



Quality Improvement Capacity for Impact Project (QICIP)

About ICAP

A major global health organization that has been improving public health in countries around the world for nearly two decades, ICAP works to transform the health of populations through innovation, science, and global collaboration. Based at the Columbia University Mailman School of Public Health, ICAP has projects in more than 30 countries, working side-by-side with ministries of health and local governmental, non-governmental, academic, and community partners to confront some of the world's greatest health challenges. Through evidence-informed programs, meaningful research, tailored technical assistance, effective training and education programs, and rigorous surveillance to measure and evaluate the impact of public health interventions, ICAP aims to realize a global vision of healthy people, empowered communities, and thriving societies. More information is available at icap.columbia.edu

The Global HIV Epidemic: Where Are We?

The global scale-up of HIV services has been remarkably successful. Seventeen years after PEPFAR's launch, multiple countries are nearing HIV epidemic control. In June of 2021, 28.2 million people were accessing antiretroviral therapy (ART); in 2020, 73 percent of all people living with HIV (PLHIV) and 85 percent of pregnant HIV-positive women had access to ART. Between 2010 and 2020, AIDS-related mortality declined by 47 percent.¹ The Population-Based HIV Impact Assessments (PHIA), funded by PEPFAR and led by ICAP at Columbia University (ICAP) in fifteen countries in partnership with ministries of health (MOH) and with support from the U.S. Centers for Disease Control and Prevention (CDC), confirm that several countries have made impressive strides toward attaining the UNAIDS 95-95-95 goals.²

Despite these achievements, significant challenges remain as the epidemic response matures into its third decade. In addition to the PHIA surveys, ICAP-led bio-behavioral studies, the Tracking with Recency Assays to Control the Epidemic (TRACE) project, and other data illustrate a substantial unmet need for HIV services and program improvements including: HIV testing and prevention services for those most at risk; improved linkages within and between programs; support for retention in care, adherence to ART, and viral suppression; saturation ART coverage in high-prevalence communities, and increased access to HIV services for diverse groups, including men, children, adolescents and young people, and other key and vulnerable populations. Challenges with retention and the critical threat of HIV drug resistance (HIVDR) highlight the urgent need for increased emphasis on program quality.

1 <https://www.unaids.org/en/resources/fact-sheet>; <https://aidsinfo.unaids.org/>

2 <https://www.state.gov/wp-content/uploads/2019/09/PEPFAR2019ARC.pdf>

GLOBAL TARGETS

HIV PREVENTION



<200,000
new infections
annually among
adults (by 2030)



<20,000
new infections
annually among
children (by 2020)



<100,000
new infections
annually among
adolescent girls
and young women
(by 2020)

HIV TREATMENT



95%
of all people living
with HIV will know
their status
(by 2030)



95%
of all people
with HIV will be
receiving ART
(by 2030)



95%
of all people on
ART will have viral
suppression
(by 2030)

Source of targets: USAIDS



ACHIEVING QUALITY IN PEPFAR PROGRAMS

PEPFAR's Quality Strategy calls for quality service delivery at every health system level to achieve individual health benefits and HIV epidemic control. PEPFAR supports multiple health ministries to respond to quality challenges and to launch national quality strategies.

The Site Improvement through Monitoring System (SIMS) systematically tracks and reports program quality. PEPFAR teams in many countries implement granular site management (GSM) strategies, which improve site level performance. Increasingly, countries are partnering with organizations of PLHIV to support community-led monitoring, which enables clients and communities to provide early alerts to low service quality, and to leverage their proximity to health facilities to provide important data that MOH and PEPFAR partners may lack.

As one of PEPFAR's largest implementing partners, ICAP supports the Quality Strategy with innovation and thought leadership, a commitment to partnership, and a robust, evidence-based QI toolbox that has consistently helped country teams improve the quality of their HIV programs.



The focus on **QUALITY** sharpens as the HIV response matures.

Quality is an essential component of effective and efficient health systems. The quality of health services drives both service utilization and health outcomes. In the HIV program context, high-quality prevention, testing, care, and treatment services help decrease morbidity and mortality, and decrease HIV transmission. Achieving broad coverage with quality services at each step along the HIV prevention and treatment cascades is essential for HIV epidemic control.

