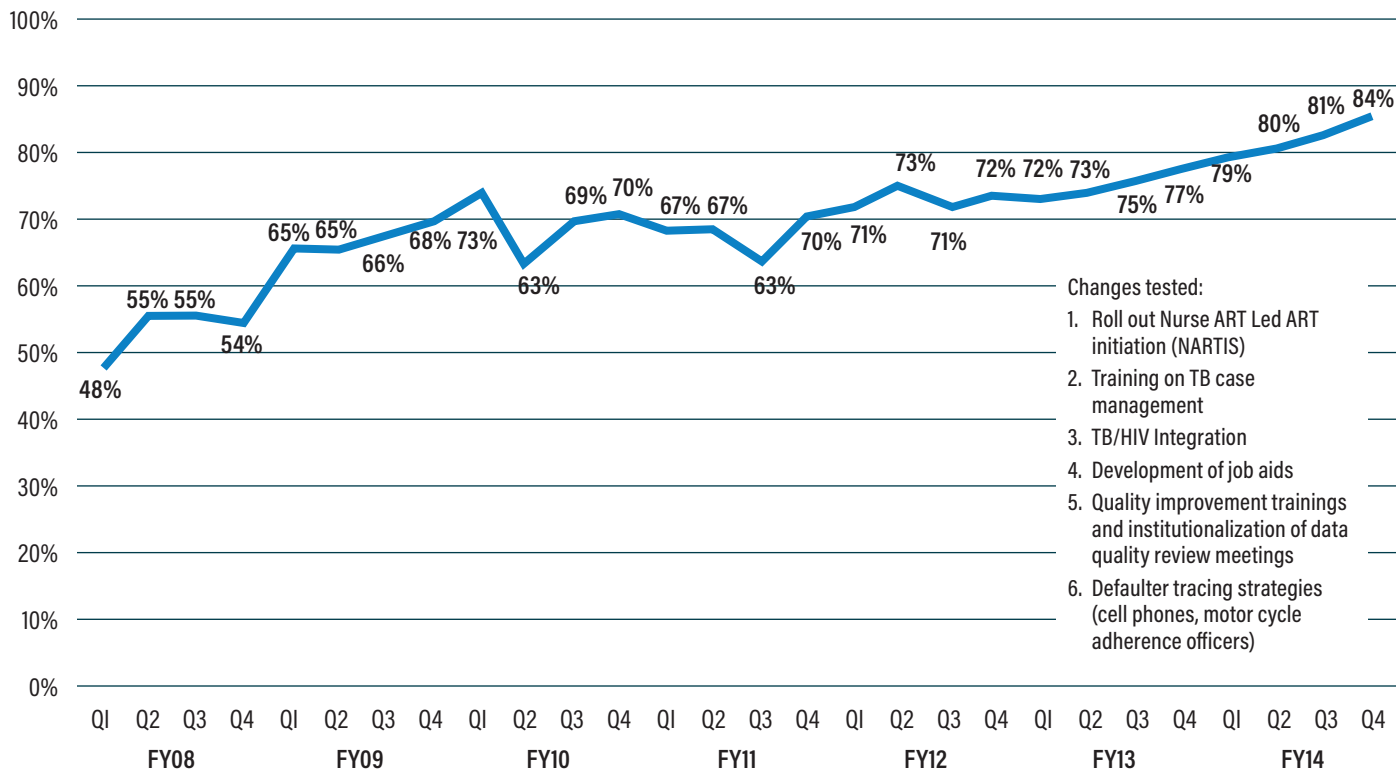
For quality improvement of tuberculosis (TB) services, ASSIST supported improved TB case finding in **eSwatini** and **Uganda**, cotrimoxazole preventive therapy, strengthening infection prevention and control practices, and management of multi-drug-resistant (MDR) TB. ASSIST also supported studies in eSwatini to evaluate the sensitivity and specificity of TB screening tools for pregnant and lactating women and to evaluate the utility

of the TB mycobacterial lipoarabinomannan antigen test as an added tool for intensified TB case finding in persons living with HIV.

Results

- ◆ In **eSwatini**, ASSIST provided long-term support to the strengthen the capacity of the National TB Control Program (NTCP) to improve MDR TB services, establish integrated TB/HIV comprehensive care clinics, and support MDR TB implementation in all four regions of the country. ASSIST supported the Ministry of Health's Quality Management Program to conduct quality assurance and QI trainings for health workers supporting TB-HIV services. ASSIST also provided technical support for TB care and treatment in mines and prisons, scale-up of isoniazid preventive therapy for eligible persons living with HIV, and supported TB screening in maternal and child health settings. Clinical mentoring and support of quality improvement projects led to an increasing TB treatment success from 48% in FY08 to 81% in FY14 (see Figure 23).
- ◆ In partnership with the Malawi Ministry of Health National Malaria Control Program and the President's Malaria Initiative, ASSIST worked with 14 facilities in Balaka and Mchinji districts of **Malawi** to improve quality of care and health outcomes for children under

Figure 23. eSwatini: Trends in TB treatment success, 85 TB diagnostic centers (2008-2014)



five and pregnant women presenting with fever, with sites in Machinga district serving as controls. According to Malawi MOH guidelines, all suspected cases of uncomplicated malaria, at all levels of the health care delivery system, should be tested using a malaria rapid diagnostic test (mRDT) prior to initiating treatment with the first-line treatment artemether-lumefantrine (AL). All intervention sites showed improvement in the treatment of malaria based on test results and weight of the child, receiving the first dose of treatment at the facility (as directly observed treatment by the health worker), and

the treatment of diarrheal disease and acute respiratory infections according to national guidelines. In the control sites, the district hospital treated half of the patients based on weight, and the patients seen from the three health centers were treated based on age. Generally, the control sites did not significantly improve from baseline to end line. Overall, a number of control sites performed worse at the end line assessment, which was mainly due to incomplete or inconsistent data in the registers (Table 4). In almost all intervention facilities, there was also remarkable improvement



In Kenya, ASSIST supported a work improvement team in Khunyangu Hospital to address high rates of presumptive treatment for malaria, with more than half of patients receiving artemisinin-based combination therapies (ACTs) without confirmation of malaria and causing shortages of ACTs for patients with confirmed malaria. Through continuing medical education sessions, displaying job aids, extending laboratory hours, informing clients of changes in procedure, and reordering patient flow, the team reduced unnecessary use of ACTs and provided approximately 10 months of additional supply to the facility.

in the clinical assessment of pregnant women with fever according to clinical guidelines, in the percent of women who received intermittent preventive therapy in pregnancy (IPTp) in the second and third trimester, in confirming malaria through mRDT, and in receiving an effective antimalarial treatment according to guidelines (see Table 5). The improvements were likely attributable to the QI activities and support throughout the intervention. In the control sites, similar deficiencies that were observed during the baseline assessment were also observed during the end line assessment.

