USAID COVID-19 Test-to-Treat Program Review

31 January 2024

Sustaining Technical and Analytical Resources (STAR) is a project of the Public Health Institute (PHI) implemented in partnership with the University of California, San Francisco (UCSF) and Aspen Management Partnership for Health (AMP Health).

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STAR SUSTAINING TECHNICAL AND ANALYTIC RESOURCES
Sustaining Technical and Analytical Resources (STAR) is a project of the Public Health Institute (PHI) implemented in partnership with the University of California, San Francisco (UCSF) and Aspen Management Partnership for Health (AMP Health).

Acronyms

ANARME	Autoridade Nacional Reguladora de Medicamento (Mozambique)
AMP Health	Aspen Management Partnership for Health
BMI	body mass index
CBO	community-based organization
CDC	Centers for Disease Control and Prevention
CHW	community health worker
CME	continuing medical education
COVID-19	coronavirus disease 2019; caused by the SARS-CoV-2 virus
CSO	civil society organization
CT	contact tracing
DDI	drug-to-drug interaction
DHIS2	District Health Information System 2
DHO	district health office
DNM	Dirección Nacional de Medicamentos (El Salvador)
DOD	Department of Defense
EMR	electronic medical record
EpiC	Meeting Targets and Maintaining Epidemic Control
EUA	emergency use authorization
FAQ	frequently asked questions
GHS	Ghana Health Service
HCW	healthcare worker
HIS	health information system
HIV	human immunodeficiency virus
HRH	human resources for health
HQ	headquarter
IP	implementing partner
IRB	Institutional Review Board
KII	key informant interview
LMIC	low- and middle-income country
LMS	learning management system
M&E	monitoring and evaluation
MOH	Ministry of Health
NPA	non-physician anesthetist
ODK	Open Data Kit
OTC	over the counter
PCR	polymerase chain reaction
PDSA	Plan-Do-Study-Act
PHI	Public Health Institute
PII	personally-identifying information
PLHIV	people living with HIV
QA	quality assurance
QI	quality improvement
RBC	Rwanda Biomedical Center
RDT	rapid diagnostic test
RE-AIM	Reach, Effectiveness, Adoption, Implementation, Maintenance
RISE	Reaching Impact Saturation and Epidemic Control
SBC	social and behavioral change
SOP	standard operating procedures
SOW	scope of work
STAR	Sustaining Technical and Analytic Resources
T2T	Test-to-Treat
TA	technical assistance
TOT	training of trainers
TWG	technical working group
UCSF	University of California, San Francisco
USAID	United States Agency for International Development
WHO	World Health Organization

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- Staff at USAID headquarters and local mission offices in Côte d'Ivoire, El Salvador, Ghana, Malawi, Mozambique, and Rwanda
- Staff at Meeting Targets and Maintaining Epidemic Control (EpiC)/FHI360 headquarters and in-country offices, as well as their respective subcontractor partners, in Côte d'Ivoire, El Salvador, and Malawi
- Staff at Reaching Impact Saturation and Epidemic Control (RISE)/Jhpiego headquarters and in-country offices, as well as their respective subcontractor partners, in Ghana, Mozambique, and Rwanda
- Key officials from the Ministries of Health (MOHs) in Côte d'Ivoire, El Salvador, Ghana, Malawi, Mozambique, and Rwanda
- District-level and health facility staff at Unidad de Salud San Marcos, Unidad de Salud San Miguel, and Unidad de Salud Panchimalco in El Salvador; Ga West Hospital and Obuasi Government Hospital in Ghana; Area 18 and Nathenje Health Centres in Malawi; Hospital Provincial da Matola and Centro de Saúde 25 de Setembro in Mozambique; and Kinigi Health Center, Gisenyi District Hospital, and Polyclinique La Croix du Sud - Gisenyi in Rwanda

Executive Summary

Overview

Background

In response to the Coronavirus disease 2019 (COVID-19) pandemic, United States Agency for International Development (USAID) provided funds to implementing mechanisms, EpiC and RISE, to lead implementation of Test-to-Treat (T2T) pilot programs in 10 countries[1] around the world. T2T responded to the COVID-19 pandemic by supporting rapid diagnostic testing and linkage to oral COVID-19 antivirals early in the disease course to mitigate and prevent hospitalization, severe morbidity, and mortality. The key components of T2T include: 1) accessible rapid diagnostic tests (RDTs) for COVID-19, 2) access to oral antivirals, 3) clear guidelines on eligibility criteria, 4) training for healthcare workers (HCWs), 5) community awareness, and 6) follow-up and tracking of programmatic outcomes.

Test-to Treat Program Review

In July 2022, USAID engaged STAR-UCSF to lead two Program Reviews, one focused on T2T implementation and one focused on oxygen ecosystems in selected countries, to assess public health outcomes and impact. The T2T Program Review intended to look across the value chain and leverage the experience of public health experts, frontline care clinicians, and others engaged in implementing the T2T pilots. Côte d'Ivoire, El Salvador, Ghana, Malawi, Mozambique, and Rwanda were selected for the T2T Program Review. STAR-UCSF and USAID worked collaboratively to determine which countries were chosen for the Program Review and/or whether all three objectives would be assessed in all Review countries.

Objectives

1. Understand the fidelity of implementation of the T2T program in selected countries
2. Identify key successes and challenges as well as enablers and barriers to implementation of T2T programs
3. Determine the public health outcomes of the program

Activities

1. Desk review of implementation materials
2. Application of the RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) implementation science framework to assess the potential for translation and public health impact of the T2T program
3. Stakeholder engagement using key informant interviews

Methods

STAR-UCSF developed and submitted a protocol and associated documents to the UCSF Institutional Review Board (IRB) and received a "Not Human Subjects Research" determination. Additionally, the protocol was submitted to the Ghana Health Service (GHS) which granted approval. A desk review of T2T-related documents was conducted to map implementation from obligation of funds to availability and implementation of T2T in pilot health facilities in each country. National- and facility-level indicators were developed using the RE-AIM implementation science framework to

[1] The 10 USAID-supported T2T countries were Bangladesh, Botswana, Côte d'Ivoire, El Salvador, Ghana, Lesotho, Malawi, Mozambique, Rwanda, and Senegal.

assess the T2T program's translatability and public health outcomes. Data was collected in country and subsequently analyzed. Lastly, virtual and in-person key informant interviews (KIIs) were conducted at the headquarter-, national-, and facility-level to identify examples of enablers, best practices, barriers, challenges, and successes. Key themes were identified through a rapid thematic analysis.

Findings

Desk Review

198 documents were reviewed as a part of the desk review. The majority were country-specific implementing partner (IP) work plans / scopes of work (SOWs), branding / templates, presentations, training materials, guidance documents, and social and behavioral change (SBC) materials. Many stakeholders, especially at the health facility-level, found the T2T algorithm and training materials developed at the headquarter (HQ)-level most useful. There were limitations in available materials STAR-UCSF was able to review, but a table comparing the World Health Organization (WHO) guidelines and pilot approaches in Review countries was developed. Overall, countries had similar models of implementation, but there were key differences, such as in oral antiviral selection, number and level of pilot facilities, methods for referring cases to pilot facilities for treatment, and eligibility criteria. Country-specific timelines were also developed to highlight the planned versus actual implementation periods and note key delays related to oral antiviral supply chain and regulatory approvals.

National- and Facility-Level Indicators

As part of the Program Review, data was collected from each selected pilot country and selected pilot sites, with the exception of Cote d'Ivoire, where facility visits were not conducted. In each country and site, data availability varied.

Reach

Reach indicators assessed the number and characteristics of program participants, such as the cascading number of COVID-19 patients suspected, tested, confirmed positive, and prescribed antivirals. The number of patients with suspected COVID-19 who were seen at participating health facilities ranged from 819 in Côte d'Ivoire to nearly 124,000 in Rwanda. Of those that were seen at the facility, almost all were subsequently tested for COVID-19. In Côte d'Ivoire, 0.6% of patients tested positive for COVID-19; in El Salvador, 0.3%; in Ghana, 5.2%; in Malawi, 5.2%; in Mozambique, 4.4%; in Rwanda, 1.3%. In Côte d'Ivoire, none of the five patients who tested positive were prescribed oral antivirals due to lack of availability. In El Salvador 70.0% (n=7) of positive patients were prescribed oral antivirals; in Ghana, 85.8% (n=334); in Malawi, 60% (n=39); in Mozambique, 34.2% (n=157); in Rwanda, 37.4% (n=589).

Effectiveness

Effectiveness indicators assessed the number and characteristics of individuals who benefitted from the program, such as staff trained for the pilot. Clinical trainings were hosted by IPs and MOHs and focused on diagnosis and clinical management of patients; indication, dosage, and administration of oral antivirals; algorithms and eligibility criteria; contraindications and drug-drug interactions; practical application example cases; patient education; documentation and monitoring and evaluation (M&E); and demand creation. Overall, the majority of trainees across countries were clinical staff, but El Salvador and Ghana elected also to train community health workers (CHWs). Additional types of healthcare staff trained in some

countries included supervisory staff and data management staff. Between September 2022 and December 2023, the number of HCWs trained by country ranged from 360 individuals in Mozambique, which had 4 facilities implementing T2T (plus referring facilities), to 2,180 individuals in Rwanda, which had 8 health facilities implementing T2T with nearly 200 referring facilities. Across Review countries, an average of 842 staff were trained per country. The number of staff trained varied by number of facilities implementing T2T and length of implementation with early adopters like Rwanda and El Salvador noting higher numbers of HCWs trained. Disaggregated training data was unavailable for Côte d'Ivoire.

Adoption

Adoption indicators assessed the number and characteristics of sites that participated in T2T. The number of pilot facilities ranged from 3 in Côte d'Ivoire to 20 in Ghana, for an average of 10 facilities per country. In Côte d'Ivoire 2 of 9 total regions were part of the pilot; in El Salvador, 2 of 14; in Ghana, 5 of 16; in Malawi, 3 of 28, in Mozambique, 3 of 11; in Rwanda, all regions were part of the pilot.

Implementation

Implementation indicators assessed consistency of delivery of the program and resources with quality, such as the timeliness of the pilots and availability of tests and antivirals. While all countries planned to begin T2T implementation in August 2022, they were delayed between 3 months in Rwanda and indefinitely in Côte d'Ivoire. Excluding Côte d'Ivoire, countries were delayed 7.2 months on average, due to various factors including significant supply chain and regulatory obstacles beyond the control of USAID and the IPs. Each country planned to pilot the T2T program for six months, and every country did, except for Côte d'Ivoire, which was unable to implement the pilot due to regulatory approvals of oral antivirals and lack of political will. After surpassing their six-month pilot periods, Ghana, Malawi, and Mozambique have not officially ended their implementation of T2T as of January 2024 with planned USAID support end dates in the first quarter of 2024.

El Salvador, Côte d'Ivoire, and Rwanda had availability of oral antivirals prior to the intended pilot start date. First availability of molnupiravir (Merck's Lagevrio, Hetero's generic, or Dr. Reddy's generic) was delayed by two months in Ghana, five months in Mozambique, and twelve months in Malawi. Availability of nirmatrelvir-ritonavir (Pfizer's Paxlovid or Hetero's generic) was also delayed five months in Ghana and eight months in Malawi. Nirmatrelvir-ritonavir was never registered in Côte d'Ivoire, El Salvador, nor Mozambique.

Maintenance

Maintenance indicators assessed the long-term implementation and effectiveness, such as the retention of staff trained on T2T and sustainability considerations like the availability of stock and ongoing detection and transmission of COVID-19. In all Review countries, except Côte d'Ivoire, there were national-level technical working groups (TWGs)/other forums where T2T-related and broader decision-making occurred. El Salvador, Ghana, Malawi, Mozambique, and Rwanda have also incorporated T2T into national treatment guidelines/strategies. In El Salvador, at one site only 11.7% trained staff were retained after 6 months. In Ghana, one facility reported that 100% of trained staff were retained after 6 months. Similarly, in Malawi, one facility reported that 100% of the trained HCWs remained after 3 months. Mozambique also saw little turnover in trained staff with one facility seeing 92% retention after 6 months. In Rwanda, one facility reported retention of 85% of trained staff, while another facility retained only 48% after 6 months.

Key Informant Interviews

In total, the STAR-UCSF team conducted 38 T2T KIIs, including 5 HQ-level interviews with program managers, directors, medical officers, advisors, etc.; 20 country-level interviews with project officers, country directors, MOH officials, etc.; and 13 facility-level interviews with HCWs, CHWs, clinical directors, T2T focal persons, and district health office (DHO) staff. From these KIIs, overall T2T enablers, best practices, barriers, and challenges were identified.

Enablers

Five enablers were identified in some or all of the Program Review countries: (1) ability to leverage a community-based approach, such as using community health workers to build trust, drive demand, and refer patients; (2) availability of adaptable guidelines and implementation models, allowing countries to adapt eligibility criteria or utilize referral networks, for example, to fit local epidemics and health systems; (3) commitment to building strong partnerships at all levels, through establishing strong partnerships from national government officials to local, cultural and religious leaders; (4) strong existing data systems and routine data use, where policies and decision-making is already centered around data; and (5) prepared, resilient health systems, for example, in countries which have already prepared for and faced other epidemics like cholera and Ebola.

Best Practices

Four best practices were identified in some or all of the Program Review countries: (1) leveraging and strengthening existing public health systems, such as adapting site-level health information systems and registers to capture new T2T data; (2) collaborating for effective demand generation, including widespread awareness campaigns using radio, TV, banners, and more; (3) utilizing a practical, multi-disciplinary training approach, including conducting trainings in local languages and through online learning management systems; and (4) creating simple, clear tools, such as the T2T algorithm to help triage COVID-19 patients.

Barriers

Four barriers were identified in some or all of the Program Review countries, the largest of which were (1) supply chain and regulatory obstacles, including procurement, registration, shipping, and distribution of oral antivirals both internationally and within pilot countries, which significantly delayed T2T implementation. The other barriers were (2) competing health priorities and deprioritization of COVID-19, especially in countries with few cases, relaxing restrictions, and COVID-19 fatigue; (3) misinformation and mistrust regarding the disease and its treatment, a global and local barrier in combatting COVID-19; and (4) concerns around oral antiviral efficacy and safety due to delayed information-sharing with policymakers.

Key Challenges

Four key challenges were identified in some or all of the Program Review countries: (1) short initial pilot duration, with insufficient time for pre-implementation meetings for decision-making; (2) slow buy-in from local leadership in some countries; (3) limited inclusion of key health facility staff in trainings, with only specific cadres of HCWs allowed to attend initial trainings hosted by IPs; and (4) poor access to high-quality data, such as discontinued national reporting of COVID-19 cases, incomplete data entry for T2T indicators, and limited tracking of patients through the cascade.

Conclusion & Recommendations

Successes of T2T Program

Overall, despite the complex barriers and unexpected challenges of launching a pilot program during a global pandemic, it's evident that the T2T program was viewed as successful by key stakeholders in the Program Review countries. Successes included: (1) direct benefit to patients, (2) integration into and strengthening of routine, decentralized programs, (3) adaptation to local cultural contexts and epidemics, and (4) addressing misinformation and mistrust.

Recommendations for Future Programming

Several recommendations for future programming were highlighted: (1) significant investment needed to strengthen supply chain and regulatory mechanisms, (2) adjust considerations for country selection and set realistic timelines, (3) share timely information and experience with and across local stakeholders, (4) focus on capacity building and workforce development, and (5) ensure high-quality data for monitoring program progress.

Translatability of T2T Program

The T2T pilot program can serve as a model for similar programs treating future respiratory viruses. The enablers, best practices, and recommendations identified can be utilized when designing and implementing similar test-to-treat programs in diverse contexts. Similarly, the barriers and key challenges are likely not unique to the COVID-19 pandemic nor this specific T2T program, but instead are likely careful considerations which stakeholders should be prepared to address either before or during the next emerging global health threat. The gains of the COVID-19 pandemic and T2T program in training and capacity building; data collection and visualization; demand-creation and SBC; and, perhaps most importantly, procurement and regulatory mechanisms should not be lost, but instead further examined to better understand how we, globally and locally, can all be better prepared for the next pandemic.

Limitations

Overall, it should be noted that countries were at different stages in T2T implementation when STAR-UCSF conducted site visits, KIIs, and data abstraction. As a result, experiences and quantity/quality of data shared varied by country. Missing data, inconsistencies in data collected in country and reported to USAID, varied implementation models and facilities visited made it difficult to generalize facility-level findings for countries and compare data across countries. The lack of available data to track patients originating from referral facilities or CHWs hindered the ability to assess the complete patient journey and the impact of the T2T program. In addition, there was a limited number of COVID-19 cases during the pilot, so the full potential public health impact of the T2T program could not be assessed. KII findings are limited by biases for sharing successes over challenges, the presence of USAID, IP, and/or MOH representatives during some facility-level KIIs, political sensitivities, delicate relationships at play, and limited access to the MOH and health facility staff (especially in Côte d'Ivoire).