Addressing quality deficits can be difficult. Bridging the identification of effective health interventions and their successful implementation—the “know/do gap”—is challenging in both resource-rich and resource-limited settings. Towards this end, quality improvement (QI) methods are a mix of evidence-based strategies used to address quality challenges, with the potential to do so at scale.

Introduction to the project: QICIP

QICIP activities took place between June 2015 and September 2021.

The Quality Improvement Capacity for Impact Project (QICIP), funded by PEPFAR through the U.S. Health Resources and Services Administration (HRSA), supported projects in 11 countries that enhanced local capacity to design, implement, evaluate, document, and sustain a wide range of QI initiatives. Through the QICIP funding mechanism, ICAP helped build the capacity of country health teams to improve the effectiveness, efficiency, client-centeredness, safety, accessibility, and equity of the HIV services they provide. ICAP partnered with country ministries of health (MoH), PEPFAR agencies including HRSA, the U.S. Centers for Disease Control and Prevention (CDC), local implementing partners (IP) and client communities, to increase the impact and sustainability of PEPFAR programs.

ICAP successfully implemented 25 projects through four delivery strategies.

QUALITY IMPROVEMENT COLLABORATIVES (QIC)

LEARNING NETWORKS

INTRODUCTION TO QUALITY AND QI COURSES AND PROJECT DESIGN WORKSHOPS

HIGH-LEVEL, MULTI-COUNTRY MEETINGS

BY THE NUMBERS

10 partner countries received support from QICIP: *Cameroon, Kenya, Namibia, Mozambique, Angola, Sierra Leone, Malawi, Swaziland, Tanzania, and South Africa.*

7 QI Collaboratives were supported

2 QI learning networks were supported to conduct QI projects

153 health facilities participated in QI Collaboratives and learning networks

950 health workers were trained in QI methods

2,300 supportive supervision visits were delivered to QI project teams

5 peer-reviewed journal articles were published on QICIP-supported findings

6 poster and oral presentations disseminated knowledge at global conferences

“Through the QICIP award, ICAP worked with ministries of health to design, deliver, and evaluate QI programs. We were able to share a wealth of resources via the ICAP QI toolkit that led to markedly improved HIV prevention, testing and treatment outcomes, and helped our partners approach quality challenges with tools tailored to their country and health facility contexts, aiming to ensure a high-impact and sustainable HIV response.”

– Miriam Rabkin, ICAP’s director for health systems strategies and principal investigator of QICIP

QUALITY IMPROVEMENT COLLABORATIVES (QIC)