Key Malaria and TB Products Developed by ASSIST

- [Evaluation of TB/HIV Collaborative Activities in Swaziland: Intensified Case Finding Cascade, Provision of Antiretroviral Therapy for HIV-Positive TB Patients, and TB Infection Control](#)
- [Health Facility Guide for Assessing Treatment of Febrile Illness](#)

Table 4. Malawi: Diagnosis and treatment of uncomplicated febrile illness in under five (U5) children (baseline April 2016, end line March 2017)

Indicator	Control sites (n=7)		Intervention sites (n=14)		p-value (between control and intervention sites)
	Baseline	End line	Baseline	End line	
Febrile U5 children seen by skilled provider within 24 hrs of fever onset	100%	26.8%	86%	94%	0.001
Febrile U5 routinely assessed for cough, difficult breathing, diarrhea, fever, ear problems	70%	55%	70%	94%	0.001
Performance of mRDT as per standard operating procedures	73%	34%	82%	97%	0.001
Prescription of AL based on weight	0%	17%	72%	100%	0.7
Febrile U5 with positive mRDT treated with AL	75%	100%	97%	100%	0.545
Febrile U5 with positive test treated with AL and received first dose as directly observed treatment	35%	17%	79%	100%	<0.001

Table 5. Malawi: Assessment and management of febrile illness in pregnancy (baseline April 2016, end line March 2017)

Indicator	Control sites (n=7)		Intervention sites (n=14)		p-value (between control and intervention sites)
	Baseline	End line	Baseline	End line	
Febrile pregnant women for whom full assessment was done	92%	63%	77%	93%	0.001
Febrile pregnant women who received IPTp during ANC visit	74%	73%	68%	96%	<0.001
Febrile pregnant women for whom an mRDT was done	82%	52%	86%	97%	0.001

- [Improving Care for Children Under Five and Pregnant Women Presenting with Fever in Malawi: Guide to Coaching Quality Improvement Teams](#)
- [Improving Care for Children Under Five and Pregnant Women Presenting with Fever in Malawi: Reference Sheet for Improvement Indicators](#)
- [Improving Malaria Care: Experiences from Kenya](#)
- [Improving Quality of Care for Children Under Five and Pregnant Women Presenting with Fever in Malawi: Facilitator Guide](#)
- [Improving TB case notification in northern Uganda: evidence of a quality improvement-guided active case finding intervention](#)
- [Improving TB Treatment Response Monitoring at Nine TB Diagnostic Treatment Units: Tested Changes and Guidance from Uganda](#)
- [Improving TB screening at Nine TB Diagnostic Treatment Units: Tested Changes and guidance from Uganda](#)
- [Increasing diagnosis of childhood TB in Swaziland: Clinical utility and validity sample collection and diagnostic methods among children](#)
- [The impact of quality improvement projects on TB treatment outcomes in Piggs Peak Hospital, Swaziland](#)

Learning

- ◆ **Malaria and TB care processes are readily susceptible to improvement by facility-level health workers**, and the many tools and examples developed under ASSIST can guide malaria and TB professionals in applying QI methods to improve program impact.
- ◆ **Engagement of district-level authorities in malaria QI facilitated above-site solutions**, such as sharing commodities across facilities to address temporary stock-outs. Malaria QI work was also facilitated by leadership, which set clear improvement priorities, early identification of QI champions, motivated and strong improvement teams, and regular data collection and performance review. Shared learning across facility QI teams increased the potential for improvement as well as for spread and scaled up effective change ideas.
- ◆ **Site-level QI benefits from the support of district-level technical staff.** National program leaders should invest in developing the QI capacity of district malaria and TB coordinators to encourage facility-level QI.



In Tanzania, ASSIST engaged community groups to support the work of home-based care volunteers to improve access to HIV/AIDS services and retention in care in their villages using the project's Community Health System Strengthening model. This approach brought together representatives from existing groups, health facilities, and local government to constitute a community improvement team that identified barriers to retention and developed and tested locally feasible strategies to bridge those gaps.

Strengthening Community-Based Care and Linkages

Overview

ASSIST's mandate for improving health care encompassed facility-level health services as well as community-level services. Key community health issues addressed by the project included improving the performance of community health workers and Village Health Teams, strengthening linkages between communities and health facilities for HIV testing and care, and engaging community structures and resources in reducing loss to follow-up.

Communities in low-resource settings possess their own informal community support and social welfare systems where community members make decisions and work together to improve the health of members and the general welfare of the community. This system may consist of existing community groups, such as a village government, schools, religious groups, agricultural groups, savings and credit groups, etc. ASSIST developed and applied in Burundi, Ethiopia, Malawi, Mozambique, Tanzania, and Uganda, a Community Health System Strengthening Model that linked formal and informal pre-existing structures and networks to create an integrated care system to manage community-level QI. Applying this model, the community QI team is made up of representatives from each community group, health facility representatives, and delegates from the local

government, who all come together to identify local health gaps and develop and test strategies to overcome those gaps. The team applies improvement principles to strengthen the performance of the Community Health System by identifying and strengthening the processes by which participating groups and structures function and interact with each other to provide integrated, seamless care. When all elements of the model are harmonized and functioning well and coordinated with the efforts of facility- and community-based care providers, health services become more accessible to community members, and accurate information exchange between health facilities and households occurs more rapidly and effectively.