Overview

Background

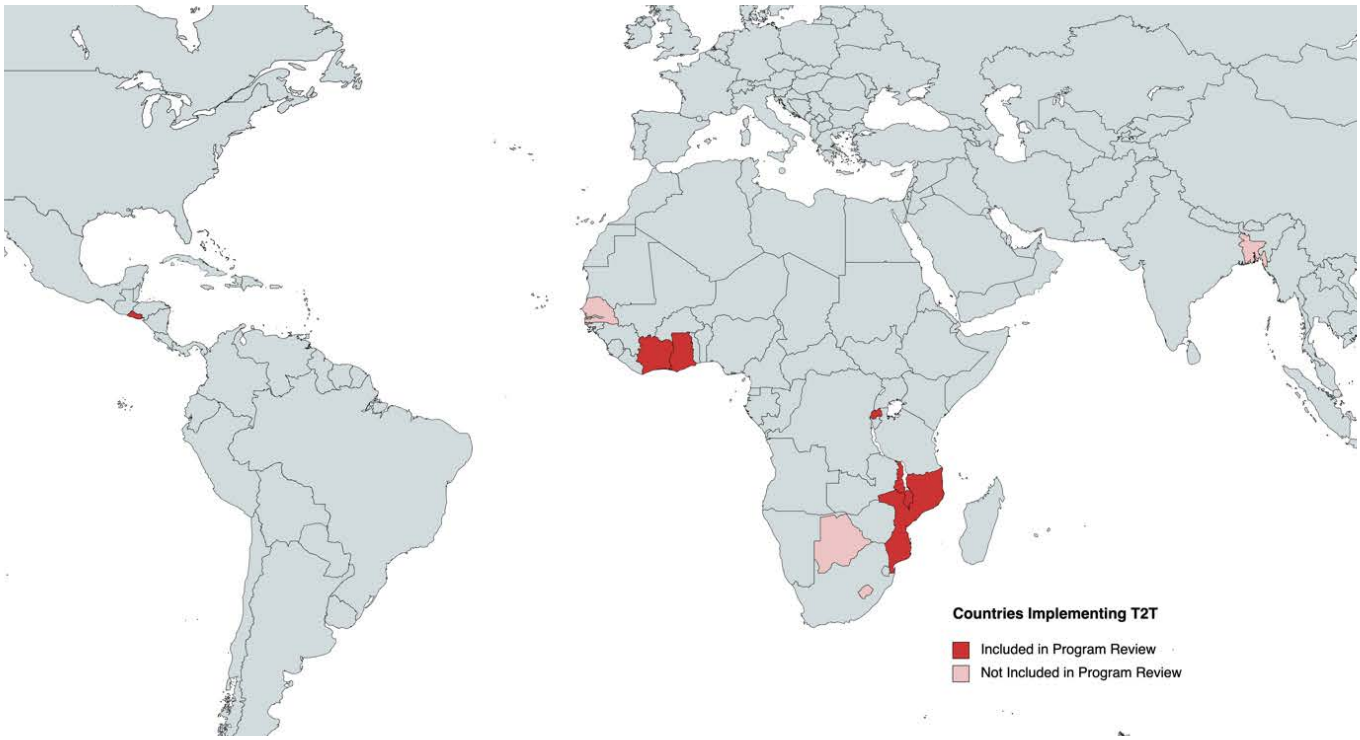
In May 2020 with funding from the United States Agency for International Development (USAID), the Meeting Targets and Maintaining Epidemic Control (EpiC) central mechanism, led by the implementing partner (IP) FHI 360, and the Reaching Impact Saturation and Epidemic Control (RISE) central mechanism, led by the IP Jhpiego, were engaged for COVID-19 activities to respond to COVID-19, including testing, surveillance, case management, and later oxygen supply and delivery, in low- and middle-income countries (LMICs). As part of this funding, the Sustaining Technical and Analytic Resources (STAR) project engaged with its sub-partner, the University of California, San Francisco (UCSF) to assemble technical experts who could provide advice, create tools for assessment, knowledge sharing, and education, and to implement technical assistance (TA) in these important aspects of countries' responses to the COVID-19 pandemic. In November 2021, USAID obligated funds to EpiC, RISE, and STAR-UCSF, to respond to COVID-19 case management, oxygen delivery, emergency care, and vaccines. Subsequently in August 2022, additional funds were allocated to continue COVID-19 activities, as part of a collaborative effort to support the curation of essential up-to-date "global goods" for partners, stakeholders, and implementers, including tools and resources. This August 2022 tranche of funding included two programmatic focus areas: Oxygen Ecosystems and the Test-to-Treat (T2T) program.

In July 2022, building off the existing collaboration, STAR-UCSF was engaged to carry out two Program Reviews, one focused on the T2T program implementation and the other on USAID' investment into oxygen ecosystems in selected countries, to assess public health outcomes and impact. As outlined below, the T2T Program Review was undertaken in collaboration with USAID and in support of the two USAID central mechanisms, EpiC and RISE. Elements of this Review are intended to be released publicly pending USAID concurrence and predicated on agreement from Ministries of Health (MOHs), which was sought at the earliest stage of the Program Review. This Review relied on stakeholder engagement at every stage, beginning with the design of the Review. For instance, USAID and IPs provided feedback on the overall scope of work (SOW) as well as national- and facility-level indicators; received updates on the Program Review in routine meetings; and facilitated initial introductions to stakeholders in the Review countries. STAR-UCSF relied on USAID leadership for engagement with IPs, as well as facilitation of access to existing aggregate, non-clinical data.

Test-to-Treat Program Review

To address the COVID-19 pandemic, the T2T program used rapid diagnostic testing and linkage to oral COVID-19 antivirals early in the disease course to mitigate and prevent hospitalization, severe morbidity, and mortality. Starting in the third quarter of 2022, USAID, in consultation with MOHs, rolled out limited implementation of T2T programs in 10 selected countries through EpiC and RISE (Figure 1). Critical to the success of this program were several important factors: 1) accessible rapid diagnostic tests (RDTs) for COVID-19, relying primarily on professionally-administered and self-administered RDTs (if possible); 2) access to oral antivirals; 3) clear guidelines on eligibility criteria; 4) training for healthcare workers (HCWs) on how to implement those guidelines; 5) community awareness of the need for and benefit of early diagnosis and treatment; and 6) follow-up and tracking of programmatic outcomes.

Figure 1. USAID-supported countries included in the Program Review and implementing T2T.



Objectives:

The STAR-UCSF team conducted the T2T Program Review, looking across the value chain and leveraging the experience of public health experts, frontline care clinicians, and other stakeholders engaged in implementing the T2T pilots, in order to:

1. Understand the fidelity of implementation of the T2T program in selected countries
2. Identify key successes and challenges as well as enablers and barriers to implementation of T2T programs
3. Determine the public health outcomes of the program

STAR-UCSF and USAID worked collaboratively to determine which countries were chosen for the Program Review and/or whether all three objectives would be assessed in all countries. The countries included in the T2T Program Review were Côte d'Ivoire, El Salvador, Ghana, Malawi, Mozambique, and Rwanda (see Country Selection below).[2]

Activities:

The Program Review was designed around three activities across selected countries:

1. Desk review of implementation materials
2. Application of RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) implementation science framework to assess the potential for translation and public health impact of the T2T program
3. Stakeholder engagement using key informant interviews

[2] The 10 USAID-supported T2T countries were Bangladesh, Botswana, Côte d'Ivoire, El Salvador, Ghana, Lesotho, Malawi, Mozambique, Rwanda, and Senegal.

Methods

Figure 2. Timeline for T2T Program Review activities.

Ethical Approval

In November and December 2022, STAR-UCSF developed and submitted the Program Review protocol and associated documents to the UCSF Institutional Review Board (IRB). In December 2022, the UCSF IRB determined that the review was "Not Human Subjects Research" as the review was "a project that includes program evaluations, quality improvement activities, or other activities that do not require further IRB oversight according to the federal regulations summarized in 45 CFR 46.102(l)" (Appendix 1)

Country-specific IRB approvals were not required, except in Ghana where STAR-UCSF submitted a request for expedited review and exemption. In November 2023, the Ghana Health Service (GHS) granted approval to complete the Program Review (GHS-ERC: 004/11/23) (Appendix 2)

Country Selection

Between October and December 2022, STAR-UCSF engaged USAID headquarter (HQ) and IPs to select countries for the T2T Program Review. Côte d'Ivoire, El Salvador, Ghana, Malawi, Mozambique, and Rwanda were recommended by USAID HQ and selected as they were already or soon-to-start implementing the 6-month T2T pilots and were perceived to be more receptive to the Review.

Activity 1: Desk Review

Between December 2022 and March 2023, STAR-UCSF gathered T2T desk review materials from USAID and the IPs. The desk review entailed a thorough review of documentation related to the USAID T2T program, including protocols, fact sheets, guidance documents, training curricula, implementation plans or frameworks, IP workplans/SOWs, job aids and algorithms for HCWs, presentation slides or recordings, demand generation materials, minutes from partnership

meetings or technical working groups (TWGs), commodities tracking documents (e.g., availability of COVID-19 RDTs or oral antivirals, etc.), funding allocations, national strategic plans, and IP progress reports. In April and May 2023, these materials were reviewed by STAR-UCSF and categorized according to type of material, creator, audience, topic, language(s), country, and other key details, and a summary table was developed to provide a brief overview of T2T programming (e.g., COVID-19 oral antiviral procured, facilities selected for pilot, etc.) across the Program Review countries. During the initial desk review, the STAR-UCSF team mapped the implementation process from obligation of funds to availability and implementation of T2T in pilot health facilities in each country.

Activity 2: National- and Facility-Level Indicators

Following the collection and desk review of all relevant program materials, in February and March 2023, STAR-UCSF developed national- and facility-level indicators based on the IPs' SOWs and USAID T2T indicators routinely reported by IPs. These Program Review indicators were structured using the RE-AIM (Reach, Effectiveness, Adoption, Implementation, Maintenance) implementation science framework[3] to assess the T2T program's translatability and public health outcomes. (Note: this review did not look at the clinical efficacy and effectiveness of oral antivirals as this has been well documented and published for certain populations elsewhere.) This included the initial pre-implementation hurdles that needed to be overcome to implement the T2T program, the program's reach of target populations, and T2T's future sustainability. The STAR-UCSF team used relevant aggregate, non-clinical quantitative and qualitative data collected by USAID, IPs, and MOHs during the program period at both facility- and country-levels. The former involved a facility assessment in a subset of T2T pilot facilities in the selected countries, using a quantitative assessment tool. Data on commodities, including the availability of COVID-19 RDTs and COVID-19 oral antivirals, were also assessed to determine if supply met the demand, and/or if stock outs occurred and if so, why.

The data abstracted as part of the RE-AIM framework focused on the following[4]:

- **Reach (individual level):** Number and characteristics of individuals who participated
  - What percentage of the target population came into contact with the program?
  - Did the program reach those with the most need?
  - Did the participants reflect the targeted population?
- **Effectiveness (individual level):** Number and characteristics of individuals who benefited
  - Did the intervention affect key targeted outcomes?
  - What unintended adverse consequences occurred?

[3] https://re-aim.org/

[4]Adapted from: Klesges LM, Estabrooks PA, Dzewaltowski DA, Bull SS and Glasgow RE. Beginning with the application in mind: Designing and planning health behavior change interventions to enhance dissemination. Annals of Behavioral Medicine. 2005 May;29(2):66-75.

- **Adoption (setting or organizational level):** Number and characteristics of settings or organizations that participated
    - What percentage of target settings and organizations implemented the program?
    - Did the organizations include high-risk or underserved populations?
    - Did the program fit within organizational goals and capacities?
- **Implementation (setting or organizational level):** Consistent delivery of intervention and resources with quality
    - Can different levels of staff successfully implement the program?
    - What proportion of staff within a setting implemented the program?
    - Were various components delivered as intended?
- **Maintenance (individual and setting or organizational levels):** Long-term implementation and program effectiveness
    - Did the program produce long-term individual behavior change?
    - Will organizations sustain the program over time?
    - What are the characteristics of persons and settings showing maintenance?

In February 2023, the proposed T2T Program Review indicators were first shared with USAID and IP HQ teams, followed by multiple rounds of revision incorporating their feedback in March. In April and May 2023, the finalized indicators were programmed onto electronic tablets using Open Data Kit (ODK) (Appendices 3-4) with slight revisions as needed for form functionality. During country-level data collection between May 2023 and January 2024, the STAR-UCSF team worked with country-level USAID, IP, MOH, and health facility staff to fill in the respective country- and facility-level forms.

Activity 3: Key Informant Interviews

To better understand the implementation of T2T, STAR-UCSF conducted key informant interviews (KIIs) with global and country-specific experts involved in USAID's T2T programs in each country. The emphasis of these interviews was to solicit information on all dimensions of T2T implementation, identifying examples of successes and challenges, as well as enablers and barriers In addition, information on stakeholder engagement, such as existence of a TWG, its membership, and function, was collected to assess the collaborations between USAID, IPs, MOHs, local organizations, and other key stakeholders to determine the effectiveness of these partnerships in advancing T2T.

In February and March 2023, STAR-UCSF developed KII guides for headquarter (HQ), country, and facility levels with questions relating to key domains of T2T program implementation: (1) Procurement and Supply Chain Logistics, (2) Pre-Implementation, (3) Training and Mentorship, (4) Implementation of T2T, (5) Demand Generation Activities, (6) Data Collection, Analysis and Use, and (7) Future Sustainability and Translatability. To prevent bias, these questions were not shared for feedback with USAID and IPs as they were part of the groups being interviewed. In April, STAR-UCSF had the T2T KII guides professionally translated into French, Spanish, and Portuguese for Côte d'Ivoire, El Salvador, and Mozambique, respectively.

For HQ-level interviews, STAR-UCSF invited key stakeholders who were the leads for the T2T pilots at their respective organizations; they were also asked to invite others that had also been involved in the

design, implementation, monitoring, and/or decision-making related to USAID's T2T programs in the review countries. For country- and facility-level interviews, USAID and IP HQ staff provided a list of proposed key-informants from USAID local mission and IP offices; these country-level informants provided recommendations on who should be included from the MOH and health facilities. There was no formal inclusion or exclusion criteria. Key informants were invited to participate by STAR-UCSF or country-level USAID or IP teams if they had been involved in USAID-funded T2T pilots.

In May and June 2023, HQ-level KIIs were conducted with USAID and EpiC and RISE IP staff virtually via Zoom. Between May 2023 and January 2024, in-person KIIs were conducted at the country and health facility levels with USAID local missions, IP country offices, and MOHs as well as HCWs, CHWs, and management staff at the pilot site level.[5]

Staff from organizations at each level were interviewed as a group unless they were the sole key stakeholder at that organization's level or it was not possible to schedule a group interview. After explaining the background, purpose, risks, and benefits of the KIIs, verbal consent was obtained from each participant. One to two members of the STAR-UCSF team conducted the interview using a semi-structured interview guide (Appendix 5) while another member took notes. Interviews ranged from 30 to 75 minutes and were conducted in English, French, Spanish, or Portuguese with fluent speakers on the STAR-UCSF team, when applicable. Names and other personally-identifying information (PII) weren't recorded. During the interviews, key informants were asked to share their perceptions, experiences, and opinions about the T2T program.

When possible, interviews were initially audio-recorded to ensure the accuracy of conversation in the interview notes; once KII notes were finalized within 5 days of the interview, audio recordings were permanently deleted. Immediately following each interview, STAR-UCSF team members who had conducted the interviews and taken notes debriefed to identify preliminary themes.

After each country-level visit, a more in-depth analysis of KIIs was conducted by the STAR-UCSF team by reviewing interview notes and identifying main themes. A rapid thematic analysis was used to systematically interpret the meaning of the qualitative data collected. During a six-step process, each HQ- and country-facility KII was analyzed, assigned codes, and further reduced into themes and sub-themes, each with associated codes. The six-step process was: familiarizing data, generating initial codes, searching for themes, reviewing themes, refining themes, and adding sub themes.

[5] One virtual interview was conducted in El Salvador with facility staff who were not available at the time of the site visit. Virtual interviews were conducted for all country- and health facility-level KIIs in Ghana as a result of delays in receiving local IRB approval and the 2023-2024 holiday season.