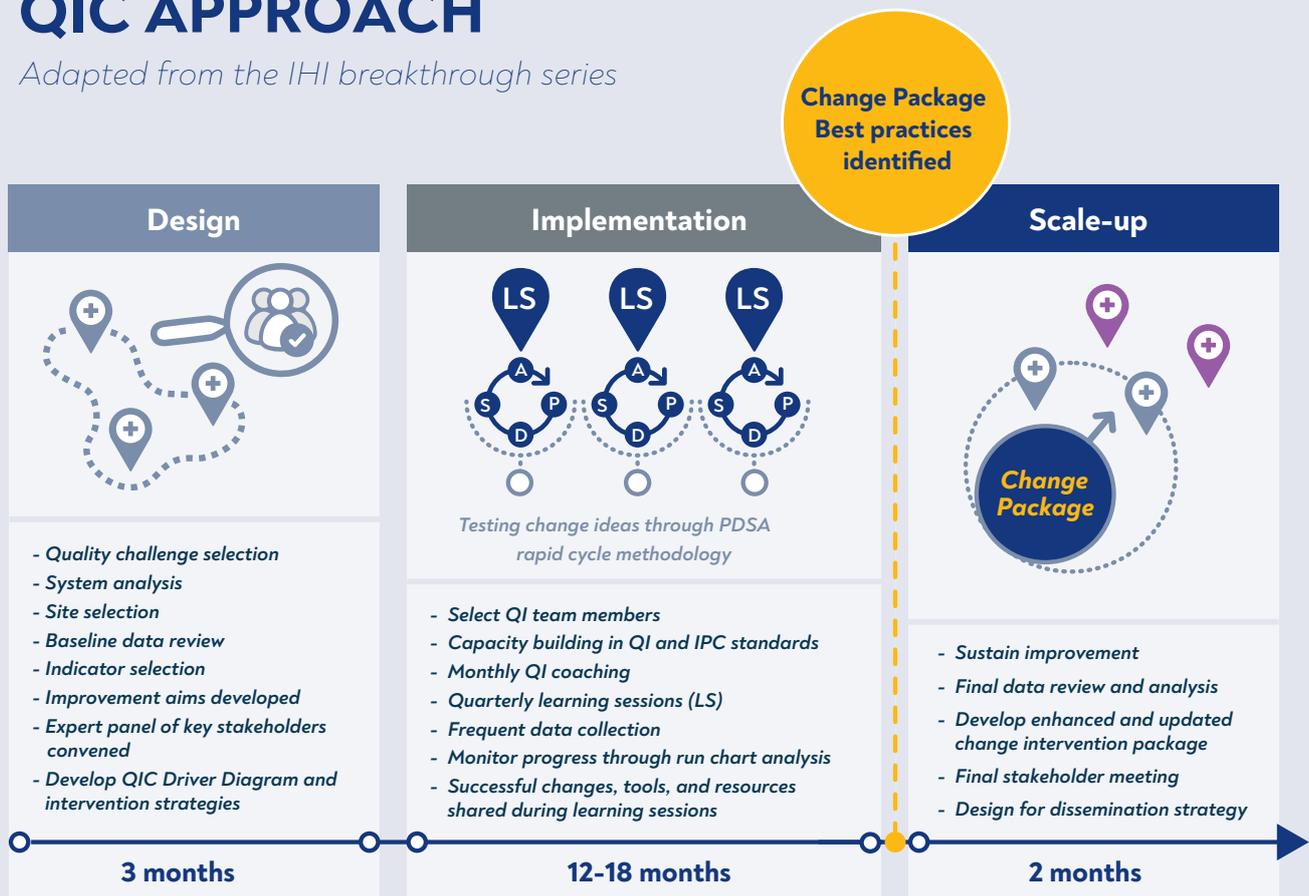
The QIC approach involves multiple teams working across different units, organizations, or regions to make improvements toward one specific aim using the same indicators and measurement process. Health care workers participating in QIC are empowered to innovate while addressing the root causes of suboptimal performance. QIC are time-limited, typically achieving improvement goals within 6-18 months. Key elements include sharing data, successes, barriers and tools within the collaborative as this fosters joint problem-solving and diffusion of innovation. The Model for Improvement is the framework of choice for QIC; teams are supported to implement the Plan Do Study Act methodology to test change ideas and implement successful ones.

QICIP Delivery Mechanisms and Project Highlights

QICIP delivered its support for partner MoH and PEPFAR QI initiatives via 25 unique projects. In this report we describe representative projects undertaken during the five-year project, organized by delivery strategy.

QIC APPROACH

Adapted from the IHI breakthrough series



The ICAP QI Tool Box for QI project planning and implementation

ICAP designed and developed a QI toolbox that enables practitioners to identify the most appropriate tool(s) for their program context. In QICIP partner countries with mature HIV program strategies and where QI training already existed, for example, ICAP helped integrate modern QI science efforts and project results with demonstrable impact. In countries where no quality strategies existed, ICAP leveraged its extensive QI resources to build capacity and strengthen systems.

QI tools are practical, high-impact aids to help teams accomplish a particular process within a QI project. Through QICIP trainings, ICAP promoted partner country ownership of QI initiatives and offered teams a menu of capacity building options and tools that suited their unique needs.





**PREGNANT AND
BREASTFEEDING WOMEN
NEWLY INITIATING ART**

3-MONTH RETENTION
51% → 72%

VIRAL LOAD SUPPRESSION
55% → 68%

**PREGNANT AND
BREASTFEEDING WOMEN
ALREADY ON ART**

3-MONTH RETENTION
61% → 76%

VIRAL LOAD SUPPRESSION
55% → 72%

Results for both cohorts of women were promising and high rates of retention and viral suppression have been sustained at the QIC sites.

MOZAMBIQUE

QIC: Improving ART retention and viral suppression for pregnant and breastfeeding women

October 2018 – September 2019

Healthcare worker teams from 30 facilities in Nampula Province participated in a QIC to address the needs of HIV-positive pregnant and breastfeeding women (PBFW), both those newly initiating ART and PBFW already on ART at first ANC visit. Three learning sessions and 327 supportive supervision visits delivered by ICAP and Ministry of Health (Ministerio da Saude [MISAU]) staff helped teams work through technical and program issues and solutions as

they use QI methods and tools to implement their change ideas. ICAP staff worked closely with MISAU and the Provincial Health Department of Nampula, along with CDC Mozambique and HRSA to improve outcomes for PBFW. ICAP also spread the QIC approach, change interventions, and achievements to other ICAP-supported provinces in Mozambique.