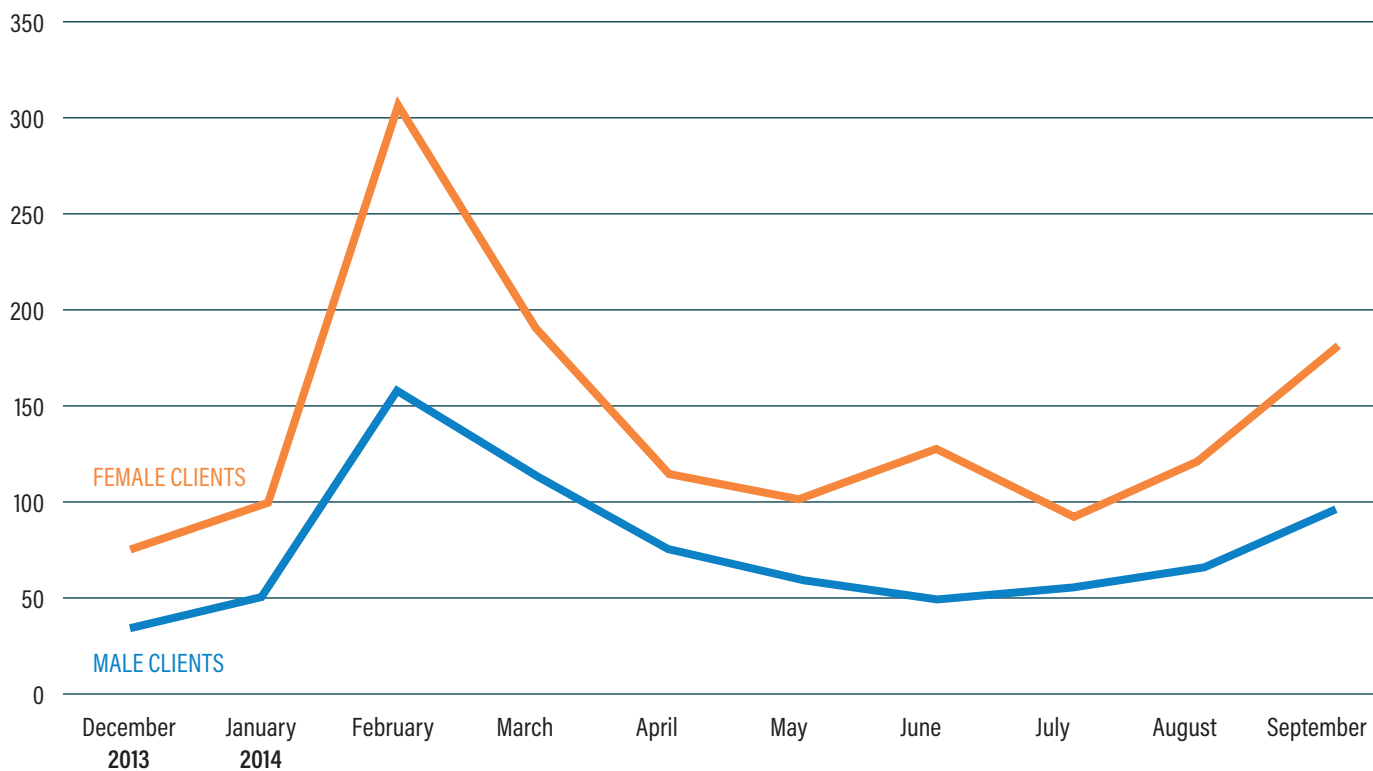
Results

- ◆ In FY14, ASSIST began the Community Linkages project in five villages of the Muheza District of the Tanga Region in **Tanzania**, building on existing work to increase retention in the HIV continuum of care. The Community Linkages component employed ASSIST's Community Health System Strengthening model to increase linkages between health facilities and communities. ASSIST worked with groups in the community to form improvement teams and trained coaches at the district and health facility to support the improvement teams. During their first meeting in January 2014, the home-

based care providers (serving in their role as coaches) discussed the low levels of HIV testing uptake in Mkuzi and Kilulu communities, where just 106 people went for testing in January. The main reason given for this low number was that the two home-based care providers assigned in each village were not able to reach all households to sensitize people to go health facility for an HIV test. Each home-based care provider covered 20–25 households, making it challenging to reach all houses regularly. The community improvement team suggested that each team member go back to their community

groups and ask members to talk to their families about getting tested for HIV. Community group members talked to their families and urged them to get tested for their own well-being as well as for the good of the community. After the community group members spoke to their family members about the importance of getting tested for HIV, 319 people went for testing in February (159 men and 160 women). Not only did the number of people tested for HIV increase, but the number of males who came for testing HIV increased significantly (see Figure 24).

Figure 24. Tanzania: HIV testing in five communities, Muheza District, Tanzania (December 2013–September 2014)



◆ In **Mozambique**, ASSIST provided technical support for community-level improvement of elimination of mother-to-child transmission (EMTCT) services to the Ministry of Health as part of the PEPFAR-funded Partnership for HIV-Free Survival. The activity took place in Bilene District of Gaza Province whose three health centers (Licilo, Chissano and Incaia) included 15, 11 and 13 bairros (communities) in their respective catchment areas. The goal of the PHFS community demonstration activity was to contribute to EMTCT through increased community awareness, improved community-facility linkages, and increased access to services for pregnant women. The project focused on increasing the number of pregnant women identified by the community who sought antenatal care (ANC) at the health center and who were tested for HIV by employing the community health system strengthening model. In each of the 39 bairros, community health committees were formed of community group representatives whose responsibility it was to support CHWs (known in Mozambique as *activistas*) in their work, pass on health messages from the health center to the household level, collect data, follow up with clients, and discuss strategies for improving care. Since the health center nurses were unable to travel to each bairro due to workload, the meetings of the community health committees provided a forum through which to review the pregnant women identified in each community, compare the list of identified women with those who went to the health center for ANC, and discuss strategies to encourage pregnant women to come to ANC. The health committees also served as the mechanism for nurses to share critical health messages for community

members. In Licilo, 95 community groups identified 896 women between March 2014 and February 2015. They increased the percent of community-identified pregnant women receiving ANC in the same month from 36% in March 2014 to 97% in February 2015. Additional data collection in Licilo Health Center revealed that they also increased the percentage of women coming to ANC earlier in their pregnancy. In August 2013, 54% of woman came for first ANC between 10-20 weeks gestation, 17% between 21-30 weeks, and 29% between 31-40 weeks. By August 2014, this had shifted to 73% between 10-20 weeks, 27% between 21-30, and none after 31 weeks.

◆ In **Uganda**, similar efforts led to increased linkage of HIV patients on ART to community services, increased percent of HIV patients on ART in the targeted villages keeping HIV appointments, and gains in the identification of new HIV-positive individuals and their enrollment in HIV care, including children. ASSIST supported community-based organizations to identify more positives in the community with the help of the new HIV positive case-finding criteria tool to identify HIV positive suspects and refer them for HIV testing and ensure enrolment for children who are not in HIV care. In 18 communities, a total of 144/200 HIV-positive individuals were identified, most of whom were children 0-14 (80); 64 were individuals 15 and older. Children and direct beneficiaries 15 and older with known HIV status improved to 80% (806/1000) and 81% (621/762) respectively. Of the HIV-positives, 100% (128/128) of children and 98% (368/374) of beneficiaries 15 and older were enrolled in HIV care.

Key Community Health Products Developed by ASSIST

- ◆ [Assessing How Quality Improvement Teams Function at the Community Level: The Case of the DREAMS Initiative](#)
- ◆ [Empowering community groups to support access and retention in HIV care in Muheza, Tanzania](#)
- ◆ [Going beyond formation of QI teams: Evidence-based intervention gains adolescent girl and young women get when community QI teams are functional](#)
- ◆ [Improving Linkages between Health Facilities and Communities in Muheza, Tanzania](#)
- ◆ [Improving identification of new HIV-positive children and adults: the role of community structures](#)
- ◆ [Improving retention of clients on antiretroviral therapy through expert patients: Involving people living with HIV in Alebtong District, Northern Uganda](#)
- ◆ [Strengthening Community Health Systems to Improve Health Care at the Community Level](#)
- ◆ [Strengthening HIV linkage and retention through improved community/facility collaboration in Palla Road, Botswana](#)
- ◆ [Strengthening the community response to HIV in Botswana: A cost estimate of the USAID ASSIST community-based improvement intervention](#)
- ◆ [Supporting close-to-community providers through a community health system approach: case examples from Ethiopia and Tanzania](#)

Learning

- ◆ **Improvement can be successfully adapted to the community setting to improve community-wide support for health and direct service provision.**
Build on existing networks and structures in the community to set up the community QI team; use existing committees when possible; and design a system for community-level data collection and information exchange.
- ◆ **Community QI teams improved health messaging, case identification, access to services, referral, and follow-up and strengthened linkages** between facilities, government organizations, and community-based organizations.
- ◆ **Community-level QI activities are more effective when linked to facility-level improvement** and district health management systems; asking a project to focus only on “community-level QI” is less efficient and effective.
- ◆ **By engaging the existing informal structures in the community, more people can be reached effectively with health messages** than by government health care providers or community health workers working on their own.