Findings

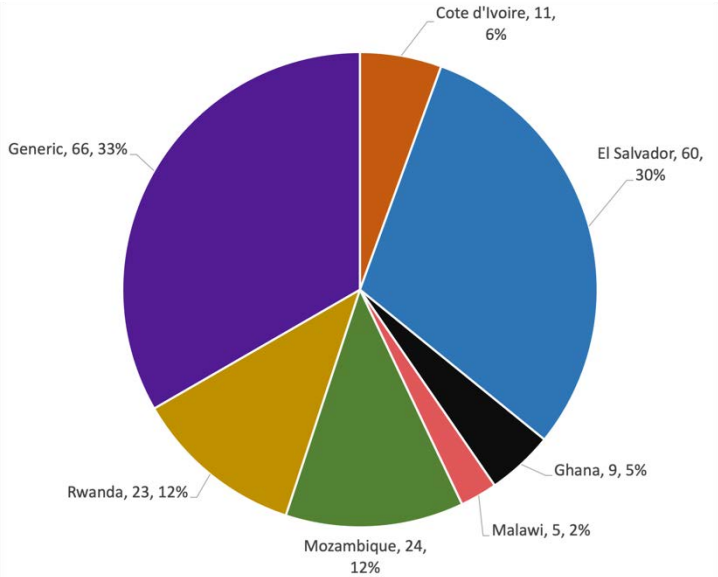
Activity 1: Desk Review

The desk review encompassed a total of 198 documents in various languages, including French, Spanish, and Portuguese, from EpiC, RISE, and USAID teams. Some materials were linked to publicly-accessible websites (e.g., Opencriticalcare.org) and scientific journals and publications, while others were internal documents only accessible to the IPs and/or USAID teams. These materials were reviewed and classified based on different criteria, including public availability, content creator, language, category or type of document, subject matter, intended audience, date, and country-specific or general, cross-country materials (Appendix 6).

As shown in Figure 3, about one-third of the documents shared were not country specific and could be utilized more broadly. Examples included World Health Organization (WHO) therapeutic guidelines, T2T algorithms, and scientific journal articles on oral antiviral efficacy. The remaining two-thirds were country-specific and had either been translated into non-English language(s) (i.e., French, Spanish, and Portuguese) and/or adapted to the model of implementation for T2T in the respective country. Examples included antiviral eligibility criteria, training materials, and SBC posters and brochures.

Figure 4 shows the breakdown these materials by type of document, including templates, data collection tools, fact sheets, frequently asked questions (FAQ), guiding document, implementation plans / frameworks, IP workplans / SOWs, job aids, news articles / editorials, presentations, quality assurance or improvement (QA or QI) tools, reports, SBC materials, scientific publications, standard operating procedures (SOPs), toolkits, tracking sheets, training materials.

Figure 3. Summary of materials reviewed, by geography.



Overall, the T2T materials shared with the STAR-UCSF team were readily adapted by the in-country IP, EpiC and RISE teams, as well as by MOH teams, noting especially in non-English-speaking countries where materials were adapted to French, Spanish, Portuguese, and in some countries' local languages. As noted below in Enablers, many stakeholders, especially at the health facility-level, found the T2T algorithm and training materials developed at the HQ-level most useful. Unfortunately, there were some limitations related to the materials reviewed as part of the desk review, as some countries lacked country-specific materials (i.e., Côte d'Ivoire, Ghana, and Malawi), meaning most of what was reviewed were IP workplans and SOWs. However, in these countries, materials such as job aids, SBC materials, QI tools, etc. may not have been adapted or created yet at the time of the desk review as a result of delayed implementation starts. While some country-based teams were able to share additional materials later during the STAR-UCSF site visits

(e.g., Ghana, Rwanda), not all shared additional materials for review (e.g., Côte d'Ivoire). Moreover, in some countries there were noted challenges of using some global, generic materials such as the Liverpool drug interaction checker app, which faced challenges to download and use in Côte d'Ivoire for example.

A separate table comparing countries' T2T pilot programs was also created using relevant country SOWs that were shared with the STAR-UCSF team by USAID (Table 1). This comparison highlighted T2T implementation by country, lead IP, health facilities selected to pilot, and oral antiviral(s) procured and registered along with eligibility and exclusion criteria. Moreover, those eligibility and exclusion criteria were compared to the WHO guidelines and therapeutic recommendations for patients with COVID-19. This table was updated for accuracy as country-level KIIs and data collection occurred.

Figure 4. Summary of materials reviewed, by type of document.

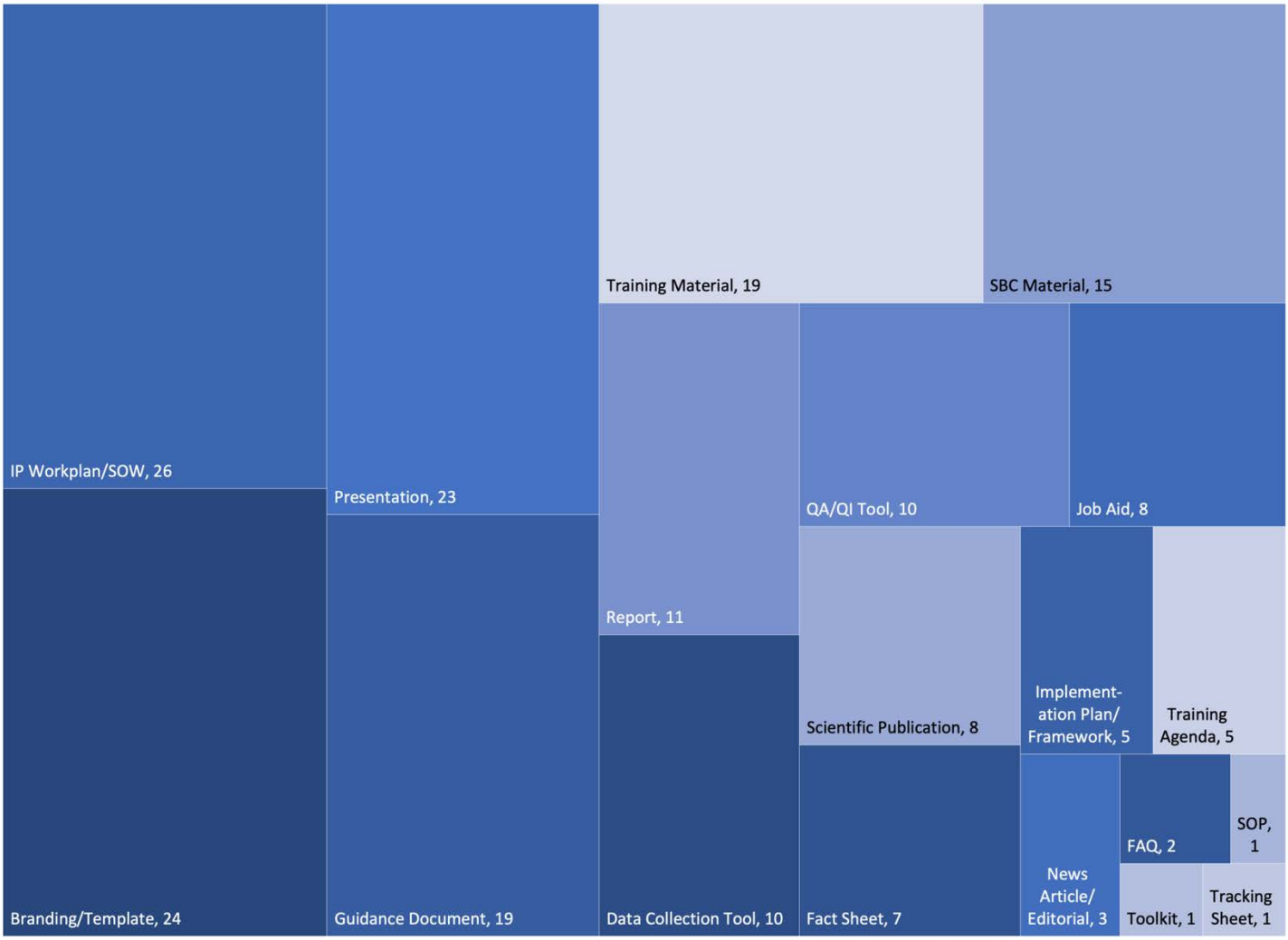


Table 1. Comparison of WHO guidelines and pilot approaches in countries included in T2T Program Review.

Country	IP	Pilot Sites Selected	COVID-19 Oral Antiviral Eligibility Criteria	COVID-19 Oral Antiviral Exclusion Criteria
World Health Organization Therapeutics and COVID-19: Living guideline[6]			Nirmatrelvir-ritonavir (1st line) and molnupiravir (2nd line): ● Review medication prescriptions to minimize polypharmacy and the potential for drug-drug interactions ● Non-severe patients with confirmed COVID-19 (using molecular or antigen-detection test) within 5 days of symptom onset with any of the following high- or moderate-risk criteria: ○ > 60 years ○ Diagnosed immunodeficiency, including: ■ Human immunodeficiency virus (HIV) ■ Immunosuppressive medical treatment for rheumatoid or other autoimmune disease ○ Pre-existing non-communicable disease, including: ■ Hypertension ■ Diabetes ■ Chronic cardiopulmonary, kidney, liver or lung disease ■ Cardiovascular disease ■ Cerebrovascular disease ■ Dementia ■ Mental disorders and persons with disabilities ■ Obesity ■ Active cancer ○ In pregnant or recently pregnant women, additional risk factors are: ■ Advanced maternal age (≥35 years) ■ Obesity ■ Chronic medical conditions ■ Pregnancy-specific disorders (e.g. gestational diabetes and pre-eclampsia/eclampsia)	For nirmatrelvir-ritonavir (1st line): ● Children under 12 years old For molnupiravir (2nd line): ● Pregnant or breastfeeding women ● All children (under 18 years old)

[6] Notably, WHO guidelines changed most recently on 10 November 2023, and, as of January 2024, many MOHs are still determining how to incorporate the latest global guidance into their national oral antiviral eligibility criteria.

Country	IP	Pilot Sites Selected	COVID-19 Oral Antiviral Eligibility Criteria	COVID-19 Oral Antiviral Exclusion Criteria
Côte d'Ivoire	EpiC (FHI 360)	3 Health Facilities in 2 Regions: ● Abidjan (2) ● Bouake (1)	Molnupiravir: ● WHO criteria, plus: ○ HCWs as high-risk	
El Salvador	EpiC (Palladium)	7 Health Facilities (plus referring facilities) in 2 Departments: ● San Salvador (4) ● San Miguel (3)	Molnupiravir: ● WHO criteria, except: ○ High-risk age is ≥65 years ○ High-risk body mass index (BMI) is ≥25 kg/m² instead of ≥30 kg/m²	
Ghana	RISE (Jhpiego)	24 Health Facilities (plus referring facilities) in 6 Regions: ● Greater Accra (6) ● Ashanti (5) ● Eastern (4) ● Central (4) ● Bono (4) ● Northern (1)	Nirmatrelvir-ritonavir: ● WHO criteria	
Malawi	EpiC (FHI 360)	19 Health Facilities in 3 Districts: ● Lilongwe (8) ● Zomba (5) ● Mangochi (6)	Nirmatrelvir-ritonavir (1st line) and molnupiravir (2nd line): ● WHO criteria, except: ○ High-risk age is ≥50 years	
Mozambique	RISE (Jhpiego)	4 Health Facilities (plus referring facilities) in 3 Provinces: ● Maputo Cidade (2) ● Maputo (1) ● Nampula (1)	Molnupiravir: ● WHO criteria	● WHO criteria, plus: ○ Individuals vaccinated for COVID-19 within last 6 months
Rwanda	RISE (Jhpiego)	8 Health Facilities (plus referring facilities) in 5 Provinces: ● Northern (2) ● Western (2) ● Eastern (2) ● Southern (1) ● City of Kigali (1)	Nirmatrelvir-ritonavir (1st line) and molnupiravir (2nd line): ● All adults with mild/moderate symptoms and within 5 days of onset (regardless of high-risk criteria) *(see Case Study below for details)*	● WHO criteria, plus: ○ For nirmatrelvir-ritonavir, all children under 18 years of age

As part the desk review and utilizing IP workplans/SOWs and meeting minutes routine calls on T2T implementation progress, the STAR-UCSF mapped out the implementation timelines for each T2T country, comparing the intended or originally planned 6-month timelines compared to the actual timelines of implementation (Figures 5-10 below).

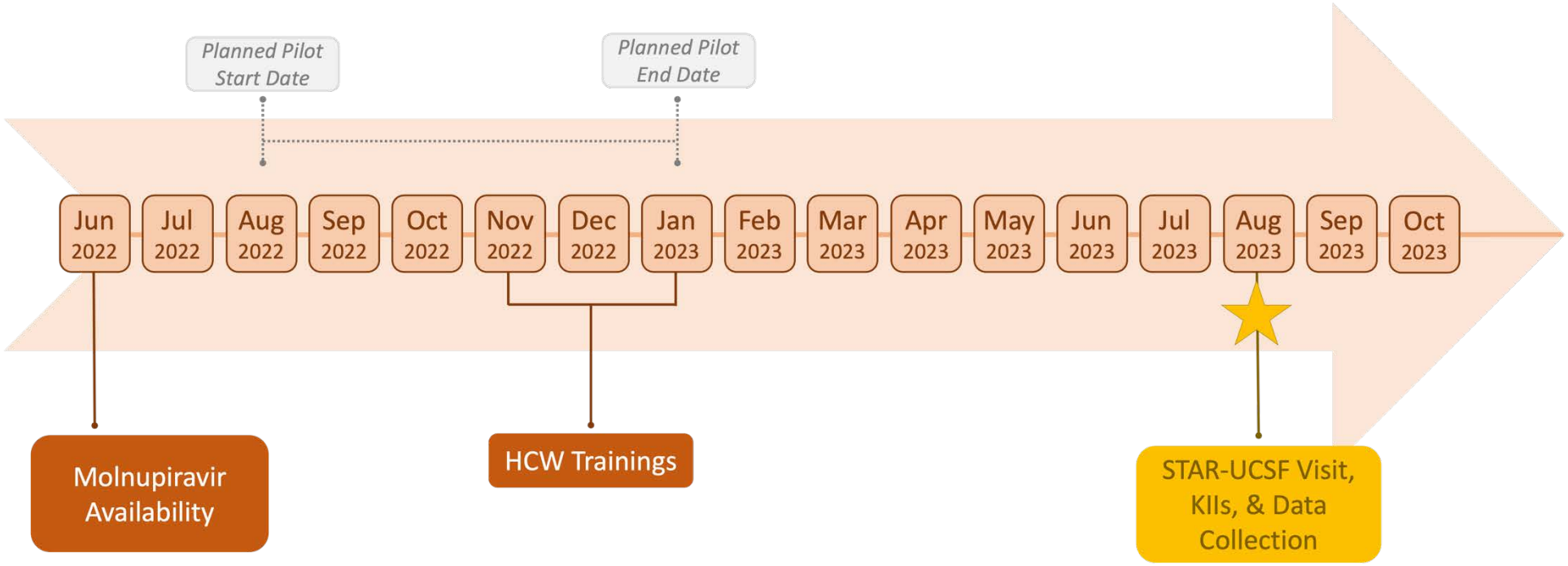
In particular, three USAID T2T countries included in the Program Review, Ghana, Malawi, and Rwanda, also overlapped with the QuickStart Consortium which launched in September 2022 which allowed IPs to coordinate and leverage activities synergistically with that program. For example, in Malawi the drugs ultimately used as part of the USAID pilot were from the QuickStart Consortium donation.

Key variations and reasons for delays in the implementation timelines are noted below.

Côte d'Ivoire

Merck's Lagevrio (molnupiravir) was registered through an emergency waiver mechanism in Côte d'Ivoire and availability was confirmed during a preliminary assessment before the USAID-supported T2T pilot in June 2022. However, by November 2022, the existing stock of molnupiravir had expired, and oral antivirals have been unavailable in Côte d'Ivoire since, due in part to supply chain and regulatory obstacles. In August 2023 shortly before the STAR-UCSF KIIs and data collection, the MOH rejected the regulatory approval of molnupiravir, stating that there was no longer a therapeutic interest due to the end of COVID-19 as a public health emergency of international concern. Subsequently, the USAID-funded T2T pilot was never officially implemented at the selected sites and ended at the end of October 2023 due to lack of oral antivirals and political will.