QICIP SUPPORTED 7 HIGH IMPACT QICS

ICAP provided strong leadership to maintain buy-in and momentum, facilitated engagement between QIC teams, and supported each QIC to develop and disseminate its “change package” of successful interventions.

The QIC approach typically uses the Model for Improvement as an implementation framework. QICIP teams were supported first to answer the model’s three questions, and then to conduct Plan Do Study Act (PDSA) cycles to test their ideas.

- 1 What are we trying to accomplish? (aim)
- 2 How will we know if a change is an improvement? (measurement)
- 3 What changes can we make to result in improvement? (change)

PLAN. QICIP project teams selected change ideas and developed plans for implementation, documentation and timing. Teams articulated the precise what, when, where, how and who for testing change ideas.

DO. Teams implemented and documented change ideas according to their plans.

STUDY. Teams organized and analyzed the data to determine lessons learned and identify successful interventions.

ACT. Teams used the evidence to decide whether to adopt, adapt (and then retest), or abandon their change ideas.

Adapted from Langley G, Nolan T, Norman C, Provost L (1996) *The Improvement Guide*.

CAMEROON

QIC: Improving HIV testing for exposed infant (HEI) and early infant diagnosis (EID)

March 2016 – June 2017

Early infant diagnosis (EID) and rapid ART initiation are lifesaving interventions for HIV-infected infants. At the start of the QICIP project in Cameroon, few HIV-exposed infants (HEI) were receiving appropriate testing. EID coverage was poor and turnaround times (TAT) for returning HIV test results to caregivers were unacceptably long. QICIP supported the Cameroon MOH through its National AIDS Control (NACC) unit to design and implement a QIC to improve testing among HEI under eight weeks of age at 17 health facilities in Cameroon's Centre and Littoral Regions. The QIC sought to reduce TAT for EID test results, and to increase the speed of ART initiation among those HEI who tested positive.

QIC teams received refresher training on QI and EID methodologies, and they tested locally driven change interventions through 146 PDSA cycles. ICAP and MOH partners conducted 5 learning sessions and made 272 supportive supervision visits over the 15-month implementation period. QICIP interventions led to improved performance throughout the EID testing cascade. After completion of the project, performance improvements were sustained and the project was successfully transferred to a local partner.



TESTING FOR HIV-EXPOSED INFANTS UNDER 8 WEEKS OF AGE

57% → 80%

POSITIVE TEST RESULTS RETURNED TO CAREGIVERS

18% → 86%

EARLY INFANT DIAGNOSIS COVERAGE TARGET OF >50% REACHED

16 OF 17 SITES

DIAGNOSTIC TEST TURNAROUND TIME TARGET OF <42 DAYS REACHED AND SUSTAINED

17 OF 17 SITES



CLIENTS WITH UNSUPPRESSED VIRAL LOAD COMPLETING 3 EAC SESSIONS WITHIN 4 MONTHS

40% → 93%

VIRAL SUPPRESSION ON REPEAT VIRAL LOAD TEST

27% → 64%

CLIENTS WITH PERSISTENT UNSUPPRESSED VIRAL LOAD SWITCHED TO SECOND-LINE ART WITHIN 2 MONTHS

58% → 84%

KENYA

QIC: Improving Viral load (VL) testing and utilization of results

March 2017 – May 2018

QICIP supported the MoH Kenya National AIDS & STI Control Programme (NASCO) to launch a QIC on viral load testing and utilization of results at 30 high priority Western Kenyan health facilities. The QIC aimed to increase the proportion of clients with unsuppressed viral load (UVL) completing three enhanced adherence counseling (EAC) sessions within four months to 90% and to increase the proportion of clients with UVL appropriately switching to second-line ART within two months of receiving a repeat unsuppressed viral load test to 90%.

ICAP convened a total of five QIC learning sessions with members from all 30 participating health facilities and provided 300 supportive supervision visits. The QIC teams tested interventions over 14 months, to improve test result management, staff and client education, staffing modifications, workflow processes, commodity management, documentation, and data quality. After the project was successfully completed, it was sustainably transitioned to a local partner.