Cross-Cutting Activities: Gender Integration

Overview

In keeping with USAID gender policies, ASSIST was given the mandate to address gender considerations in improvement activities through use of sex-disaggregated data, providing training to staff and counterparts in gender awareness and analysis, and supporting testing of gender-related changes to improve health outcomes. URC's gender partner, WI-HER LLC, provided long- and short-term technical support for gender integration.

Under ASSIST, WI-HER provided technical assistance to integrate and mainstream gender considerations in work to improve RMNCHA, HIV, malaria, tuberculosis, and Zika services. This assistance included conducting gender assessments, gender integration capacity building activities with local ASSIST staff, Ministry of Health staff, and other partners in country, providing ongoing technical support for scale-up of gender integration trainings and implementation of gender-transformative interventions, and developing knowledge management products.

Results

◆ **Technical assistance:** In the first five years of the USAID ASSIST Project, WI-HER supported 15 country teams in Africa, two country teams in Eurasia, one in

Latin America, and one in Asia to integrate gender issues and considerations in the planning and implementation of improvement activities; documented the impact of addressing gender issues and gaps on improving care quality and outcomes; and developed technical resources to inform the integration of gender considerations in improvement. WI-HER provided technical support to help integrate gender into data collection and analysis processes (all countries), immunization activities (Mali), nutrition activities (South Africa, Zambia), HIV testing, care, and treatment activities (Swaziland, Burundi, Nicaragua), voluntary medical male circumcision (VMMC) and malaria activities (Malawi, Kenya, Uganda), male involvement in PMTCT (Burundi, Mozambique, Kenya), orphans and vulnerable children programming (Kenya, Uganda), RMNCH programming (Kenya, India), family planning programming (Niger), and non-communicable diseases programming (Georgia, Ukraine). As part of ASSIST's response to Zika, WI-HER provided technical support to all 13 countries served by ASSIST to strengthen systems in the context of emergency preparedness for Zika and any future outbreaks related to mosquito-borne or sexually transmitted diseases.

◆ **Training:** WI-HER conducted onsite gender integration in quality improvement training in Uganda, Lesotho, Botswana, South Africa, Malawi, Mali, Democratic

Republic of the Congo, Kenya, Tanzania, Ukraine, and Georgia. While content and format varied depending on the needs of the country, all trainings included sessions on defining gender and related concepts; addressing gender-based violence; defining gender analysis; understanding how to develop, analyze, and report on sex-disaggregated data and gender-sensitive indicators; the importance of identifying and addressing gender issues in program planning; and documenting and sharing results. Additional gender integration sessions were conducted at meetings in Burundi, Cote d'Ivoire, and Niger, and trainings were conducted for adolescent girls and young women, along with their male partners, family members, and community leaders under the DREAMS program in Uganda.

- ◆ **Technical resource materials:** WI-HER and ASSIST teams developed diverse technical materials and tools as well as knowledge management products and activities to support teams and to disseminate and institutionalize best practices around gender integration. Examples include quarterly webinars, presenting at international conferences (International Forum on Quality and Safety in Healthcare, USAID's Global Health Mini-University), gender integration workshops (Regional Psychosocial Support Initiative Forum), publishing videos on gender integration in improvement, integrating gender supplements to online courses (Improving Health Care eLearning Course), publishing A Guide to Integrating Gender in Improvement, integrating gender into training materials, and producing blogs, tools, and gender briefs.

Key Gender Integration Products Developed by ASSIST

- ◆ [Addressing Gender Issues in Postpartum Family Planning Services](#)
- ◆ [Addressing the Needs of Men, Women, Boys and Girls in HIV and ART Services](#)
- ◆ [Addressing the Unique Needs of Men and Women in Non-communicable Disease Services](#)
- ◆ [An Argument for Paternity Leave and Progressive Maternity Policies: Lessons from Country Governments and Private Sector in the Caribbean](#)
- ◆ [Disability in the Caribbean: Social Inclusion Challenges and the Impact of Support Programs for Families Learned from Zika Response](#)
- ◆ [Gender Analysis Tools](#)
- ◆ [Gender considerations for preconception, prenatal, and postpartum counseling in the context of the Zika epidemic: A supplemental resource for the ASSIST Zika counseling guide](#)
- ◆ [Gender integration in quality improvement: Increasing access to health services for women in rural Mali](#)
- ◆ [Global Health eLearning Center course "Gender and Health Systems Strengthening"](#)
- ◆ [Guide to Integrating Gender in Improvement](#)
- ◆ [Integrating Gender and Gender-based Violence in Medical and Nursing Curricula in Nicaraguan Universities](#)
- ◆ [Integrating Gender Considerations in the Zika Response: Activities of WI-HER, LLC on the USAID Applying Science to Strengthen and Improve Systems Project](#)

- ◆ [Male Partner Engagement in Antenatal Care and Zika-related Health Care](#)
- ◆ [Meeting the Different Needs of Boys and Girls in Services for Vulnerable Children](#)
- ◆ [Reducing the gender-related immunization gap in two districts of Mopti Region in Mali](#)
- ◆ [Responding to Gender Issues to Improve Outcomes in Nutrition Assessment, Counseling, and Support Services](#)
- ◆ [Responding to Gender Issues to Improve Outcomes in Zika-related Health Care](#)

Learning

- ◆ **Using sex-disaggregated data to identify gender gaps in programming:** Collecting and analyzing sex-disaggregated data is a powerful tool to identify the quantifiable differences between women, men, girls, and boys. Disaggregating data by sex helps improvement teams to understand how each group accesses care differently and highlights when they have different development outcomes. It is critical to identify and address barriers to equal access and use of services. Collecting sex-disaggregated data—such as the proportion of male and female infants with suspected or confirmed CSaZ who are referred to adequate clinical services in accordance with the national guidelines—allows team to determine whether there is gender equity in access and use of services.
- ◆ **Gender-sensitive indicators are central to the monitoring and evaluation of improvement activities.** They help us know if we are on track to achieve what we have planned. They can be a

measurement, number, fact, opinion, or anything that provides a signal and enables the measurement of changes in the status and role of men and women in a society over time. In health improvement activities, gender-sensitive indicators can be used to assess the impact of changes or interventions that address gender-related barriers in care.