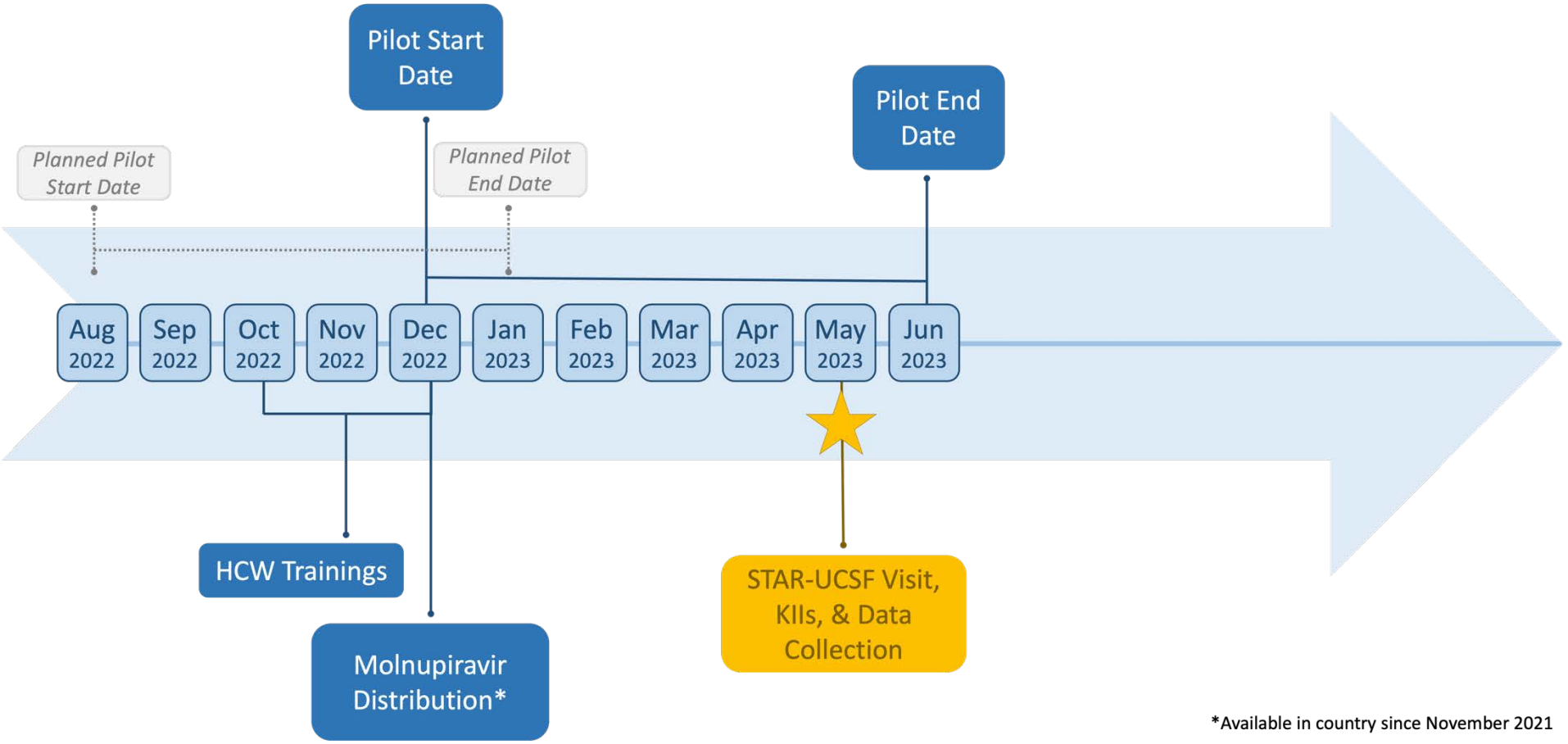
Figure 5. T2T pilot implementation timeline in Côte d'Ivoire, 2022-2023.



El Salvador

El Salvador had a pre-existing antiviral treatment strategy before the USAID T2T pilot began. Dr. Reddy's molnupiravir was rapidly procured by the MOH and had been available in El Salvador under an emergency use authorization (EUA) since November 2021. The government had a centralized system for the provision of molnupiravir and did not distribute the oral antivirals to health facilities until December 2022, leading to an overall delay in the start of the T2T pilot. HCW trainings in El Salvador started with an initial training of trainers (TOT) in October 2022, followed by cascade trainings from November to December 2022. The USAID-funded T2T pilot ended in June 2023 following just over 6 months of implementation.

Figure 6. T2T pilot implementation timeline in El Salvador, 2022-2023.

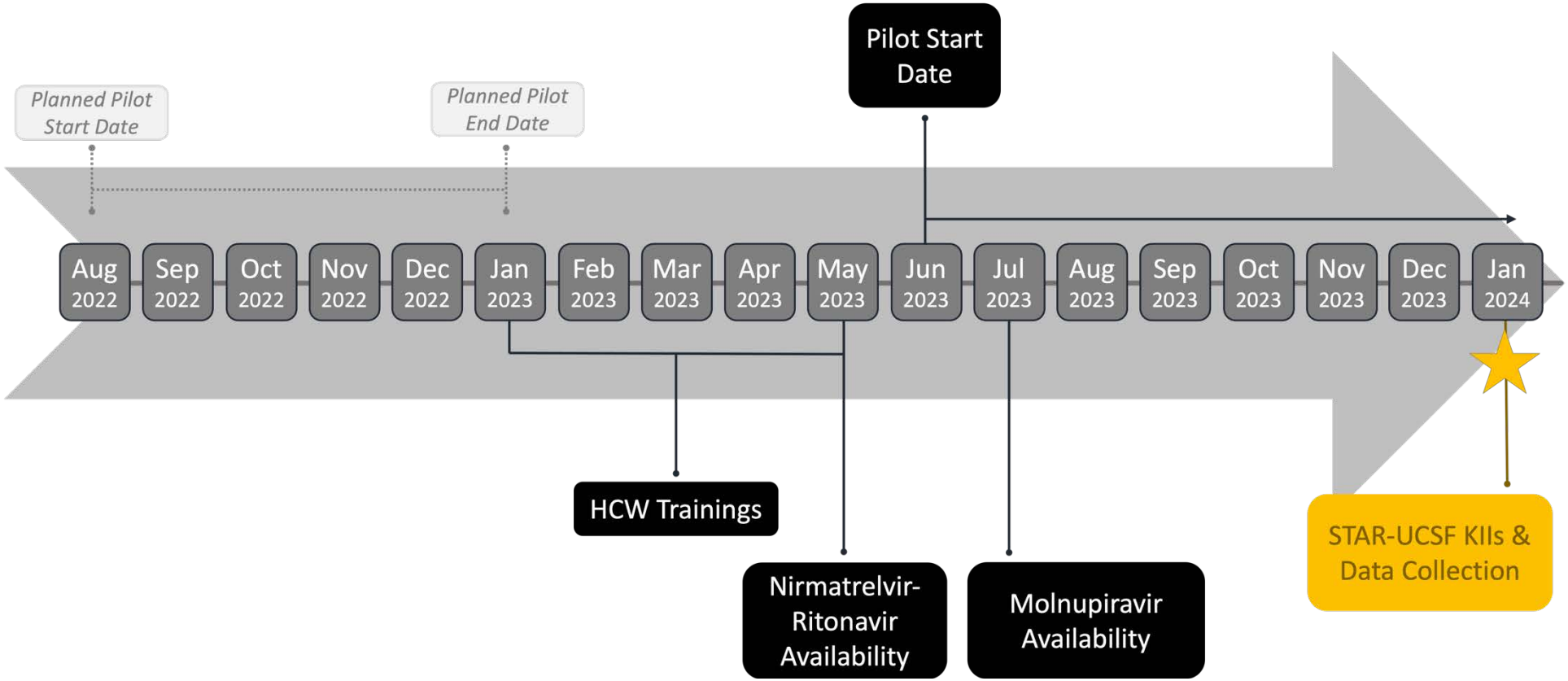


*Available in country since November 2021

Ghana

Registrations of nirmatrelvir-ritonavir (Pfizer's Paxlovid) and molnupiravir (Hetero's generic) were received in December 2022 and March 2023, respectively. HCW trainings began with a ToT in January and February 2023, followed by regional cascade trainings from March to May 2023. Due to delays in obtaining a purchase order for nirmatrelvir-ritonavir, a donation was received from U.S. Health and Human Services in May 2023. While Ghana had registered both antivirals, the pilot began with only nirmatrelvir-ritonavir in June 2023. Subsequently, a molnupiravir shipment was received in country in July 2023; however, due to large quantities of nirmatrelvir-ritonavir available at pilot sites followed by the Ghanaian Food and Drugs Authority's cancellation of its EUA for molnupiravir in October 2023, the pilot proceeded with only nirmatrelvir-ritonavir for its entirety. The USAID-funded T2T pilot is still ongoing through February 2024, with interest from the MOH to continue and expand implementation in 2024.

Figure 7. T2T pilot implementation timeline in Ghana, 2022-2024.

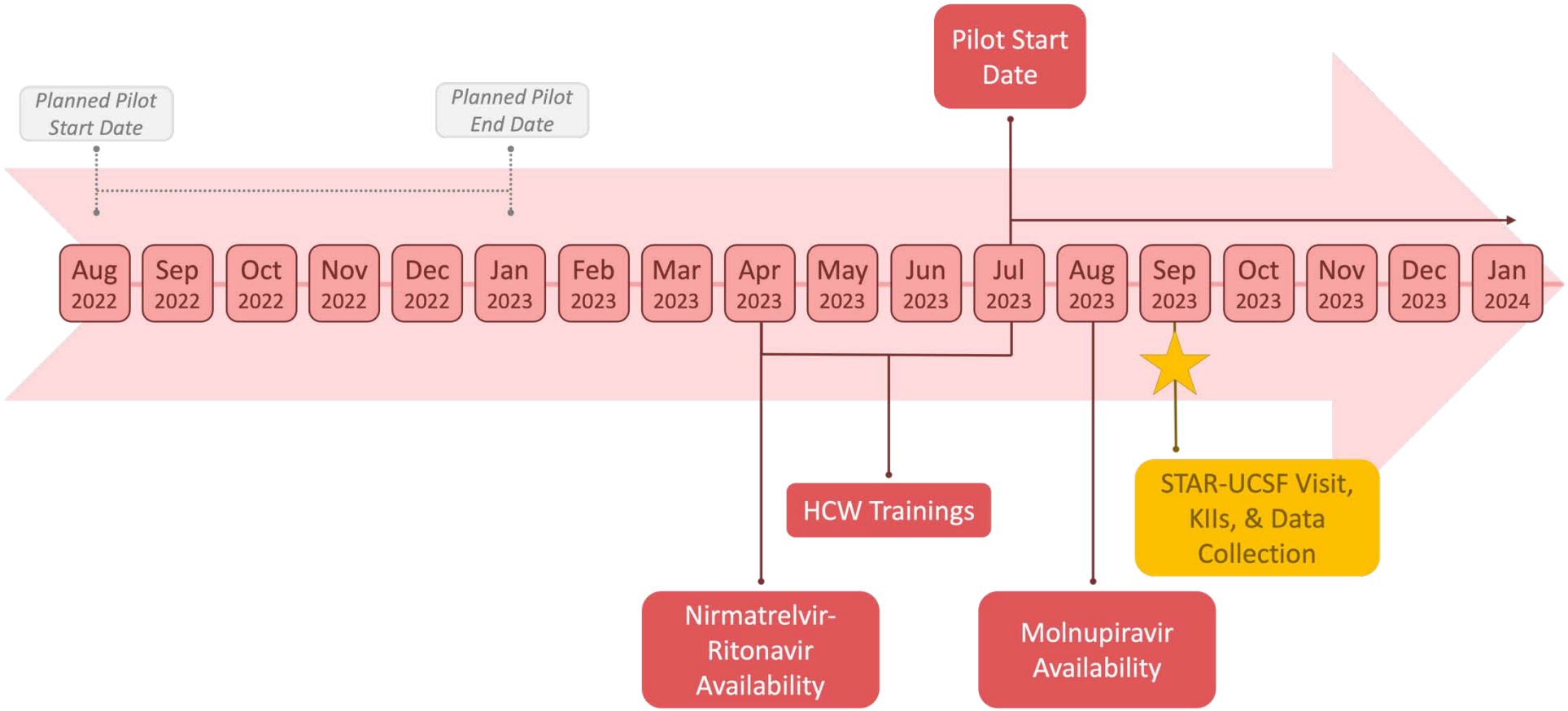


STAR SUSTAINING TECHNICAL AND ANALYTIC RESOURCES
Sustaining Technical and Analytical Resources (STAR) is a project of the Public Health Institute (PHI) implemented in partnership with the University of California, San Francisco (UCSF) and Aspen Management Partnership for Health (AMP Health).

Malawi

While Malawi had registered Hetero's molnupiravir and nirmatrelvir-ritonavir, national emergencies in addition to supply chain barriers and lengthy governmental approval processes, prevented the T2T pilot from starting in Malawi until July 2023. From December 2022 to August 2023, an ongoing cholera outbreak was classified a "national public health emergency." In March 2023, Malawi was hit by Cyclone Freddy, which damaged several T2T sites in ⅔ of pilot districts. HCW trainings in Malawi started with a TOT in April 2023, followed by regional cascade trainings from June to July 2023. Since July 2023, there have also been reports of 7–12-day stock-outs of RDTs which temporarily prevented T2T implementation in one district. The USAID-funded T2T pilot is still ongoing through March 2024 with interest from the MOH to continue and expand implementation in 2024.

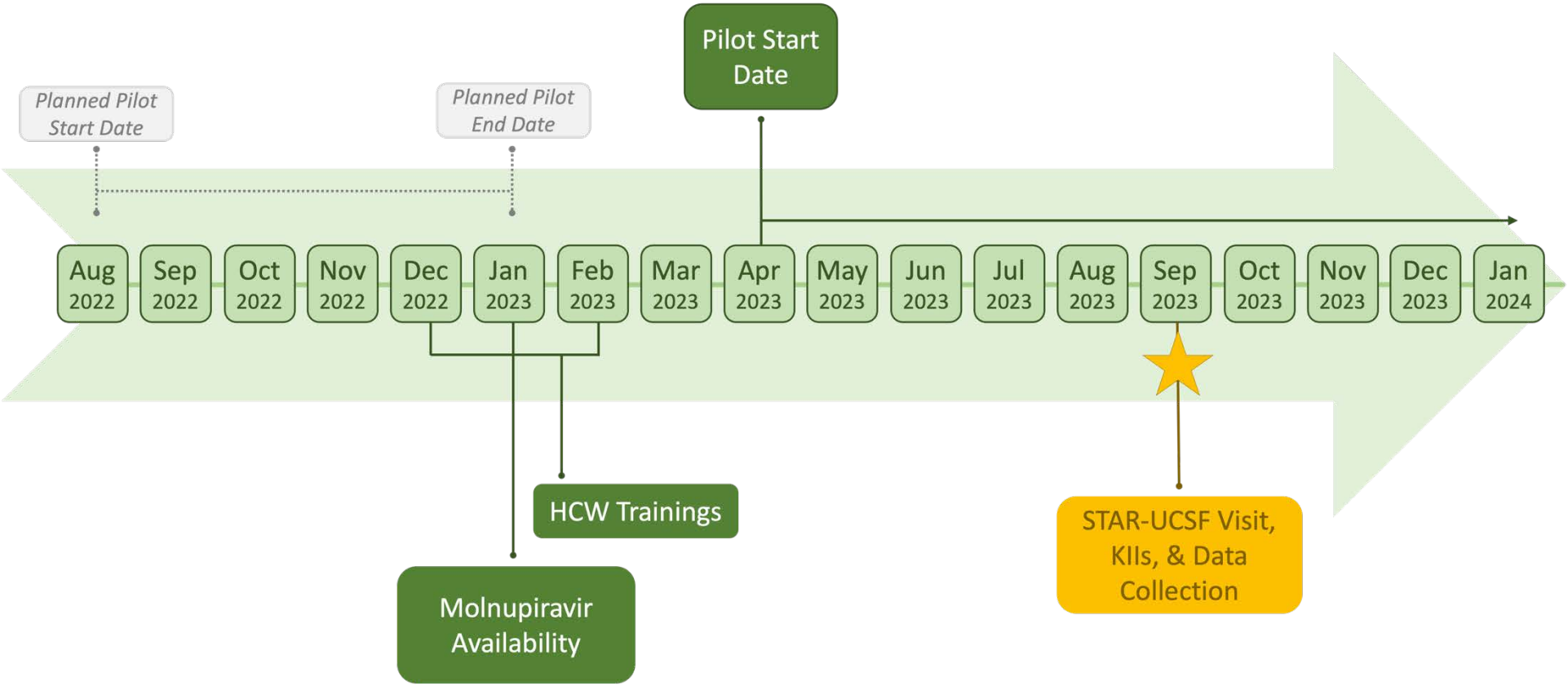
Figure 8. T2T pilot implementation timeline in Malawi, 2022-2024.



Mozambique

Despite evidence and justification for nirmatrelvir-ritonavir as the recommended 1st line treatment for COVID-19, nirmatrelvir-ritonavir, specifically Paxlovid, has not been registered in Mozambique as the Government of Mozambique opted to only use molnupiravir based on concerns around the lack of evidence in nirmatrelvir-ritonavir possibly creating resistance to ritonavir when prescribed to people living with HIV (PLHIV), as ritonavir is a protease inhibitor and HIV antiretroviral. Thus, after delays in selecting and registering Merck's Lagevrio (molnupiravir) and subsequent procurement delays, the T2T pilot started in Mozambique in April 2023. In October 2023, due to a surplus of antivirals set to expire in November, T2T was expanded to 18 additional satellite health facilities. The USAID-funded T2T pilot is still ongoing through February 2024 with interest from the MOH to continue and expand implementation in 2024.