REPLICATING SUCCESS TO TARGET ADOLESCENTS

QICIP supported a second QIC in Kenya to improve VL testing among clients aged 10 to 24 with UVL. The aims mirrored those of the first QIC and results were similarly strong. From March 2019 to July 2020 the QIC was implemented at 22 health facilities in 3 districts in Kenya's Eastern Province. The QIC helped health facility teams to focus intensively on this specific population and to identify and prioritize local, contextually appropriate innovations which led to swift improvement in VL utilization and re-suppression rates.

During implementation, provision of the three EAC sessions and repeat VL testing within four months improved from 16% to 73%. VL re-suppression on repeat testing improved from 34% to 62%. Proportion of clients on first-line ART regimen whose ART regimens were switched improved from 58% to 94%.



INFANT ART INITIATION QI COLLABORATIVE

HIV TEST RESULTS RETURNED TO CAREGIVERS

48% → 85%

ART INITIATION FOR HIV-POSITIVE INFANTS

46% → 82%

ART INITIATION WITHIN 2 WEEKS OF DIAGNOSIS

25% → 62%

ZAMBIA

QIC: Infant ART Initiation

March 2017 – May 2018

QICIP implemented a QIC to improve EID and same-day ART initiation among HIV-infected infants at 15 health facilities in Lusaka Urban District. The QIC also measured EID coverage and turnaround time (TAT) between critical cascade steps. Root cause analyses revealed barriers along the EID cascade, including staff knowledge deficits, unclear roles and responsibilities, process breakdowns, and system bottlenecks. In response, the QIC teams tested interventions related to test result management, staff and client education, staffing modifications, workflow processes, commodity management, documentation, and data quality.

FROM INFANTS TO ADOLESCENTS

From August 2018 to September 2019, QICIP launched a second QIC focused on adolescents. ICAP Zambia led over 300 supportive supervision and QI coaching visits at 25 participating facilities, which led to swift improvement in VL utilization and re-suppression rates.

The QIC increased the number of adolescent clients receiving their positive test result within 14 days from 24% to 93% and increased same-day ART initiation from 27% to more than 92%.

BASED ON THE QIC'S SUCCESS AFTER 12 MONTHS OF IMPLEMENTATION, ICAP RECEIVED ADDITIONAL FUNDING THROUGH THE QICIP MECHANISM TO EXPAND THE QIC TO 10 MORE SITES FOR THE FINAL THREE PROJECT MONTHS.

LEARNING NETWORKS

Learning networks are working communities of healthcare providers who share and create ideas and data to improve client experiences and health outcomes. Multiple organizations engage in collective learning on focused topics through peer experience sharing, problem solving and innovation. Typically focused on changing behavior and practice on a large scale, learning networks offer structured exchange and can be instrumental in rapidly spreading implementation knowledge.

QICIP supported a learning network in Zambia for 9 implementing partners and another network at 24 South African health facilities.



ZAMBIA

Learning Network: Differentiated service delivery

Beginning in October 2017, QICIP convened a learning network to improve differentiated service delivery (DSD) among PEPFAR-implementing partners in Zambia,, using the QI methodology and south-south exchange. ICAP facilitated a series of workshops on QI methods as applied to DSD models. Groups discussed challenges and opportunities in applying QI to expand the coverage, quality, and impact of DSD in Zambia. Learning network members reported on their QI activities within their DSD programming and provided feedback and reflection.

SOUTH AFRICA

Learning Network: QI for ART program retention

QICIP launched and supported a learning network designed to improve ART retention through the use of modern QI methods and tools at 24 high priority health facilities. ICAP provided technical assistance and capacity building to the Aurum Institute, Health Systems Trust, and TB HIV Care, three well-established care and treatment partners working in three high priority South African regions. Joint learning sessions were combined with 79 site visits to participating health facilities for QI coaching, mentoring and supportive supervision. A package of interventions that improve ART retention were developed, including improved filing and appointment system, enhanced adherence counseling, appointment reminders, immediate tracing of clients who missed appointments, and data quality.