- ◆ **Before gender can be addressed, local partners must first be sensitized to gender issues in their own lives.** Local partners, health providers, and MOH representatives cannot effectively identify and address gender gaps in their programs, if they don't first understand the difference between gender and sex, equity and equality, and link these concepts with gender norms within their own lives and experiences. During all capacity building activities, we first started with interactive activities that allowed participants to reflect on how gender norms affect their lives and work, such as reflecting on a childhood experience where they were treated differently because they were a boy or a girl.
- ◆ **When working on improving gender equality, it is critical to recognize that working with both women and girls, and men and boys is fundamental to improving gender equality** and positively impacting the health of all. If gender norms in a society prevent women from accessing health services without their partner's approval, then it is important to work with both men and women to change this dynamic. In many instances, major progress on gender equality in health will only be made when both men and women participate in working to shift gender norms.

- ◆ **In QI activities, gender-based violence is an important gender consideration** that needs to be taken into serious consideration when identifying gender-related gaps. In simple terms, gender-based violence is that done to a person because of their gender. This violence can be physical, sexual, emotional, or financial. Social stigmas impact both women and men's ability to effectively report violence and receive support services. Gender plays a significant role in the ways survivors of gender-based violence are perceived, the ways they seek or do not seek health treatment and/or legal support, and the ways perpetrators of violence are treated and perceived within both social and legal contexts.
- ◆ **Do no harm.** In QI, the “do no harm” principle is to never intentionally or unintentionally harm participants. To do this, it is vital to consider how a change idea will affect different groups of people—and whether it might harm one group. For example, to increase male

partner involvement in ANC, a QI team decided to test prioritizing couples for services—that is, if a couple came to the facility, they would receive services before any pregnant woman who came by herself to the facility. Though this change idea did have the desired effect of increasing the number of women who brought men with them to the facility, it also harmed single women and women whose male partners could not come to the facility. It left those women at an unfair disadvantage and gave them a lower quality of service. This harm was unintentional, but still harmed patients. If the QI team had followed a “do no harm” principle, it would have brainstormed how the change idea would affect different groups of people and may have realized that women without male partners present would be treated unfairly. Another effective method to “do no harm” is to gather participant perspectives, to hear from participants themselves what they think the effects of an activity or project are—both good and bad.

Cross-Cutting Activities: Global Technical Leadership

Overview

ASSIST's global technical leadership activities on behalf of USAID sought to further advance and inform the field of improvement globally by engaging and building capacity of USAID staff, USAID implementing partners, and global health organizations to apply improvement methods. The project also aimed to serve as a conduit and catalyst for sharing, learning, and advancement in the field of improvement applied to health and social services. Global technical leadership activities were carried out primarily by the project management, technical unit leads, and country teams, with support provided by the project's knowledge management and communications team for the development of technical publications and conference presentations. Funded primarily through the project's Common Agenda, these efforts included participation in technical working groups and expert consultations, collaboration on issue papers and guidance documents, conference presentations, briefings, peer-reviewed publications, and project technical publications.

ASSIST's technical leadership activities highlighted learning that came out of the Salzburg Global Seminar sponsored by the project in July 2016 and from country-level improvement work and research. In addition, ASSIST supported the development of the book of QI case studies, *Improving*

Health Care in Low- and Middle-Income Countries: A Case Book, which was published by Springer Nature in May 2020. ASSIST also developed two courses for the USAID Global Health eLearning Center: one on *Improving Health Care Quality* and the other on *Gender and Health Systems Strengthening*. ASSIST developed an online *Improving Health Care* course in English, French, and Spanish accessible through the ASSIST and URC websites.

Results

- ◆ **ASSIST convened in July 2016 the Salzburg Global Seminar Session Number 565 on Better Health Care: How Do We Learn About Improvement?** The five-day program was designed as a practical and participatory working session with the intention of developing a framework for increasing the rigor, attribution, and generalizability of improvement. At the outset, the framework was envisioned as a source of practical guidance for improvers and researchers – laying out different potential evaluation models, the strengths and weaknesses of each, and guidance on the most appropriate situations for using each model. Over the course of the week, it became clear that much more discussion would be required in order to develop a concrete framework and the group shifted focus toward developing broader guidance



In July 2016, ASSIST convened the Salzburg Global Seminar No. 565 "Better Health Care: How Do We Learn about Improvement?" which brought together 61 participants from 25 countries to identify practical ways to increase the rigor, attribution, and generalizability of interventions designed to improve the quality of health care without compromising the iterative, adaptive nature of improvement.

on key domains that evaluators and improvers need to consider in order to maximize the learning from improvement. Based on the discussions, ASSIST collaborated with AcademyHealth to publish *Evaluating Complex Health Interventions: A Guide to Rigorous Research Designs*. This guide provides a framework to guide decision-making around appropriate designs to evaluate public health and other service interventions, including quality improvement. It is aimed at implementors who are involved in evaluation but may not be evaluators.

- ◆ **Publications:** ASSIST published 99 country case studies, 206 knowledge products/tools/guides, 93 research and technical reports, and 66 peer-reviewed articles, including two journal supplements—one in the *International Journal of Quality in Health Care* on the conclusions of the Salzburg Global Seminar Session 565 on *Better Health Care: How Do We Learn About Improvement?* and the other in the *Journal of the International Association of Providers of AIDS Care* on the results and lessons learned in the Partnership for HIV-Free Survival. (See Appendix 2 for the citations of ASSIST’s peer-reviewed publications.)
- ◆ **Conference presentations and webinars:** ASSIST staff made 239 conference presentations and delivered 77 webinars or other virtual learning events.
- ◆ **Development of national health care improvement policies and strategies:** ASSIST supported national authorities in 10 countries (South Africa, Uganda, Tanzania, Kenya, Georgia, Cote d’Ivoire, Swaziland, Cambodia, Lesotho, and Mali) to develop national health care improvement policies and strategies.

Key Global Technical Leadership Products Developed by ASSIST

- ◆ [A Promising Approach to Scale Up Improvements in Low- and Middle-Income Countries: The Wave-Sequence Spread Approach and the concept of the Slice of a System](#)
- ◆ [Global Health eLearning Center Course “Improving Health Care Quality”](#)
- ◆ [Global Perspectives on Strategies and Infrastructure for Improving Healthcare at the National Level](#)
- ◆ [Guide for Developing Sustainability and Transition Plans](#)
- ◆ [Improving Health Care eLearning Course](#)
[English](#) [Spanish](#) [French](#)
- ◆ [Improving Health Care in Low- and Middle-Income Countries: A Case Book](#)
- ◆ [Institutional Roles and Relationships Governing the Quality of Health Care: Country Experiences, Challenges, and Lessons Learned](#)
- ◆ [Institutionalizing Quality Improvement in Tanzania: A Review and a Look Forward](#)
- ◆ [Institutionalizing Quality Improvement in Uganda: Facilitators and Barriers](#)
- ◆ [Managing Hundreds of Improvement Teams](#)
- ◆ [Salzburg Global Seminar Session Report 565: Better Health Care: How Do We Learn About Improvement?](#)