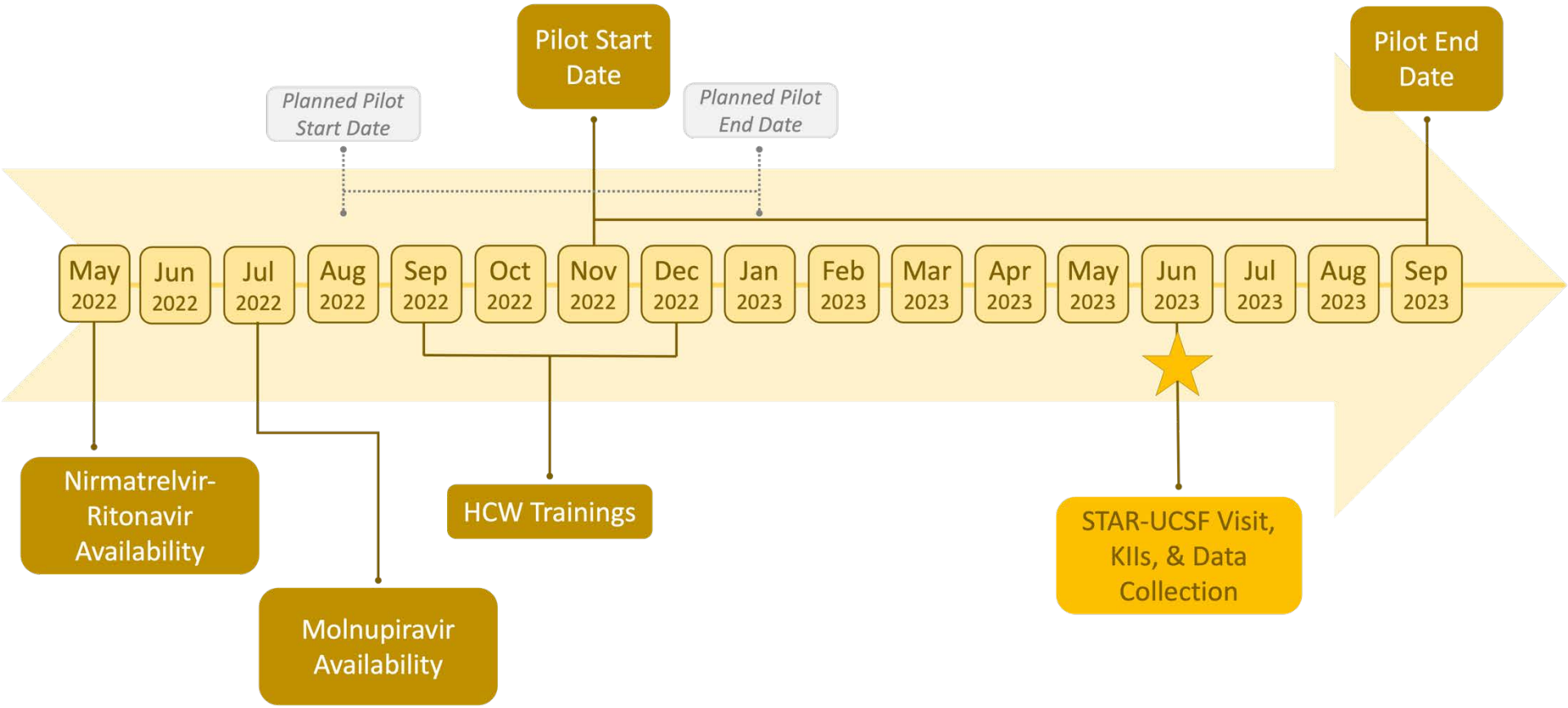
Figure 9. T2T pilot implementation timeline in Mozambique, 2022-2024.



Rwanda

With EUAs for Merck's Lagevrio (molnupiravir) and Pfizer's Paxlovid (nirmatrelvir-ritonavir), the T2T pilot started in Rwanda with nirmatrelvir-ritonavir in November 2022. As host of the Commonwealth Heads of Government Meeting in May 2022, the Government of Rwanda had a pre-existing relationship with Pfizer and negotiated the supply of nirmatrelvir-ritonavir through "Accord for a Healthier World" prior to the T2T pilot. Similarly, molnupiravir was readily available, facilitating rapid implementation. A TOT for HCWs in September 2022 was followed by regional cascade trainings from October to December 2022. During the pilot, there were stock-outs of antivirals at facilities, in part due to expanded eligibility criteria (see Case Study below), that halted implementation for months while re-distribution from nearby sites occurred. After just over 7 months, the USAID-funded T2T pilot ended in September 2023, with the Rwanda Biomedical Center (RBC) continuing T2T as part of national treatment guidelines.

Figure 10. T2T pilot implementation timeline in Rwanda, 2022-2023.



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Activity 2: National- and Facility-Level Indicators

In total, the STAR-UCSF team conducted 6 national and 12 facility surveys (3 in El Salvador, 2 in Ghana, 2 in Malawi, 2 in Mozambique, and 3 in Rwanda) (Appendix 7).[7]

Reach

Within the RE-AIM framework, reach aims to assess, at the individual level, the number and characteristics of individuals who participated in the program. Specifically, reach focuses on the following questions:

- What percentage of the target population came into contact with the program?
- Did the program reach those with the most need?
- Did the participants reflect the targeted population?

The reach of the T2T program varied across the six countries in this Review, especially considering some countries utilized referral models from CHWs and/or lower-level facilities. In the cascades seen in Figure 11, the number of patients with suspected COVID-19 who were seen at participating health facilities ranged from 819 in Côte d'Ivoire to nearly 124,000 in Rwanda. This may be largely due Rwanda's expanded eligibility criteria (see Case Study below) and T2T implementation occurring mainly at national hospitals while Côte d'Ivoire's focuses mainly on primary care facilities with only a few higher-burden, large hospitals. In Mozambique, the number differed slightly from the first step in the cascade. Among those that were tested, Ghana and Malawi had the highest proportions (5.2%) of patients who tested positive for COVID-19. Côte d'Ivoire and El Salvador both had ten or fewer patients test positive for COVID-19 with 0.6% and 0.3% positivity, respectively. Mozambique had 459 patients test positive, or 4.4% of those tested. In Rwanda, over 1500 patients, or approximately 1.3%, tested positive for COVID-19.

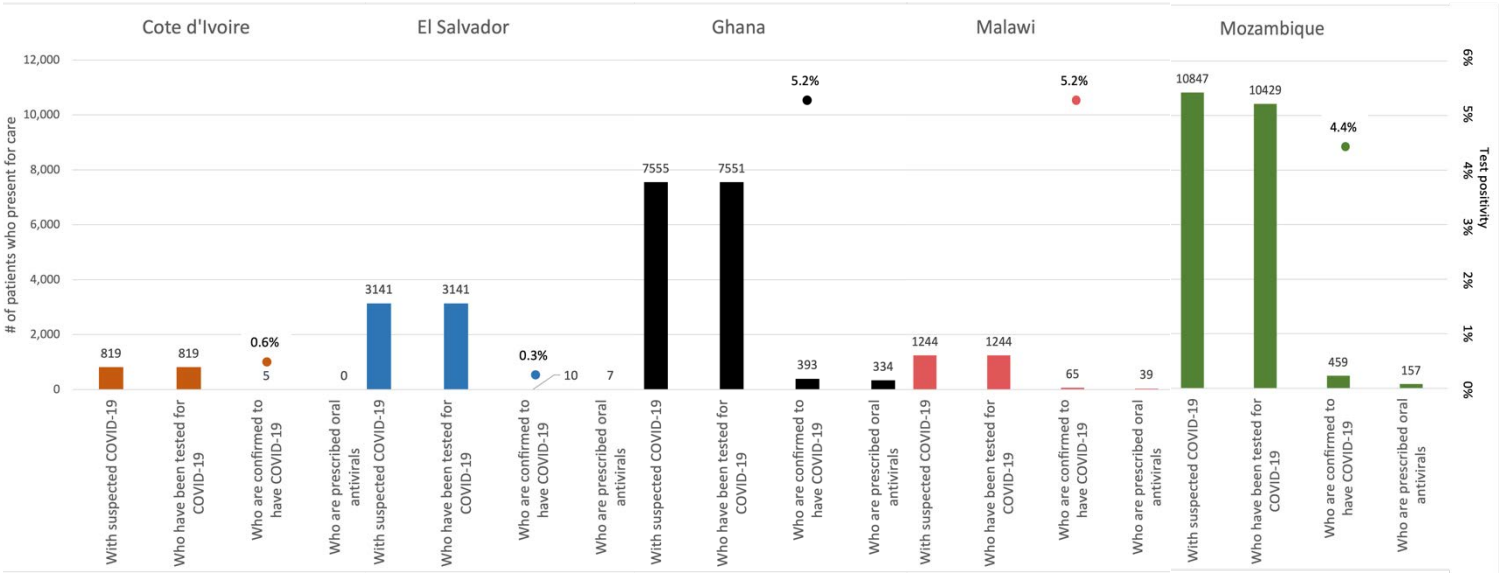
Among those who were positive for COVID-19, the proportion of those eligible and subsequently prescribed oral antivirals also ranged from country to country. While the number of positive patients eligible for oral antivirals was not systematically captured and reported, the number of those prescribed antivirals was. None of the five COVID-positive patients were prescribed oral antivirals in Côte d'Ivoire due to lack of availability. Over 60% of patients who tested positive for COVID-19 were prescribed oral antivirals in three countries: El Salvador prescribed 70.0% patients (n=7), Ghana prescribed 85.8% (n=334), and Malawi prescribed 60% (n=39). Mozambique prescribed oral antivirals for less than half of the patients positive for COVID-19 (34.2%, n=157). Despite its expanded eligibility criteria and prescribing oral antivirals to the largest number of patients, the 589 patients in Rwanda represented only 37.4% of those positive for COVID-19 (see Case Study below).

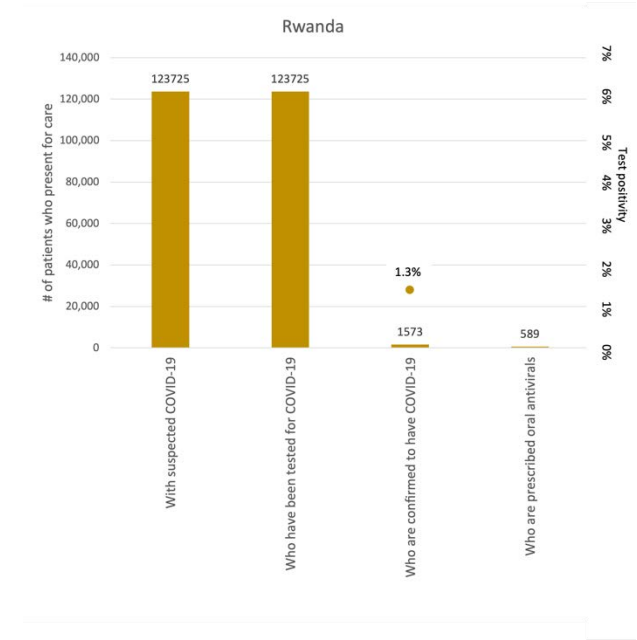
Additionally, though not able to capture the information at this time, Mozambique has plans to further track patients along the T2T cascade to better understand adherence and completion of treatment for COVID-19. Throughout the pilot, CHWs have followed-up with patients in their communities to monitor side effects of the oral antiviral and that patients have completed their treatment course. The IP in Mozambique, RISE, is looking to integrate available data from CHWs into

[7] Due to implementation delays and low MOH buy-in in 2023, only national-level data collection took place in Côte d'Ivoire and no T2T pilot health facilities were visited. For Ghana, all data was collected virtually via Zoom with in-country teams due to delays in receiving local IRB approval and scheduling challenges close to the 2023-204 holiday season.

their dashboard to monitor not only whether patients have completed their course of antivirals but also identify reasons for non-completion when applicable.

Figure 11. Test-to-Treat cascade by country, September 2022-December 2023.





Rwanda Case Study: Expanded Eligibility Criteria

In Rwanda, data from previous waves of COVID-19 showed that deaths were occurring in patients under the age of 50 years. Additionally, many younger patients were unaware of pre-existing conditions, such as diabetes. Given this information, the MOH took a similar approach as they did with COVID-19 vaccinations and expanded the eligibility criteria for oral antivirals beyond the WHO high-risk criteria: all patients who presented with an onset of symptoms within 5 days were eligible for Paxlovid (nirmatrelvir-ritonavir) as part of T2T in the country. This led to over 123,000 patients being tested and more than 500 prescribed antivirals for COVID-19. However, unfortunately due to stock outs, Rwanda faced a significant hurdle in ensuring that all patients who tested positive for COVID-19 received oral antivirals with only 37.4% being prescribed, despite their expanded eligibility criteria (Figure 11).

Effectiveness

Within the RE-AIM framework, effectiveness aims to assess, at the individual level, the number and characteristics of individuals who benefitted. Specifically, effectiveness focuses on the following questions:

- Did the intervention affect key targeted outcomes?
- What unintended adverse consequences occurred?

A core component of rolling out a new program such as T2T is adequately training and mentoring health facility staff at pilot facilities such as clinicians, pharmacists, lab personnel, and data managers on the new therapeutic treatment. As such, before T2T implementation could begin, clinical trainings were hosted by IPs and MOHs and focused on diagnosis and clinical management of patients; indication, dosage, and administration of oral antivirals; algorithms and eligibility criteria; contraindications and DDIs; practical example cases; patient education; documentation and monitoring and evaluation (M&E); and demand creation.

In most countries, the vast majority of trainees were clinical staff such as doctors, nurses, and pharmacists (all), as well as in some countries care assistants (Côte d'Ivoire), health diagnostic assistants (Malawi), health technicians and laboratory technicians (Mozambique), and midwives (Côte d'Ivoire) at pilot health facilities (see Case Study below). Supplementing facility-based HCWs, El Salvador and Ghana elected also to train CHWs or lay health workers in T2T awareness, promotion, and eligibility. Additional types of healthcare staff trained in some countries included supervisory staff, including clinical directors, in-charges, field supervisors, and district managers (Malawi and Mozambique); and data management staff, including data entry clerks and surveillance officers (Ghana and Mozambique). Between September 2022 and December 2023, the number of HCWs trained by country ranged from a low of 360 individuals in Mozambique, which had 4 facilities implementing T2T (plus referring facilities) - the fewest excluding Côte d'Ivoire which never fully implemented - to 2,180 individuals in Rwanda, which had 8 health facilities implementing T2T with nearly 200 referring facilities - the most of all Review countries. On average, the USAID-support T2T program trained approximately 842 individuals per country as of December 2023 (Figures 12a-e). The number of staff trained varied not only by number of facilities implementing T2T, but also length of implementation with early adopters like Rwanda and El Salvador noting higher numbers of HCWs trained, while countries which took longer to implement T2T like Mozambique, Ghana, and Malawi had lower training numbers.

T2T training with physicians and data managers, Rwanda, November 2022 (courtesy of RISE).

Of note, disaggregated training data was unavailable for Côte d'Ivoire during the STAR-UCSF country visit nor was it reported to USAID as part of routine reporting.

Rwanda Case Study: Leveraging a Systematic Training Approach

For T2T trainings Rwanda used an existing, systematic TOT model that was already known and trusted by healthcare staff prior to the COVID-19 pandemic. In 2- to 3-day trainings in Rwanda, similar cadres of district healthcare staff from pilot districts and sites attended TOT sessions that included didactic presentations as well as case study examples. From the district level in Rwanda, a set number of staff, including a doctor, nurse, non-physician anesthetist (NPA), and data manager, attended the TOT, and health center managers, nurses, and data managers from pilot facilities attended the step-down training. In addition to the trainings, mentorship was provided, from IP staff in close coordination with MOH, visiting all health centers to review collected data.

> *T2T trainings have been very successful so far. The ultimate decision to train medical doctors and data managers at the same time allowed for an interactive and informative exchange, and each group benefited from the questions asked throughout the training. Trainees were enthusiastic to roll out the cascade training.*
>
> **RWANDA**

Figure 12a. Number of healthcare workers by cadre trained on COVID-19 oral antiviral administration in El Salvador, September 2022-December 2023.