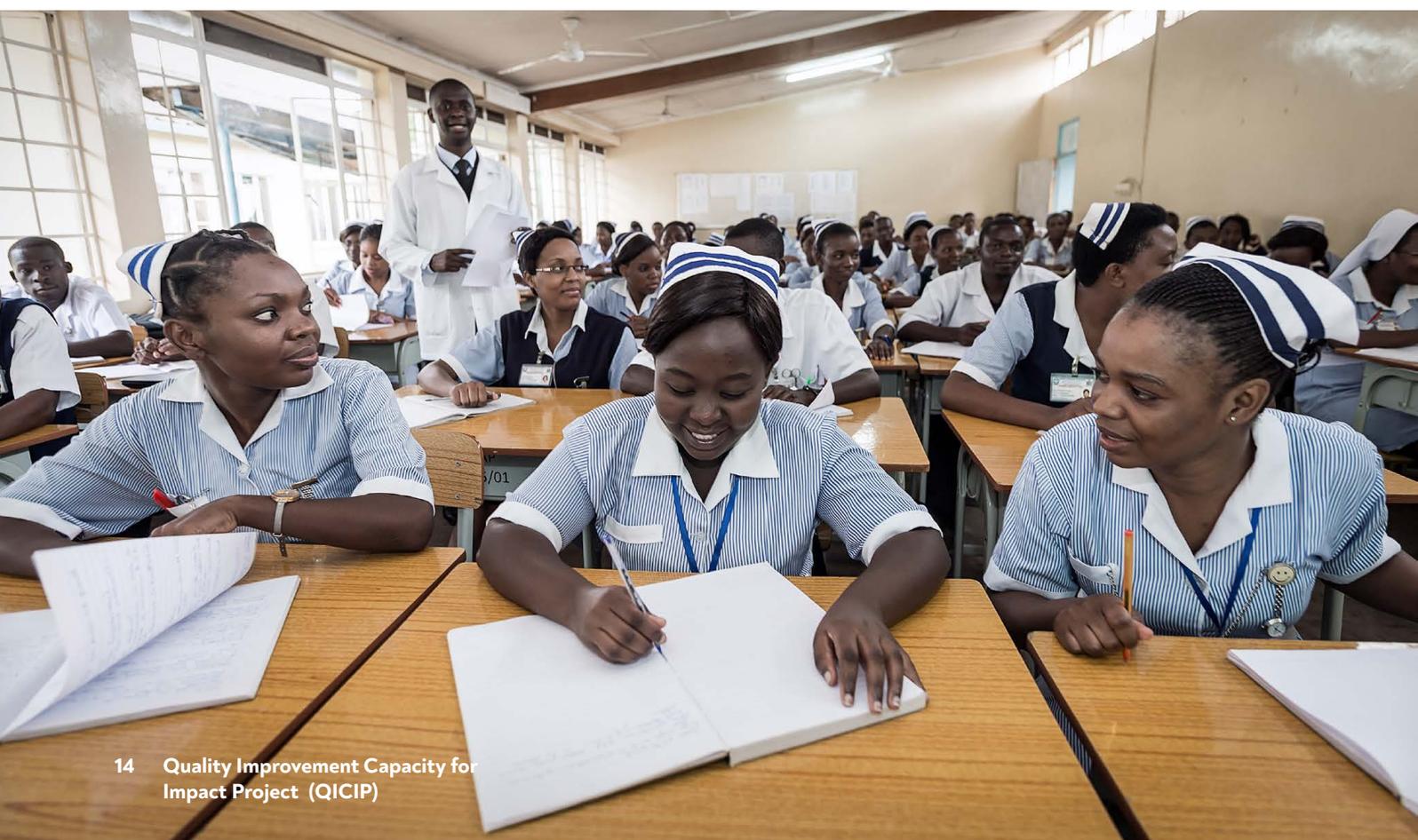
ZAMBIA

QI training and capacity building for MoH clinical mentors

INTRODUCTION TO QUALITY AND QI COURSES AND PROJECT DESIGN WORKSHOPS

Building QI capacity is a foundational step toward improving HIV program quality. A critical mass of QI leaders is needed to initiate, strengthen, and institutionalize quality management systems. Recognizing the need for timely QI capacity building to strengthen HIV programs, ICAP designed, delivered, and evaluated its 'Introduction to Quality and Quality Improvement' course. ICAP adapts curricular materials to suit each learning context, delivers the training using the latest in adult learning principles and invites participants to apply new knowledge and skills in an active manner, supporting them to develop practical QI projects.