- ◆ [Scaling Up, Sustaining and Institutionalizing Better Health Care in Georgia: Results and Strategic Recommendations from USAID Support for Improving Quality of Priority Clinical Conditions during 2012-2015](#)
- ◆ Tips and Tools for Learning Improvement (in Spanish: Los Consejos y Herramientas para Aprender sobre el Mejoramiento) [English](#) [Spanish](#)
- ◆ [Uganda's Health Care Quality Improvement Journey](#)
- ◆ [USAID ASSIST Project's Approach to Improving Health Care in Low- and Middle-Income Countries](#)

Learning

- ◆ **Publishing results and effective approaches in peer-reviewed publications** is the best way to ensure that ideas get channeled into the literature and persist beyond the life of a project.
- ◆ **Social media proved very effective for amplifying messages and products** and establishing connections with other organizations on areas of mutual interest.
- ◆ **Learning comes from not only what has worked and why, but also what has not worked and why not.** To enhance learning and inform future improvement efforts, we need to be deliberate about documenting and better understanding both successes and failures in quality improvement. Documenting the improvement process is important and includes knowledge beyond what interventions worked and do not work. Knowledge gained from addressing the challenges encountered, methods used, and relationships involved in the process is valuable and should be captured and made available in various ways for others.

Cross-Cutting Activities: Knowledge Management

Overview

Similar to gender integration, ASSIST was given an explicit an explicit mandate in the cooperative agreement to incorporate knowledge management (KM) concepts and techniques in improvement work, support the deliberate harvesting of learning from the implementation and evaluation of improvement work at the country level, and apply that learning in the design, implementation, and scale-up of improvement activities. The project fulfilled this mandate through training of field and headquarters staff in knowledge management and documentation approaches to support peer-to-peer learning and knowledge synthesis and harvesting and central support from the headquarter KM team to all countries and technical areas.

Applying KM principles and techniques, ASSIST country and technical teams sought to integrate learning across improvement teams and consolidate successful changes in the form of change packages, guidance documents, and tools that could be readily spread to new sites as well as case studies that explain what specific actions a team in a specific context took to achieve results. While the primary users of these products were implementers in each country, they were also disseminated globally through the ASSIST website, webinars, face-to-face events,

and dissemination of written knowledge products in a wide variety of formats, including case studies, blogs, improvement stories, technical reports, and toolkits. The project leveraged social media (Facebook and Twitter) to connect with implementers who could benefit from improvement methods and these knowledge products and promoted new products through the project's listserv.

Results

- ◆ Incorporated KM principles and concepts in field improvement activities in all long-term countries, including emphasizing techniques in learning sessions and QI activity design to foster peer-to-peer learning, generating key insights about how to improve care, and transmitting these insights in the form of diverse knowledge products.
- ◆ Disseminated learning in a variety formats through the project's website: With support from partner Johns Hopkins Center for Communication Programs, the ASSIST knowledge portal (www.usaidassist.org) served as the project's platform for disseminating knowledge products, promoting events, and sharing insights in the form of blogs. ASSIST also supported through 2019 a Spanish-language web portal for maternal and newborn care (www.maternoinfantil.org) to promote the project's MNCH-funded Helping

Babies Breathe and Kangaroo Mother Care initiatives in LAC countries. This resource proved to be very useful to support ASSIST's Zika response in LAC countries in 2016-2019.

- ◆ With ASSIST support, the Ministry of Health of Uganda created a quality improvement knowledge management portal (<http://library.health.go.ug>) to share knowledge products developed through QI activities that was launched at the 4th National QI Conference in 2017. Following the launch, ASSIST provided seconded staff and consultant support to the QAID in 2018 to support the roll-out of the portal to stakeholders and to make the content responsive on mobile phones, tablets, and personal computers.
- ◆ Deployed multiple strategies to scale up tested practices: Over the course of the project, ASSIST tested various approaches to scale-up, including change packages, knowledge handovers, ECHO telementoring sessions, and regional initiatives such as the Partnership for HIV-Free Survival with deliberate cross-country learning activities. The project also conducted two formal studies of the cost-effectiveness of KM strategies on improving care quality for voluntary medical male circumcision and improving care for mothers and babies.
- ◆ Supported the World Health Organization (WHO) in its development of web-based learning platforms for quality universal health coverage (www.integratedcare4people.org/communities/global-learning-laboratory-for-quality-universal-health-coverage/) and quality of maternal and child health care (www.qualityofcarenetwork.org/).

Key Knowledge Management Products Developed by ASSIST

- ◆ [Assessment of Effectiveness and Cost-effectiveness of the Quality Improvement \(QI\) Guide on QI Processes and Maternal and Newborn Care in Uganda](#)
- ◆ [Landscape Analysis of Global Learning Networks to Inform the Development of a Learning Laboratory for Quality Universal Health Coverage](#)
- ◆ [Tanzania-Kenya knowledge exchange for the Partnership for HIV-Free Survival](#)
- ◆ [The cost-effectiveness of three methods of disseminating information to improve medical male circumcision in Uganda](#)
- ◆ [Tips for Design and Facilitation of Learning Sessions in the Context of Collaborative Improvement of Zika-related Services](#) [English](#) [Spanish](#)
- ◆ [Uganda-Lesotho Knowledge Exchange for the Partnership for HIV-Free Survival: Reflections and Recommendations](#)
- ◆ USAID ASSIST Project Case Study Compendia:
 - [HIV and AIDS Case Studies](#)
 - [Reproductive, Maternal, Newborn, and Child Health Case Studies](#)
 - [Zika Case Studies](#)
 - [Other Topic Case Studies](#)

Teams from Kenya and Tanzania engage in small group discussion during the Partnership for HIV-Free Survival knowledge exchange organized by ASSIST.



Learning

- ◆ **Knowledge management approaches and principles proved to be extremely effective in enhancing improvement methods.** What proved most useful to improvement teams was clear guidance on what works and does not, under what conditions, or how to apply/sequence the changes. Examples and simple stories (ASSIST case studies) were also found to be extremely useful to support scale-up of effective change ideas.
- ◆ **Knowledge transfer was improved through face-to-face handover meetings where implementers could discuss knowledge products and through the use of conversational approaches to facilitate peer-to-peer learning.** Written documentation will always be limited; we found that written products should ideally convey enough of the experience to encourage people to connect with colleagues to learn more through conversational methods. Through the development of field staff capacity in KM, in-country learning sessions made greater use of small group discussions for peer-to-peer learning and other techniques for integrating learning across sites and reduced dependence on formal or expert presentations.

- ◆ **Deliberate processes to harvest learning from improvement activities are needed to:**
 - Organize what was learned
 - Make explicit the evidence supporting “successful” changes
 - Get judgment of participants to rank/prioritize the changes
 - Clarify the “how to” and identify supporting material
 - Foster conversation about what worked and what didn’t and why
 - Document details on how to implement (operationalize and sequence) recommended changes

These harvesting processes need to involve people who actually implemented the improvement. Representatives from a few teams representing different experiences is enough, plus coaches and others who supported the effort.