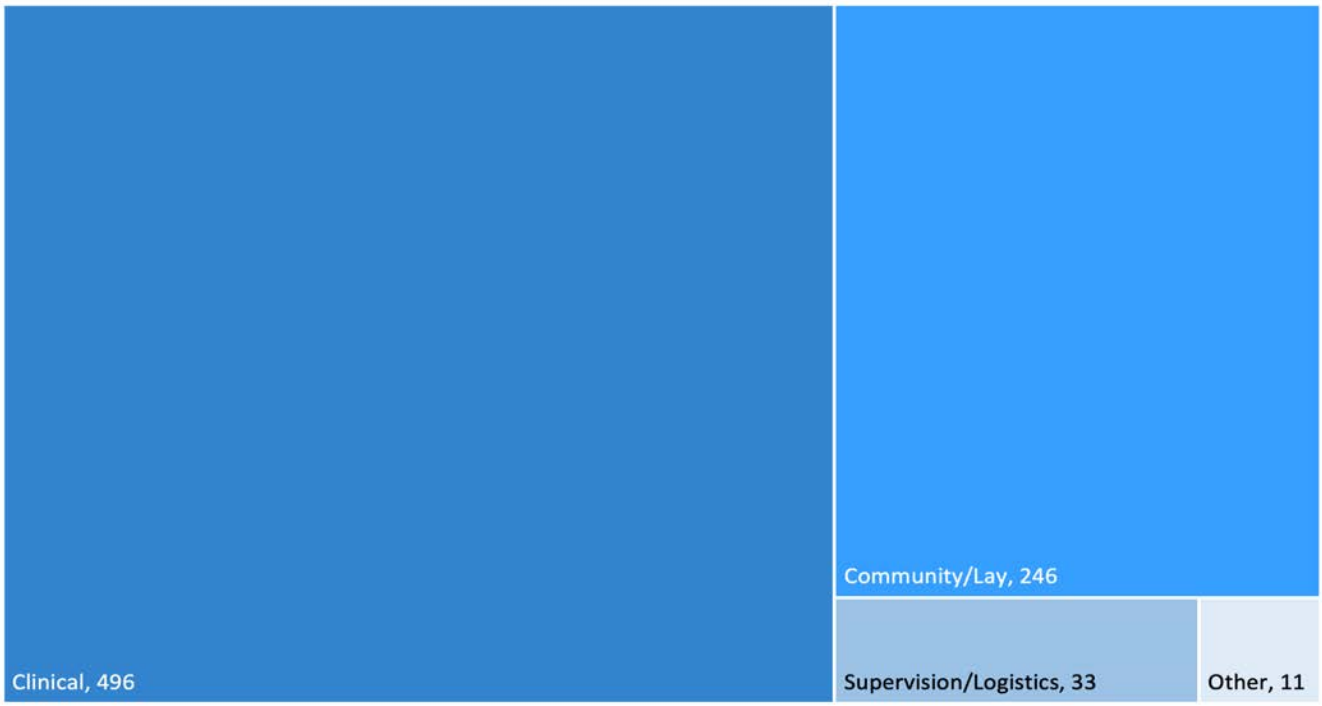
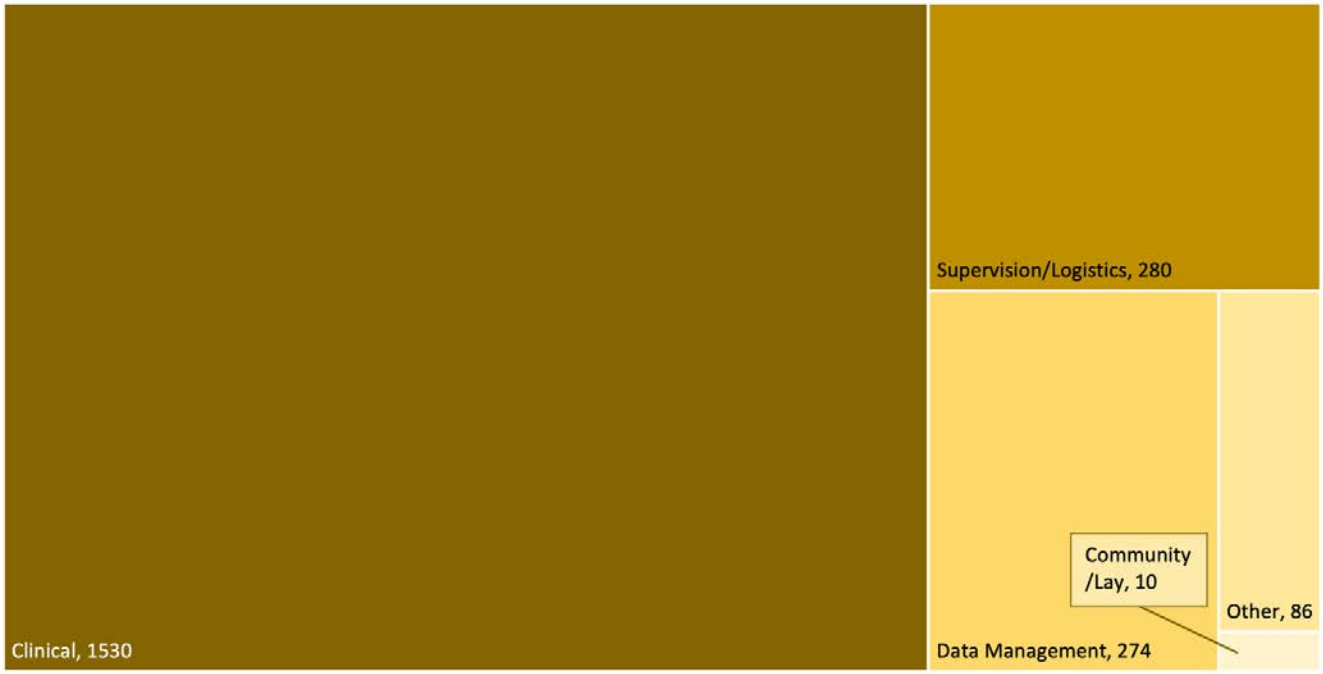


Figure 12b. Number of healthcare workers by cadre trained on COVID-19 oral antiviral administration in Ghana, September 2022-December 2023.

Figure 12c. Number of healthcare workers by cadre trained on COVID-19 oral antiviral administration in Malawi, September 2022-December 2023.

Figure 12d. Number of healthcare workers by cadre trained on COVID-19 oral antiviral administration in Mozambique, September 2022-December 2023.

Figure 12e. Number of healthcare workers by cadre trained on COVID-19 oral antiviral administration in Rwanda, September 2022-December 2023.



Adoption

Within the RE-AIM framework, adoption aims to assess, at the setting or organizational level, the number and characteristics of settings or organizations that participate in the program. Specifically, adoption focuses on the following questions:

- What percentage of target settings and organizations implemented the program?
- Did the organizations include high-risk or underserved populations?
- Did the program fit within organizational goals and capacities?

As noted previously in Table 1, each country in the USAID-supported T2T pilot elected to focus implementation on varying numbers of facilities and districts. Côte d'Ivoire and El Salvador planned to pilot in only 2 regions, in a total of 3 and 7 facilities, respectively; while countries like Ghana and Rwanda planned to roll out T2T in 6 regions and 5 provinces in a total of 24 and 8 health facilities, respectively. Both Malawi and Mozambique adopted T2T in 3 districts or provinces each, in a total of 19 and 4 health facilities, respectively, though the two countries vary dramatically in size with Mozambique being 8-times larger than its neighboring Malawi. Comparing all Review countries, as seen in Figure 13, the number of pilot facilities ranged from 3 in Côte d'Ivoire to 24 in Ghana.

Part of adoption relates to scale or how many facilities were implementing the program, while acknowledging that each country-based team selected specific regions and facilities in which to focus T2T. Selected facilities represented between 0.1% and 3.3% of the total health facilities in each country. Approximately 0.11% of health facilities were selected for the USAID-supported pilot in Côte d'Ivoire and 0.92% in El Salvador. Ghana piloted in 20 of the total 2,657 sites, representing 0.75% of the total public health facilities. Malawi had the fewest total public health facilities (n=574) but piloted the T2T program in approximately 3.31% of those sites (n=19). Mozambique piloted the program in only four (0.23%) of its 1,770 public health facilities; Lastly, Rwanda piloted the T2T program in approximately 0.36% (n=8) of all public health facilities

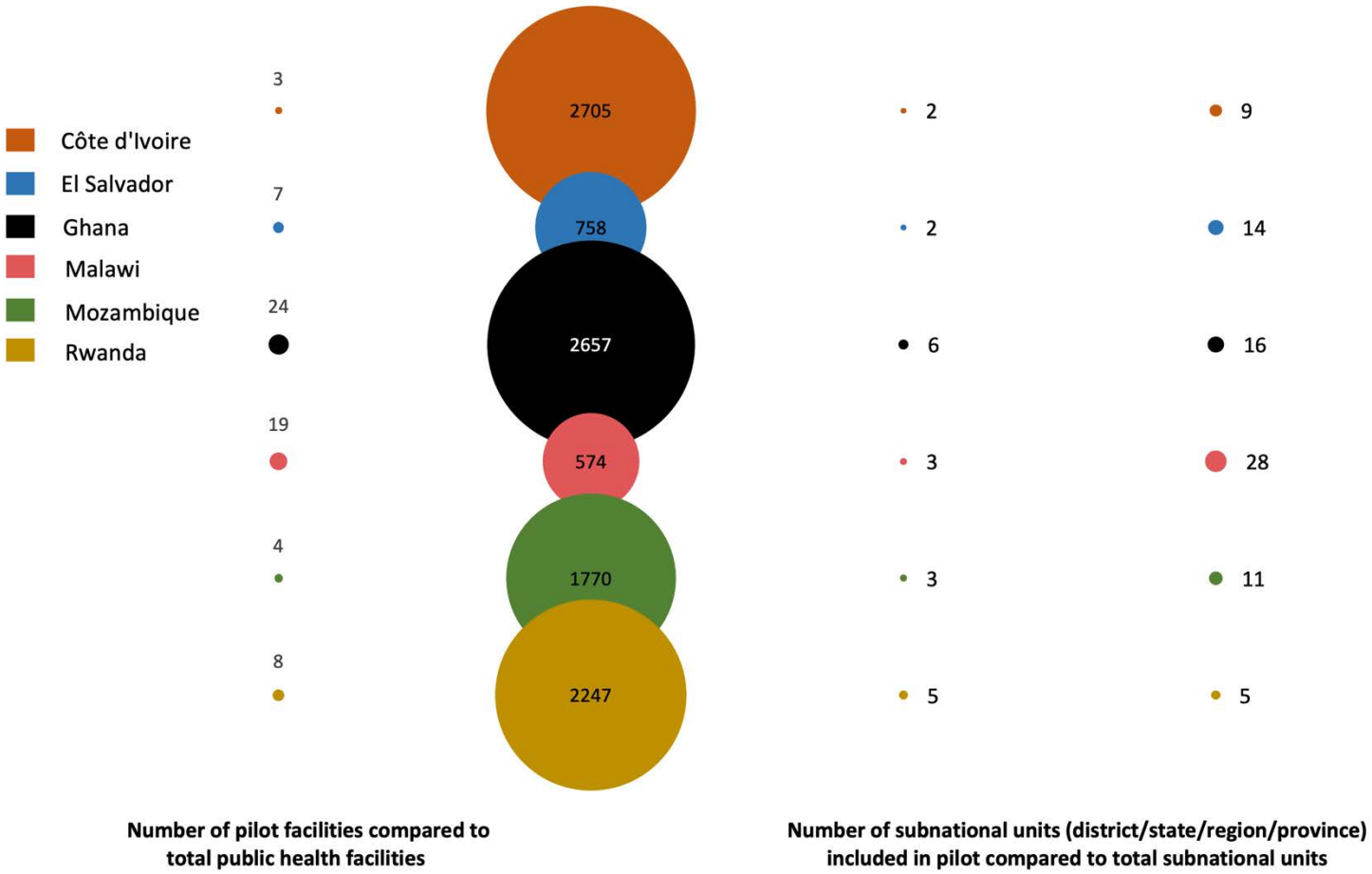
Implementation

Within the RE-AIM framework, implementation aims to assess, at the setting or organizational level, the consistency of delivery of the program and resources with quality. Specifically, implementation focuses on the following questions:

- Can different levels of staff successfully implement the program?
- What proportion of staff within a setting implemented the program?
- Were various components delivered as intended?

While all countries planned to begin T2T implementation in August 2022, no countries began implementation of T2T at that time due to the delays noted above (see Country-Specific Timelines). As noted in Figure 14, countries' delays ranged between three months in Rwanda and indefinitely in Côte d'Ivoire, with no country starting their T2T pilot before November 2022. On average, excluding Côte d'Ivoire, which never successfully implemented the USAID-supported T2T pilot, the delay in implementation was 7.2 months with delays resulting from various factors including significant supply chain and regulatory obstacles beyond the control of USAID and its IPs (see Barriers and Key Challenges to T2T Implementation).

Figure 13. Number of pilot facilities and subnational units included in pilot compared to total public health facilities and subnational units, respectively, by country.



In addition to delays in pilot start dates, there were also differences in the length of the actual T2T pilots. Each country planned to pilot the T2T program for six months, and all countries except for Côte d'Ivoire piloted for at least six months. Due to regulatory approvals of oral antivirals and lack of political will, Côte d'Ivoire never successfully implemented the USAID-supported T2T program. After surpassing their six-month pilot periods, Ghana, Malawi, and Mozambique have not officially ended their implementation of T2T as of January 2024 with planned USAID support end dates in the first quarter of 2024.

For the purposes of this Program Review, availability of oral antivirals was deemed either through an EUA, registration, or a one-time waiver in each country. Availability of oral antivirals for COVID-19 was a complex, international process involving many stakeholders, most of which go beyond USAID and their IPs' SOWs for these pilot programs; however, it has been included in the Program Review as a necessary pre-requisite for successful implementation of T2T, as without drugs available at health facilities, patients cannot be treated for COVID-19. Despite not planning to begin the USAID-supported pilot until August 2022, Côte d'Ivoire, El Salvador, and Rwanda had already received oral antivirals prior to the intended start

date (Figure 16). First availability of molnupiravir (Merck's Lagevrio, Hetero's generic, or Dr. Reddy's generic) was delayed by two months in Ghana, five months in Mozambique, and twelve months in Malawi. Availability of nirmatrelvir-ritonavir (Pfizer's Paxlovid or Hetero's generic) was also delayed in countries other than Rwanda, specifically by five months in Ghana and eight months in Malawi. Nirmatrelvir-ritonavir has not been registered in Mozambique as the Government of Mozambique opted to only use molnupiravir based on safety concerns around the lack of evidence in nirmatrelvir-ritonavir possibly creating resistance to ritonavir when prescribed to PLHIV, as ritonavir is a protease inhibitor and HIV antiretroviral. Additionally, nirmatrelvir-ritonavir was never registered in Côte d'Ivoire nor El Salvador either.

Figure 14. Delay in months between planned and actual pilot start dates, by country.

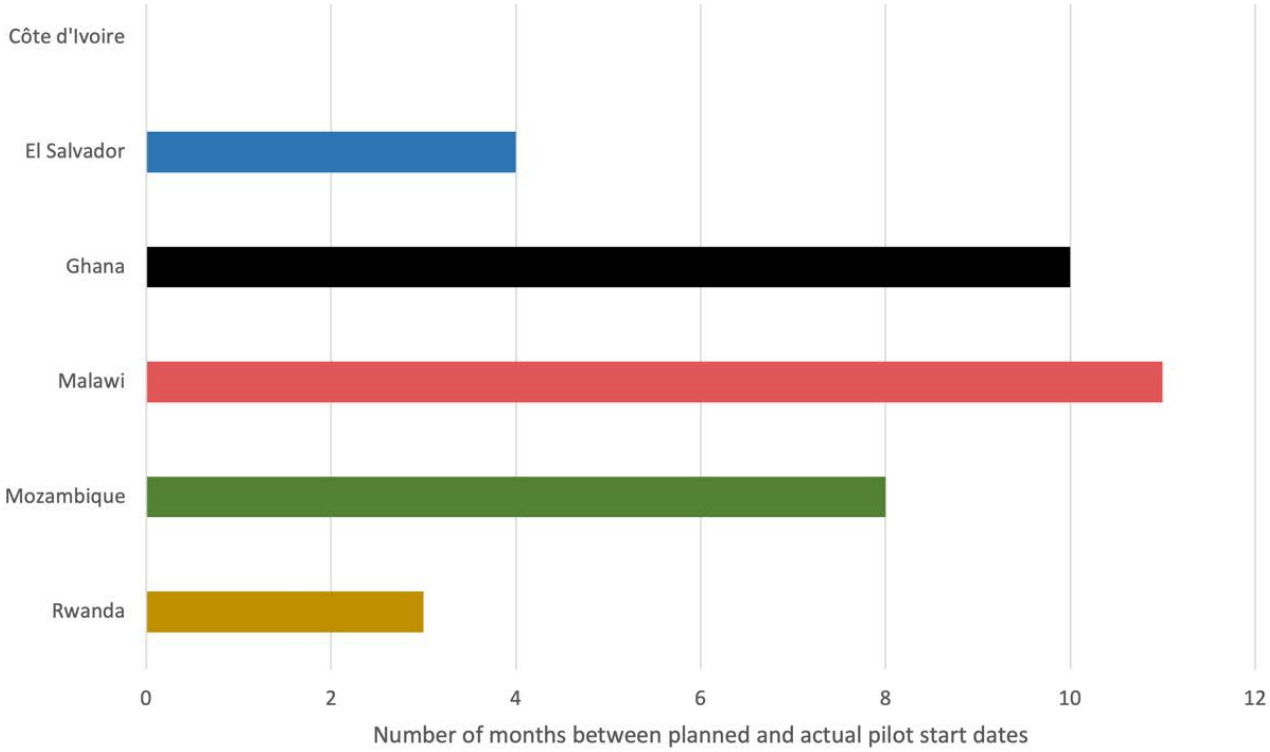


Figure 15. Difference in planned and actual duration of pilot implementation in months, by country.