ICAP's QICIP team delivered and evaluated multiple trainings that built Zambian capacity to design, implement, and monitor facility-based QI initiatives to improve the quality of HIV services and related health outcomes. To help institutionalize training efforts, ICAP seconded a national QI advisor/trainer to MoH. The first training was conducted in January 2019, with success leading to two subsequent trainings in October/ November of 2020 to cover Zambia's four PEPFAR-supported provinces: Western, Southern, Eastern, and Lusaka. The three sessions trained a combined 135 mentors and provincial quality assurance/quality improvement officers who arrived with pre-selected quality challenges, lists of relevant data sources, and desired outcomes. During the trainings, teams selected the appropriate focus area using current province-level data; conducted root cause analyses; drafted aim statements; identified and prioritized change ideas; and drafted measurement plans. By training end, participants had developed QI project proposals that would be adapted and implemented through their respective Provincial and District Health Offices. Participant evaluation demonstrated a substantial increase in QI-related knowledge.





NAMIBIA

INTRODUCTION TO QI COURSE FOR 18 HEALTH FACILITIES

In Namibia in February 2017, ICAP delivered its Introduction to Quality and QI Course that built capacity in the design, implementation and monitoring of facility-based QI initiatives. On pre- and post-tests of the 42 participants from 18 health facilities, knowledge scores increased from 47% to 81%.

MOZAMBIQUE

QI training and capacity building for MoH, IPs, and CDC

Sustainable programming equips country partners to implement evidence-based strategies and methods on their own. In February 2019 in Mozambique, QICIP collaborated with MISAU to build national capacity to implement the QIC approach to address HIV service delivery challenges. Fifty-seven representatives from CDC Mozambique, MISAU, local implementing partners, and other stakeholders from five provinces convened for three days to explore the methods and tools used to design, implement, and evaluate QIC projects and harvesting and scaling up successful change ideas. 90% of training participants deemed the workshop had completely met and/or exceeded their expectations.

HIGH-LEVEL, MULTI-COUNTRY MEETINGS

High-level, multi-country meetings on PEPFAR priority topics contribute to cohesion in the global HIV response. As the focus on quality sharpens, stakeholder engagement through forums on dedicated topics provide an opportunity for public health professionals to share knowledge, build consensus, and create momentum towards epidemic control by accelerating implementation of evidence-based interventions.

QI for Viral Load Testing Scale Up

MULTI-COUNTRY MEETING IN SWAZILAND (NOW ESWATINI)

Hosts: ICAP at Columbia University, Swaziland Ministry of Health, International Treatment Preparedness Coalition, African Society for Laboratory Medicine

June 2016

The shift from targeted to routine viral load testing (RVLT) is a key quality challenge for PEPFAR-supported countries. For three days in Ezulwini, Swaziland a group of 145 program planners, front-line implementers, technical experts, clinicians, PLHIV, and key population and civil society representatives from 16 African countries and the U.S. met to advance the scale-up of high quality VL testing. Participants presented and discussed the state-of-the-art in VL measurement, specimen transport, and result transmission, identified key health system barriers to effective implementation of best practices, and outlined the training and capacity-building needs to fill those gaps. Delivering expert dialogue and practical south-south exchange, the meeting fostered professional partnerships and communities of practice among participants from different countries, further institutionalizing the focus on quality as RVLT is scaled up.

QI for Differentiated Service Delivery

MULTI-COUNTRY MEETING IN MALAWI

September 2018

QICIP hosted a hands-on, interactive meeting to build capacity among health care providers to implement high-quality differentiated service delivery (DSD) models that cater to client need across the HIV care cascade. Frontline DSD health providers, district HIV coordinators, QI leads, national DSD coordinators, and implementing partners—35 in total from Eswatini, Malawi, Uganda and Zimbabwe—joined in Lilongwe, Malawi to discuss contextually appropriate QI concepts, methods, and tools for enhancing DSD programs. The workshop was funded through both HRSA and the Bill and Melinda Gates Foundation and was designed to address the practical challenges of DSD implementation. Each team brought a specific DSD-related quality challenge to the workshop and left with a robust QI-for-DSD project proposal. Results from the workshop were shared with QI community of practice within the HIV Coverage, Quality and Impact Network (CQUIN), supported by ICAP, and the country QI projects have been ongoing.



“Thanks to ICAP’s support, our nurses are more available to patients, there’s reinforced capacity, and we have stronger ties with our community.”

*-Dr. Nomo Eteme Martial
Director, Ayos Regional Hospital
Cameroon*



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