Cross-Cutting Activities: Research and Evaluation

Overview

USAID designed ASSIST with a sizeable research and evaluation component to develop evidence on how improvement activities contribute to local and global learning. The research and evaluation (R&E) unit of ASSIST provided technical assistance and guidance on country-led research and synthesized learning across country- and centrally funded activities. Mandated topics for research included the validity of improvement indicator data, sustainability and institutionalization of improvement activities, and economic analysis of improvement interventions.

ASSIST country programs had a mandate to evaluate improvement interventions using comparison groups where possible to strengthen the case for attribution of the improvement intervention's impact and to selectively validate provider-reported data. Comparison studies found that improvements were greater in ASSIST-supported sites compared to non-supported sites for over half the indicators assessed. ASSIST country programs also incorporated economic evaluation to provide information on the impact and cost-effectiveness of improvement interventions, finding that improvement programs provide good value for money compared to the status quo.

The R&E unit worked closely with the knowledge management unit to disseminate information from these studies through web-published reports, peer-reviewed journal articles, webinars, and presentations at international meetings to encourage wider adoption of improvements methods. The R&E unit also provided training to USAID Global Health Bureau and mission staff on cost-effectiveness analysis of health system improvement interventions.

ASSIST's R&E agenda sought to respond to the demand for evidence of the effectiveness and efficiency of improvement activities within and beyond the countries in which the USAID ASSIST Project provided support. The rigor and thoroughness with which the evidence was collected, analyzed, and presented was important for promoting continuation of improvement activities in low- and middle-income countries. The project's research and evaluation team supported all countries and technical activities with the design of evaluation strategies, the validation of improvement indicators, design of interventions with comparison/control groups, evaluation of QI interventions and scale-up efforts, economic analysis of improvement activities, and sustaining improvements and institutionalizing the capacity to continuously improve.

Results

- ASSIST carried out 54 research and evaluation studies over the life of the project on work in over 24 countries, including a Mission-funded multi-year impact evaluation of hospital accreditation in Indonesia and Mission-funded cost-effectiveness analyses of immunization and family planning programs in Pakistan. ASSIST also provided R&E services to USAID Washington offices, including Economic Development, Education, and Environment Division.
- The hospital accreditation study in Indonesia encouraged the National Health Insurance program to channel hospital performance data back to hospitals to support them in improving care.
- The evaluation of tetanus vaccination in Uganda informed the MOH's national policy to revise the guidance to a single dose at the time of VMMC.
- ASSIST implemented an important number of cost studies, qualitative analyses, and evaluations with comparison groups, all areas often cited as areas needing improvement in implementation science research.
- Studies had strong engagement from the host government and implementers, with MOH staff as co-authors in several key studies.
- ASSIST leveraged partners' expertise for R&E: WHO for emergency response and preparedness; AAP for ECHO evaluations; and FHI 360 for Zika clinical expertise and cost-effectiveness and qualitative research.

Key Research and Evaluation Products Developed by ASSIST

- ◆ [Acceptability of a Family-centered Newborn Care Model among Providers and Receivers of Care in a Public Health Setting: A Qualitative Study from India](#)
- ◆ [Barriers and Facilitators to Head Circumference and Neurodevelopmental Surveillance in Well-child Clinics in Jamaica](#)
- ◆ [Cost-effectiveness analysis of quality improvement: A review of studies under the USAID Applying Science to Strengthen and Improve Systems \(ASSIST\) Project](#)
- ◆ [Cost-effectiveness of a franchise model to improve reproductive health and family planning services in Pakistan](#)
- ◆ [Cost-effectiveness of an Intervention to Increase Immunization Coverage in Pakistan](#)
- ◆ [Evaluating Complex Health Interventions: A Guide to Rigorous Research Designs](#)
- ◆ [Evaluation of a Quality Improvement Intervention for Obstetric and Neonatal Care in Selected Public Health Facilities across Six States of India](#)
- ◆ [Evaluation of a Results-based Financing Intervention in South West Uganda](#)
- ◆ [Experiences of Indian Health Workers Using WhatsApp for Improving Aseptic Practices with Newborns: Exploratory Qualitative Study](#)
- ◆ [Facteurs Associés à l'Implication des Partenaires des Femmes Enceintes reçues en Consultation Périnatales au Burundi](#)

- ◆ [Hospital Accreditation Process Impact Evaluation – Indonesia](#)
- ◆ [How Female Community Health Workers Navigate Work Challenges and Why There Are Still Gaps in their Performance: A Look at Female Community Health Workers in Maternal and Child Health in Two Indian Districts through a Reciprocal Determinism Framework](#)
- ◆ [International Journal for Quality in Health Care Special Supplement on Salzburg Global Seminar Session 565 “Better Health Care: How do we learn about improvement?”](#)
- ◆ [Prevalence of Protective Tetanus Antibodies and Immunological Response following Tetanus Toxoid Vaccination among Men Seeking Medical Circumcision Services in Uganda](#)
- ◆ [The Cost-effectiveness of Three Methods of Disseminating Information to Improve Medical Male Circumcision in Uganda](#)
- ◆ [The Effectiveness and Efficiency of Implementing the Chronic Care Model for HIV Care in Uganda](#)
- ◆ [Using Quality Improvement to Reduce Hospital-acquired Infections: Evaluation of the USAID ASSIST Project in the West Bank](#)
- ◆ **Incorporating comparison groups, qualitative studies, and economic analysis in routine QI program implementation proved to be very useful** and should be used as much as possible.
 - **Future comparison group studies should use stronger methods to assess effectiveness**, describe key contextual factors, and include longer follow-up time to assess the sustainability of improvement approaches.
 - **Future projects should aim to build capacity for qualitative research** as qualitative studies may pose more challenges than quantitative methods. They are often subject to data quality issues due to poor quality of interviews (e.g., lack of probing), poor quality of transcription, and lack of qualitative analysis skills (e.g., coding).
 - **Future cost-effectiveness analyses (CEAs) should collect adequate cost data from the beginning of the activity**, track all expenses, differentiate direct from indirect costs, and use disability-adjusted life years (DALYs) whenever possible. It is also important to create a dissemination plan for CEA results and involve key stakeholders in data analysis and use. Finally, even in the absence of CEA experts, it is possible to conduct a basic CEA to determine the relative efficiency of a program.

Learning

- ◆ **The project’s mandate to validate 10% of improvement indicators collected by QI teams proved to be a less useful area of research.** Future projects’ research mandates should be more flexible to allow the projects to respond to felt needs of Missions and country officials and focus on studies that inform/strengthen improvement work.
- ◆ **A skilled research and evaluation team, even a small one, within an improvement project adds value and rigor** to the improvement work.
- ◆ **Close coordination between the research/evaluation team and the implementation team is essential to ensure alignment of goals** and should start prior to both activities.

As a key implementer in USAID's Zika response in Latin America, ASSIST strengthened the capacity of health teams to screen all newborns for Zika signs and symptoms.