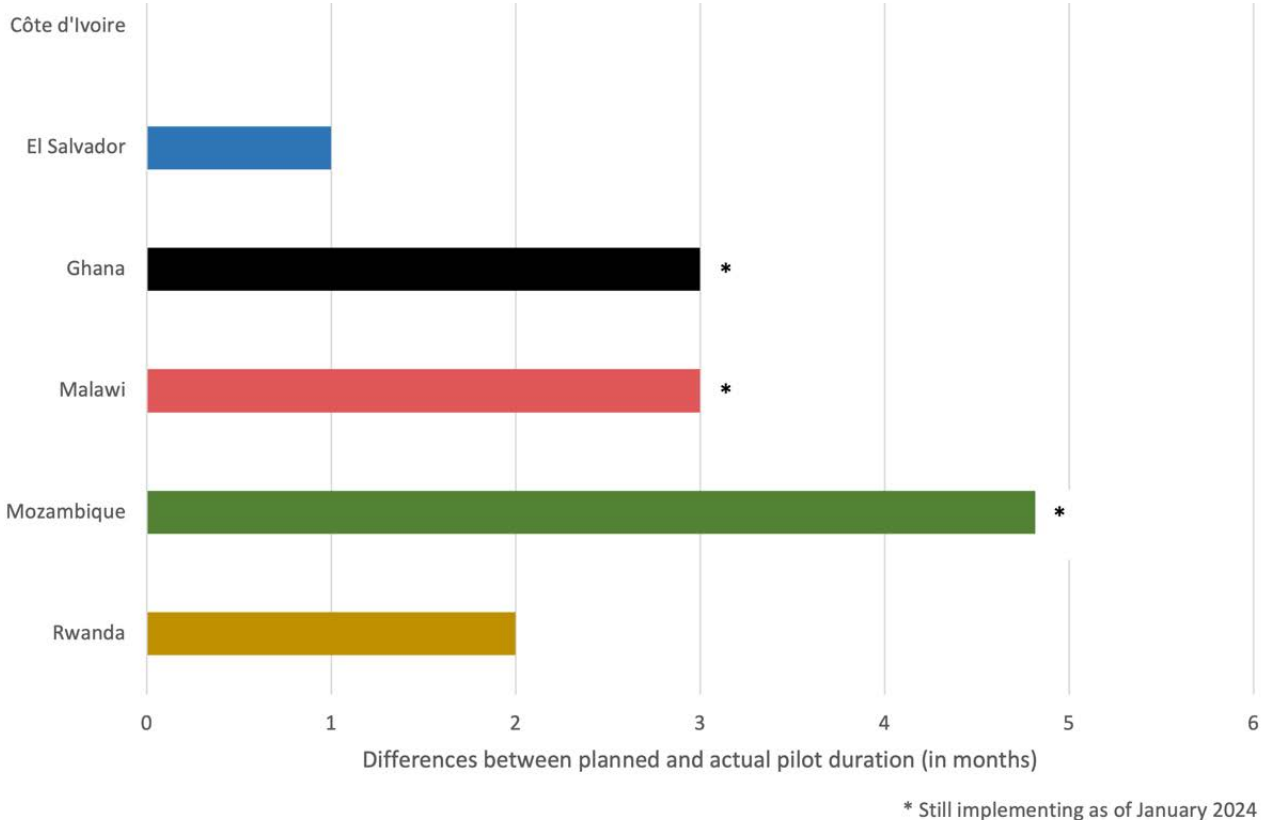
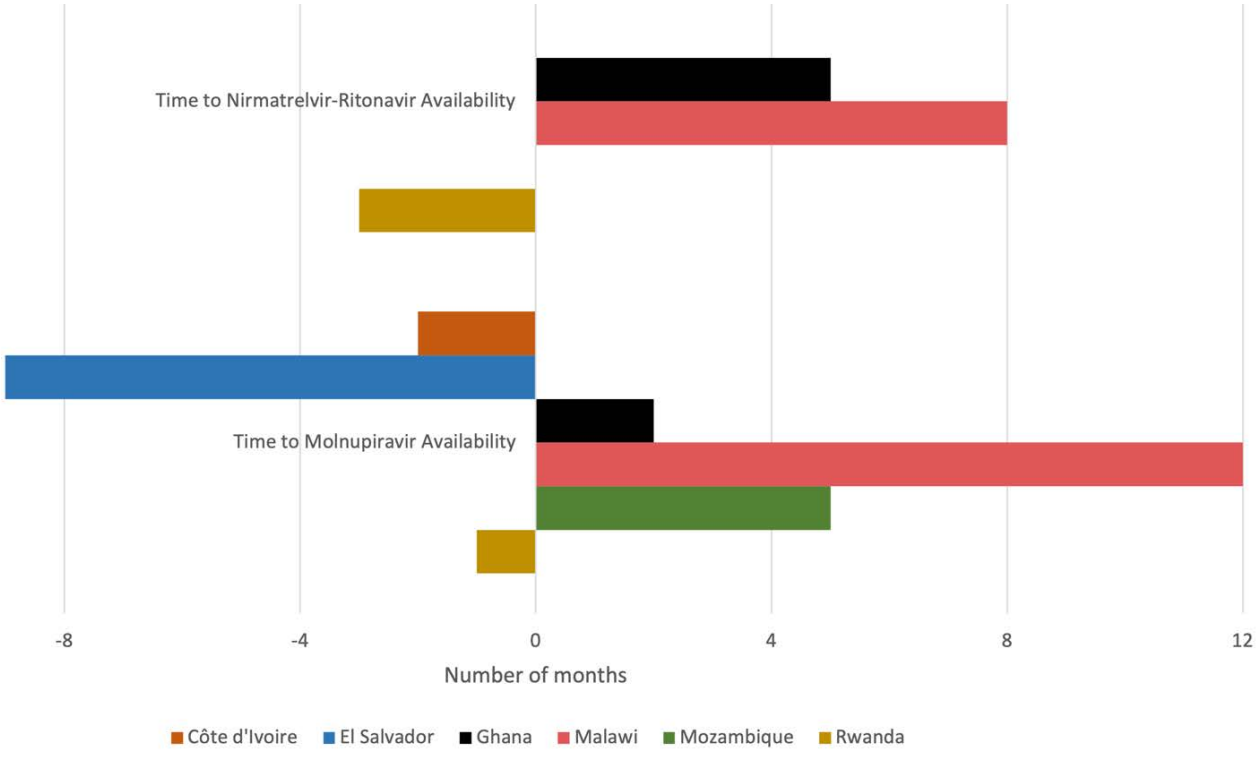


Figure 16. Time between start of USAID funding and availability of oral antivirals, by country.



Maintenance

Within the RE-AIM framework, maintenance aims to assess, at the individual and setting or organizational levels, the long-term implementation and program effectiveness. Specifically, maintenance focuses on the following questions:

- Did the program produce long-term individual behavior change?
- Will organizations sustain the program over time?
- What are the characteristics of persons and settings showing maintenance?

Data abstracted varied by country and site included in the Program Review, but facility-level maintenance indicators focused on the retention of staff trained on T2T as well as sustainability considerations such as availability of stock and ongoing detection and transmission of COVID-19.

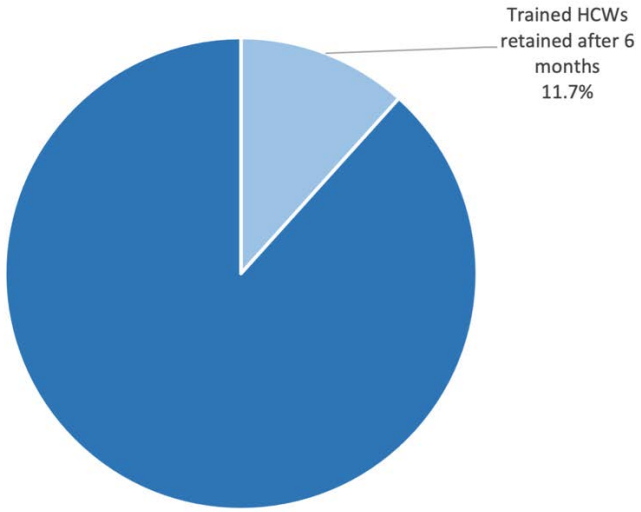
National-level TWGs, task forces, and/or case management meetings, where decision-making related not only to the T2T program but broader decisions around the COVID-19 response in these countries, existed in El Salvador, Ghana, Malawi, Mozambique, and Rwanda. These types of forums provide a venue to continue decision-making and stakeholder engagement to maintain T2T programming beyond the USAID funding. Similarly, El Salvador, Ghana, Mozambique, and Rwanda have already integrated T2T specifically into national treatment guidelines and/or strategies have solidified the longevity of the T2T program in COVID-19 care and treatment in the future.

Key Observations from Select Facilities

El Salvador

During the T2T pilot, there were no patients positive for COVID-19 at either of the selected facilities visited by the STAR-UCSF team, Unidad de Salud San Marcos nor Unidad de Salud Panchimalco, indicating either no transmission of COVID-19 in those regions of El Salvador or a lack of testing (e.g., access, willingness of HCWs to test, etc.). There were, however, issues with retention of trained staff, which may have been related to temporary COVID-19 assignments. At Unidad de Salud Panchimalco, 60 healthcare staff were trained on administration of COVID-19 antivirals. However, after six months, only seven staff remained at the health facility (Figure 17). In El Salvador as well as other countries in the Program Review, staff turnover poses a significant challenge not only to the implementation of routine and new public health programs, but also to training and sustainability.

Figure 17. Percentage of trained HCWs who remained after 6 months, Unidad de Salud Panchimalco, El Salvador, May 2023.



Ghana

At Ga West Hospital in the Greater Accra Region of Ghana, all of the 9 HCWs initially trained on the T2T program (100%) were still assigned to the facility after 6 months, including 2 physicians, 2 nurses, 1 pharmacist, and several health officers. These 9 HCWs represent about 22% of the entire health facility staff at Ga West Hospital, meaning for maintaining the T2T program there may be a future gap in HRH. At Obuasi Government Hospital in the Ashanti Region of Ghana, 23 HCWs were originally trained on oral antiviral administration, including 4 clinical supervisors, 4 HCWs, 10 CHWs, and 5 other, plus non-clinical staff such as pharmacists, laboratory staff, and data entry clerks. Similar to Ga West Hospital, this represents approximately 10% of all HCWs available at the health facility. Furthermore, all four of the trained HCWs had actually prescribed nirmatrelvir-ritonavir, meaning application of their training and experience linking patients to treatment for COVID-19. Nationally, of the 193 patients who presented for care in Ghana, 23 had a symptom onset more than 5 days prior, highlighting the ongoing challenge of healthcare-seeking behavior noted during the KIIs with stakeholders in Ghana.

Malawi

At Area 18 Health Centre in Lilongwe district in Malawi, all 10 of the trained HCWs remained after 3 months of T2T implementation (6-month retention of staff was not assessed as Malawi had not yet implemented T2T long enough during the STAR-UCSF site visit). At Nathenje Health Centre also in Lilongwe district, approximately 10% of the total clinical staff were trained on administration of oral antivirals.

Mozambique

At pilot facilities visited in Mozambique, there was little turnover in trained staff. At Hospital Provincial da Matola just outside of Maputo Cidade, 12 unique HCWs had prescribed molnupiravir since implementation at the time of the STAR-UCSF site visit. Of those, 11 (92%) remained at the facility as of September 2023. At Centro de Saúde 25 de Setembro in Nampula province, only three unique HCWs had prescribed molnupiravir; all of those remained at the clinic after six months.

Rwanda

At both facilities visited, Kinigi Health Center and Gisenyi District Hospital, there were no client refusals to Paxlovid, and clinicians noted that oral antivirals were well received by patients indicating a positive health-seeking behavior to maintain the program longer-term. However, some patients who tested positive for COVID-19 were not treated because of antiviral stock out - highlighting the ongoing challenge and impact of stock management on the program's future sustainability. At Kinigi Health Center between December 2022 and April 2023, 13 total staff were trained on administration of oral antivirals for COVID-19. After six months, 11 trained staff (85%) remained as of June 2023. There was also significant turnover of staff at Gisenyi District Hospital between October 2022 and April 2023; of the 56 staff who were trained, only 27 (48%) remained.

Activity 3: Key Informant Interviews

In total, the STAR-UCSF team conducted 38 T2T KIIs, including 5 HQ-level interviews with program managers, directors, medical officers, advisors, etc.; 20 country-level interviews with project officers, country directors, MOH officials, etc.; and 13 facility-level interviews with HCWs, CHWs, clinical directors, T2T focal persons, and DHO staff (Table 2).

Table 2. Number of T2T KIIs by level and country.

Headquarter-Level			***5***
		USAID	*1*
		IP (EpiC)	*2*
		IP (RISE)	*2*
Côte d'Ivoire[8]			***1***
Country-Level	***1***	***Facility-Level***	***0***
IP (EpiC)	*1*		
El Salvador			***9***
Country-Level	***5***	***Facility-Level***	***4***
USAID	*1*	*Unidad de Salud San Marcos*	*1*
IP (EpiC)	*2*	*Unidad de Salud San Miguel*	*1*
MOH	*2*	*Unidad de Salud Panchimalco*	*2*
Ghana[8]			***4***
Country-Level	***2***	***Facility-Level***	***2***
USAID	*1*	*Ga West Hospital*	*1*
IP (RISE)	*1*	*Obuasi Government Hospital*	*1*
Malawi			***5***
Country-Level	***3***	***Facility-Level***	***2***
USAID	*1*	*Area 18 Health Centre*	*1*
IP (EpiC)	*1*	*Nathenje Health Centre*	*1*
MOH	*1*		
Mozambique			***5***
Country-Level	***3***	***Facility-Level***	***2***
USAID	*1*	*Hospital Provincial da Matola*	*1*
IP (RISE)	*1*	*Centro de Saúde 25 de Setembro*	*1*
MOH	*1*		
Rwanda			***9***
Country-Level	***6***	***Facility-Level***	***3***
USAID	*1*	*Kinigi Health Center*	*1*
IP (RISE)	*4*	*Gisenyi District Hospital*	*1*
MOH	*1*	*Polyclinique La Croix du Sud - Gisenyi*	*1*

[8] Due to implementation delays and low MOH buy-in in 2023, only one KII with the IP (EpiC) was conducted in Côte d'Ivoire. Virtual KIIs were conducted with stakeholders in Ghana, and unfortunately the STAR-UCSF team did not receive a response to schedule an interview with members from the GHS.

Enablers and Best Practices for T2T Implementation

The main purpose of the KIIs was to better understand T2T pilot implementation in selected countries, including procurement of the oral antivirals, training of HCWs and other facility-based staff, implementation of T2T, demand generation activities, data use, and more. Key informants were asked to share their perceptions, experiences, and opinions about the T2T program funded by USAID. Common enablers and best practices were identified from the KII notes and described below (Table 3). Some themes were cross-country and commonly experienced in many T2T countries, while others were unique to specific local contexts.

Table 3. Common enables and best practices for T2T across countries.

Enablers	Côte d'Ivoire	El Salvador	Ghana	Malawi	Mozambique	Rwanda
Ability to leverage a community-based approach	X	X	X	X	X	X
Availability of adaptable guidelines and implementation models	X	X	X	X	X	X
Commitment to building strong partnerships at all levels		X	X	X	X	X
Strong existing data systems and routine data use	X	X			X	X
Prepared, resilient health systems					X	X
Best Practices						
Leveraging and strengthening existing public health systems	X	X	X		X	X
Collaborating for effective demand generation	X	X	X	X	X	X
Utilizing a practical, multi-disciplinary training approach	X	X	X	X	X	X
Creating simple, clear tools			X	X	X	X

Enablers

For the purposes of this Program Review, STAR-UCSF has defined an enabler as a facilitating factor which creates an environment where progress can be made by the team or something that helps program progress or achievement. Enablers can be physical, environmental, structural, or systemic and facilitate key stakeholders in reaching a program's goals. Enablers can be internal or external and can arise from various factors such as availability of resources, existing systems or structures, social or cultural norms, or political environment and will.

Families waiting to be seen at Nathenje Health Centre, Lilongwe District, Malawi, September 2023.

Ability to leverage a community-based approach

Several countries leveraged existing CHW programs for T2T implementation which expanded reach and strengthened community rapport and buy-in. In all countries reviewed, these community-based approaches served as fundamental building blocks of the T2T pilot program as they thoughtfully centered communities and clients in service delivery. In Côte d'Ivoire, community engagement was a driving force in the creation of the T2T program. From the onset the MOH was involved, as well as local partners and different entities from the different health districts through QI teams, to ensure engagement. In Malawi, community-based organizations (CBOs) helped bridge communities and health centers by building community demand for T2T. Utilizing community-focused systems fostered mutually-reciprocal and beneficial partnerships built on trust in participating pilot countries. As a result, this helped to ensure compliance with local-to-regional norms and standards.

> *CBOs belong to the communities and know what is happening in them. They know the actual issues; they know what strategies work best in order to engage different audiences.*
>
> **MALAWI**

In El Salvador, CHWs known as *promotores* served as liaisons between communities and health services. In Rwanda, CHWs referred patients symptomatic for COVID-19 to health centers; if individuals tested positive, those health centers would request nirmatrelvir-ritonavir from their nearby district hospital pilot site. This community-based model in Rwanda allowed for patients to be met where they are and triaged appropriately to ensure timely, necessary referrals and linkage to care. In Mozambique, a type of CHWs known as *activistas* assisted with contact tracing (CT) in the community following identification of individuals with COVID-19. They also conducted follow-up

> *It has been proven many times that [T2T] is worth it, because the taking of resources to the communities is the fundamental thing and everything will improve [from that].*
>
> **EL SALVADOR**

COVID-19 triage and T2T tent at Unidad de Salud San Marcos, San Marcos, El Salvador (courtesy of EpiC/Palladium).