Conclusions

This report has sought to demonstrate how the USAID ASSIST Project met its primary objective of supporting country counterparts, working across the range of priority health interventions, to achieve measurable improvements in health and social services in USAID-assisted countries. The examples presented in this overview report offer compelling evidence that measurable improvements in service quality are achievable in virtually any health system, if local health workers are engaged in improving their own care processes.

As described in the examples of reproductive, maternal, newborn, child, and adolescent health, HIV, and infectious disease services, ASSIST supported the development of country-specific programs to improve service quality and in so doing, created stronger capacity in public and non-governmental counterparts to apply QI methods. An area where the project could have advanced further is in measuring country capacity and self-reliance to continuously improve. ASSIST's studies on institutionalization of improvement processes, while contributing to the evidence base, did not generate new approaches to measure QI capacity. This is an area that future USAID investments in health care quality improvement should explore as part of the journey to self-reliance.

Building on the experience gained with collaborative improvement methods under the predecessor USAID Health Care Improvement Project, ASSIST placed greater

emphasis on incorporating health workforce development, knowledge management, and gender integration as part of a comprehensive and integrated improvement strategy in every country program. This included addressing human performance factors such as job expectations, feedback, performance improvement tools, work environment, incentives, and competencies in country improvement strategies; supporting the deliberate harvesting of learning from QI implementation, evaluation, and research at the country level, integrating insights across countries, and making that learning available in a wide variety of formats through intentional knowledge management efforts; and addressing gender factors as key drivers of improving health care. The resulting improvement strategies achieved better results at larger scale and demonstrated the value of an integrated design approach that also addressed health system gaps, how improvement approaches would be integrated at multiple levels of the health system to achieve the improvement objectives, and how the work would create conditions for sustaining the results of the improvement activity.

The project's global technical leadership on behalf of USAID further advanced the field of improvement by engaging stakeholders and global health organizations in multiple forums to expand the application of improvement approaches in their programming and debate how to increase the rigor and impact of improvement interventions through better evaluation methods. The Salzburg Global

Seminar 565 convened by ASSIST emphasized the importance of making explicit the causal pathways that underlie the improvement effort and the need for different mechanisms for linking interventions to outcomes that are able to capture the complex root causes and solutions at the heart of improving health care delivery.

While each section of this report has addressed key points of learning, a number of overarching lessons emerge from ASSIST's work across countries and content areas about strengthening health systems to promote quality:

- ◆ Strong health systems need a wide variety of approaches to improve quality of care; QI methods should be one of these approaches. Systems also need institutional mechanisms to support the use of QI on a large scale.
- ◆ QI capacity is best built by:
 - Simple, practical, step-by-step guidance and tools
 - Engaging frontline workers in learning by doing QI
 - Engaging local mentors and organizations to support frontline health worker in doing QI
- ◆ Virtual platforms (e.g., ECHO tele-mentoring, virtual learning sessions, and online training courses) proved to be effective and efficient tools to build QI and clinical capacity at large scale.
- ◆ Using improvement to get providers to implement critical evidence-based practices in small demonstrations produces results quickly (as shown by ASSIST work on antenatal care, pre-eclampsia, management of febrile illness, and hospital-acquired infections), but to sustain them and scale them up requires leadership engagement and commitment of local resources. The success of

pilot efforts can attract the attention of local leaders and encourage them to invest in QI.

- ◆ Improvement methods can achieve results in any topic area, but to sustain those results requires leadership commitment and deliberate transition planning.
- ◆ QI approaches strengthen district health management systems by improving monitoring and increasing facility accountability and data-driven action. Routine monitoring of QI efforts using time series charts effectively builds health worker skills in data analysis and interpretation and enhances data use.
- ◆ Multi-country portfolios allowed for stronger design, deeper learning, and accelerated results, as evidenced by our PHFS, VMMC, and Ending Preventable Child and Maternal Deaths in South Asia portfolios.

Looking ahead, the field of improving health care has largely been driven by health care professionals rather than driven by changes from the demand side. One area which can serve to generate further traction and accountability for improving health care is the demand and pull for quality improvement through engaging civil society at large. While some patients' rights/activist groups exist, there is a need for much more engagement throughout society as a whole, including identifying and engaging vulnerable populations in driving health care improvement.

It has been a privilege for URC to lead the USAID ASSIST Project. We hope that the tools, resources, and technical products developed by ASSIST will continue to benefit health workers, program managers, USAID implementing partners, and other stakeholders for years to come.

Appendix 1: Project Leadership

Position	Name
Project Director	M. Rashad Massoud
Deputy Director	Kathleen Hill, Victor Boguslavsky
Director for MNCH	Kathleen Hill, Youssef Tawfik, Tamar Chitashvili
Director for Non-communicable Diseases	Tamar Chitashvili
Director for Vulnerable Children and Families	Diana Chamrad
Knowledge Management Director	Lani Marquez
Research and Evaluation Director	Edward Broughton, Astou Coly
HIV/AIDS Lead	Pamela Marks, Sharon Stash, Donna Jacobs
Community Health Lead	Ram Shrestha
Health Workforce Lead	Tana Wuliji, Allison Foster
Partnership for HIV-Free Survival/NACS Lead	Amy Stern
East Africa Regional Director	Nigel Livesley, Victor Boguslavsky
LAC Regional Director	Jorge Hermida
South Asia Regional Director	Nigel Livesley
Southern Africa Regional Director	Donna Jacobs
West Africa Regional Director	Maina Boucar
Botswana Chief of Party	Morrison Sinvula, Cecil Haverkamp
Burundi Chief of Party	Claude Niyomwungere
Cambodia Resident Advisor	Alyson Smith
Cote d'Ivoire Chief of Party	Serge Agbo, Melly Traore
Democratic Republic of Congo Resident Advisor	Teddy Manday
Dominican Republic Chief of Party	Cecilia Villaman
Ecuador Chief of Party	Maria Jose Escalante
El Salvador Chief of Party	Guadalupe de Razeghi
eSwatini Chief of Party	Samson Haumba
Georgia Chief of Party	Tamar Chitashvili

Position	Name
Haiti Resident Advisor	Daniel Joseph
Honduras Chief of Party	Norma Aly
India Chief of Party	Nigel Livesley
Jamaica Chief of Party	Charlene Coore-Desai
Kenya Chief of Party	Faith Mwangi-Powell, Roselyn Were, Charles Kimani
Lesotho Chief of Party	Kelello Lerotholi
Malawi Chief of Party	Tiwonge Moyo
Mali Chief of Party	Houleymata Diarra
Mozambique Chief of Party	Luke Dausse
Nicaragua Chief of Party	Ivonne Gomez
Nigeria Chief of Party	Josephine Ogazi
Paraguay Chief of Party	Graciela Avila
Peru Chief of Party	Christian Requena
South Africa Chief of Party	Donna Jacobs
Tanzania Chief of Party	Davis Rumisha
Uganda Chief of Party	Humphrey Megere, Mirwais Rahimzai, Esther Karamagi
Ukraine Chief of Party	Elena Novichkova
Zambia Resident Advisor	Robert Musopole

Appendix 2: ASSIST Peer-reviewed Publications

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