Sign leading into the COVID-19 Paragem Única (one-stop model) at Hospital Provincial da Matola, Maputo Province, Mozambique, September 2023

visits to collect data that would later inform and improve data visualization efforts (i.e., completion of course of Molnupiravir). In Malawi, 64 CBOs supported demand generation efforts which helped gain momentum in the T2T program. Additionally, in some countries the decentralized, community-focused structure and the referral system of the T2T model allowed for a broader reach as it promoted

> *T2T helped safeguard the health of communities.*
>
> **EL SALVADOR**

nimbler and fluid opportunities to embrace all types of expertise and operational capacities. For El Salvador, Malawi, and Mozambique, this involvement of HCWs and CBOs strengthened facility-level operations and fostered community agency. Moreover, CHWs promoted prevention practices and encouraged health-seeking behavior and, ultimately, were an integral part of the overall success of T2T, from pre-implementation demand generation to implementation itself, as their intimate rapport with communities helped to advocate for T2T and to sustain community buy-in. In addition, Ghana utilized District Health Promotion Officers and Surveillance Officers to drive demand and refer clients to the district hospitals with available medication.

Providing Other Treatments for Non-Antiviral Eligible Patients Case Study: El Salvador and Mozambique

Throughout the COVID-19 pandemic in El Salvador, health facilities provided over-the- counter (OTC) treatments to suspected cases to mitigate their symptoms. El Salvador was able to integrate T2T into this system by providing oral antivirals to eligible persons testing positive for COVID-19 and continuing to provide OTC treatments to those testing negative. Similarly, in Mozambique, patients who tested negative at T2T sites were provided other OTC treatments to mitigate symptoms. This practice helped reduce any stigma associated with COVID-19 oral antivirals and reinforced T2T sites as places where communities could go for resources and care.

Availability of adaptable guidelines and implementation models

All countries were able to utilize global guidance from USAID and IP headquarters, WHO, etc. to tailor T2T eligibility criteria and programming that meets MOH priorities and aligns with country-level data. For example, as highlighted in Table 1, in Malawi, "high-risk" populations eligible for oral antiviral treatment were modified from WHO's

T2T Referral Models Case Study: El Salvador, Ghana, Mozambique, and Rwanda

El Salvador, Ghana, Mozambique, and Rwanda opted to utilize a referral system to expand the reach of the T2T program. In Ghana and Rwanda, referrals were provided by peripheral testing facilities within the catchment areas up to pilot hospitals with oral antivirals in stock. Despite only officially piloting in 8 sites in Rwanda, 189 health sites were covered when considering the referral system from health centers to district hospitals. El Salvador used a similar system and also welcomed referrals from *promotores*, CHWs embedded within communities.

In Mozambique, a referral system was also used, but doctors at some referral sites expressed frustration that they were not able to prescribe oral antivirals themselves at their own facilities. During the STAR-UCSF visit, one T2T site noted that they hadn't received any referrals to date, in part due to suspected lack of testing and/or test kit availability at its referral sites. Due to a surplus in antivirals and the feedback that referral clinicians were willing to implement, RISE and USAID Mozambique were able to later expand pilot sites. Mozambique's experience demonstrates that while a referral system may exclude sites initially, it may also be useful to ease the transition to scaled-up programming post-pilot.

> *We have very intricate, well-established referral networks from the very lower levels. We built on this through the algorithm. The training also cut across all the health facilities so that we had people coming from these lower levels to train and they knew what to do [for] potential patients.*
>
> **GHANA**

criteria of ≥60 years to ≥50 years due to the lower life expectancy in Malawi and country COVID-19 death data showing an increased risk of mortality in ages ≥50. Similarly, the Rwandan MOH expanded WHO's criteria to allow Paxlovid (nirmatrelvir-ritonavir) to be prescribed to adults with mild or moderate symptoms and within 5 days of onset, not just those at higher risk. This was part of Rwanda's overall approach to COVID-19 which they called "hit hard, hit early." Moreover, Rwanda elected to include private clinics in their referral model based on local data and that they already acted as overflow testing sites as mandated by the Government of Rwanda. Like Malawi, this was due to smaller population proportion above 60 years old, higher prevalence and deaths among adults <50 years old, and, at the time, inconclusive potential to prevent post-COVID-19 conditions. Côte d'Ivoire also modified their eligibility criteria to include HCWs as high-risk and therefore eligible for oral antivirals. Beyond adjusting clinical eligibility, countries also used different models of implementation. For example, Côte d'Ivoire, El Salvador, Ghana, Mozambique, and Rwanda utilized referral facilities in addition to pilot T2T sites to expand their reach (see Case Study above). In Mozambique, the development of a one-stop model, *paragem única*, successfully improved the efficiency and effectiveness of their aid by conducting "point of care" at the first patient touch point, including clinical consult, testing/laboratory, pharmacy, and counseling messaging. This helped identify suspected patients and quickly determine the best course of action/treatment for patients which ultimately benefited Mozambique's overall T2T pilot. Lastly, the creation and utilization of "Rapid Response Teams" in Rwanda provided liaisons to suspected patients to help them navigate the health

> *When T2T came, people were grateful because they had a quick recovery. It brought hope to the people.*
>
> **RWANDA**

facility patient flow and minimize risk to other patients and HCWs alike, all while providing patients with efficient and safe care as quickly as possible.

Commitment to building strong partnerships at all levels

Establishing early-on, strong partnerships across site, district/provincial, and national levels (including interagency collaboration) was a key enabler of the T2T pilot program across all

> *During this pandemic, we will not only need people from here in the provinces, we will need everyone, including the [health facility] staff. Everyone has to know that Molnupiravir exists, who should or can take [it], and everything that has to do with COVID. The key is the dissemination of that information.*
>
> **MOZAMBIQUE**

countries, being crucial to navigate potential delays. In El Salvador, the government's high prioritization of health and implementers' strong relationship with MOH allowed for early buy-in to T2T and a more efficient roll-out of implementation. Similarly, in Rwanda there was pre-existing MOH buy-in, and in addition involvement from MOH leadership at a national level down to cultural and religious leaders at a local level was crucial to establishing trust and disseminating information. For instance, there were routine multi-ministry meetings with the Prime Minister earlier in the pandemic to provide updates and make decisions in real-time. One key informant called this a spirit of "what is planned is done." Local leaders in Rwanda utilized existing community meetings at the cell level (i.e., *inteko ya abaturage*) held every Tuesday to report and share about events and services provided by local health facilities, including the availability of treatments for COVID-

> *T2T was uniquely a joint collaboration. I've never seen another project that engaged MOH and donor [together] from day 1 - sitting together to challenge each other and collaborate.*
>
> **RWANDA**

19. This routine reporting set people's expectations of the MOH and provided a platform for accountability. To support T2T buy-in at the site-level, implementers in Malawi identified T2T focal coordinators at facilities to serve as coordinators and champion T2T within the facility. This approach was strengthened through the use of interns from the local community that served as a bridge between facilities and DHOs. All of these efforts to leverage stakeholders at various levels enabled the success of

> *To have that leadership that's able to get all these partners to work in sync, I think was really a win where they are sharing data, they are sharing resources.*
>
> **GHANA**

the T2T program, while at times creating delays related to ensuring timely information-sharing and competing health priorities.

> *Having an implementing partner undoubtedly helped facilitate the process of introducing the drug into the health facility and implement the [T2T] strategy because cooperation from IPs is an extension of [the MOH]: they can go where we cannot go and are supporting the health facilities in monitoring patients.*
>
> **MOZAMBIQUE**

Nonetheless, this committed leadership from MOHs in some countries guided implementation and sparked interest to expand T2T to additional sites in the future. El Salvador, Malawi, and Mozambique have already shown strategic efforts toward scale-up of T2T. During the STAR-UCSF visit in Mozambique in September 2023, the MOH expressed keen interest in integrating T2T into routine health systems and programming, so that it could be expanded and sustainable in the future. This opinion was shared not only at the national level, but also expressed by provincial health authority leadership. This steadfast commitment to sustaining T2T was also present in Malawi, despite competing priorities (e.g., other disease outbreaks) and barriers (e.g., time and budget).

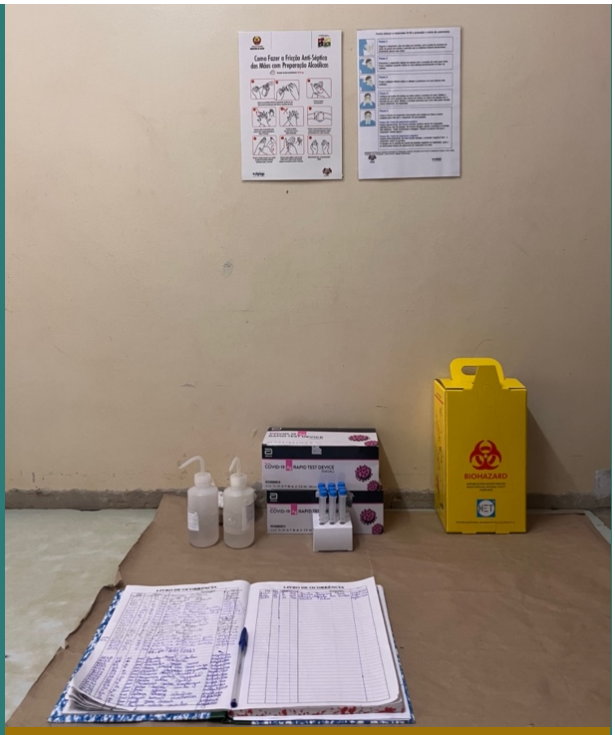
> *We were able to [engage] everyone in the planning process. We were able to get the cabinet director from MOH…[and] get the buy-in of the community health district and QI teams in the different sites. We were able to put together pre-qualifications in the WHO and Global Fund teams - they were behind us with one voice and helped to expedite the process.*
>
> **CÔTE D'IVOIRE**

Strong existing data systems and routine data use

Some countries were able to build upon existing data systems and improve quality rather than develop new, supplementary T2T-specific data collection tools or systems. This helped teams track implementation progress and inform decision-making. For example, Rwanda incorporated T2T into the widespread electronic medical records (EMR) and health information system (HIS) already in use which significantly supported their planning, management, and decision-making in the pilot health facilities. This was essential to strengthening their overall health system as a result of the T2T pilot. Similarly, Côte d'Ivoire leveraged their existing DHIS2 platform patient registration and treatment forms for the T2T pilot. Furthermore, the IP, EpiC, shared data with health districts for decision-making, such as ramp up testing strategies.

With the local RISE team working closely with MOH colleagues, Mozambique's integration of T2T indicators into routine paper-based COVID-19 registers at facilities, coupled with real-time data access through a T2T dashboard, showcases strategic, synergistic data management and use strategies. Development of this dashboard helps to monitor progress and eligibility, allowing key stakeholders to track patients from "when [they enter] the facility until the fifth day when they receive a follow-up call." RISE also embedded data clerks at pilot sites to assist with data collection, QI, and use, acting as liaisons to help facility staff regularly review and track their own T2T

implementation. Site-level triangulation of these registers is done to validate data before it was electronically reported to the MOH.



Laboratory register in the Paragem Única at Hospital Provincial da Matola, Maputo Province, Mozambique, September 2023

Furthermore, Côte d'Ivoire, Malawi, Ghana, and Rwanda had established a culture of routine data review and use, particularly with TWGs and local experts at MOHs and multilateral organizations which promoted data-driven decision-making. One key informant noted that the MOH in Rwanda has an established, "strong policy on the use of data for decision-making," which existed even before COVID-19. Implementers in El Salvador and Malawi were able to build on policy through the use of Plan-Do-Study-Act (PDSA) cycles across pilot regions to identify and address gaps in implementation, service delivery, as well as data management. For example, in Malawi, there was an interest and desire to improve data quality across the health system, from IPs to site data clerks. This mobilized efforts to build capacity and expertise in T2T at training sites. Similarly, Côte d'Ivoire utilized the DHIS2 forms to conduct quality checks and buy-in from QI teams at health facilities helped maximize QI efforts.

Prepared, resilient health systems

Two countries included in the T2T Program Review, Mozambique and Rwanda, had already worked to strengthen their health systems' preparedness. Mozambique's health system has been regularly challenged with identifying and responding to other endemic diseases like frequent cholera outbreaks. Similarly, Rwanda had an existing culture of care-seeking fostered by CHWs and previous and ongoing public health threats such as Ebola in Uganda and the Democratic Republic of the Congo in 2022-2023. In Musanze district, near the border with Uganda, Rwanda's Ruhengeri Regional Hospital had already

Paragem Única tent set up at Centro de Saúde 25 de Setembro, Nampula Province, Mozambique, September 2023.

established a separate isolation wing for suspected Ebola patients whom they were prepared to admit if needed when the STAR-UCSF team visited in June 2023. In both cases, these countries had already prioritized pandemic preparedness and response and strengthened their reporting and overall health systems to be resilient in the face of such emerging health threats. This facilitated T2T implementation and allowed for more efficient and/or effective implementation, often with more leadership

stemming from the country's shared priority of preparedness.

Best Practices

For the purposes of this Program Review, STAR-UCSF has defined a best practice as an intervention or approach that has shown evidence of effectiveness and is likely to be replicable to other situations or programs. A best practice is a lesson learned or knowledge about what works in specific contexts without using extraordinary resources to achieve the desired results. Best practices here ideally focus on those which were leveraged in T2T programs in the selected countries, though not unique to those contexts, and can be used to develop and implement solutions adapted to similar health problems in other situations and contexts.

> *Using that existing structure in itself was helpful...not just in terms of saving cost, but building [the government's] capacity to manage this themselves. Even when we are done with the T2T pilot and we exit, they are able to do that.*
>
> **GHANA**

Leveraging and strengthening existing public health systems

Nearly all countries were able to leverage existing public health systems and structures to facilitate T2T implementation. This was especially evident in Côte d'Ivoire, El Salvador, Ghana, Mozambique, and Rwanda. In Ghana, Mozambique, and Rwanda, T2T was built on the national structure of the health system, with health centers reporting up to district hospitals when COVID-19 cases presented and were eligible for oral antivirals, and resilient public health emergency structures (i.e. quarantine wings) established during previous HIV and Ebola epidemics. Moreover, the RBC had issued multiple COVID-19 clinical management guidelines since the onset of the global pandemic. Rather than creating a separate, T2T-specific announcement or guidance document, RBC included the T2T strategy and use of nirmatrelvir-ritonavir (Paxlovid) and molnupiravir in its 5th edition released in May 2023 (Table 4).

> *When implementing something new, it becomes part of routine activities. Capacity will always benefit - an opportunity to refresh, add new skills, and reinforce programs.*
>
> **RWANDA**

Most countries leveraged the TOT and step-down/cascade model of training, allowing frontline HCWs to contact trainers and higher-level hospitals when needed. RISE in Mozambique tailored their approach to best meet the needs of the MOH by providing the human resources for health (HRH) support that was needed to implement T2T, for example by seconding short-term staff at pilot sites to temporarily support the program until the MOH could take on full ownership. In Côte d'Ivoire, the MOH tied in a COVID-19 prevention into the national vaccination campaign, rather than creating T2T-specific trainings and campaigns.

Similarly, in Ghana T2T implementers coordinated with the MOH to integrate COVID-19 training in the basic emergency care training they were leading, allowing the MOH to have more ownership of T2T. Furthermore, mapping the distribution of oral antiviral stock in Ghana allowed implementers to coordinate T2T implementation with other IPs to prevent duplication of efforts and support sharing of resources. By taking ownership of the distribution of

Table 4. Excerpt from COVID-19 case management table in RBC's 5th Edition COVID-19 Clinical Management Guidelines, including the use of oral antivirals, May 2023.

Stage of the disease	Clinical Management (to be owned and supervised by a medical doctor and he/she ensures its completeness while caring for a COVID-19 patient)
Mild or moderate	• Provide Paxlovid (Ritonavir-Boosted Nirmatrelvir) 3 tablets (Nirmatrelvir 300 mg + Ritonavir 100 mg) twice daily for 5 days. For patients with moderate renal function impairment the dose is adjusted as 2 tablets (Nirmatrelvir 150 mg + Ritonavir 100 mg) twice daily for 5 days. Note that Paxlovid is taken within 5 days of symptoms onset and should not be given to people under 18 years of age. However, weighing the risks and benefits, few exceptions might be made after multidisciplinary consultations, and dose adjustment. For example, the patients aged 12 years and above, whose body weight is at least 40 Kg or more can be considered to receive this therapy. The trained clinician in administering Paxlovid is encouraged to use the available user-friendly Drug-to-Drug interactions (DDIs) online platform. • For eligible patients who cannot take Paxlovid due to a contraindication (i.e. severe renal or liver function impairment), the clinician will consider the prescription of Molnupiravir P.O 800 mg twice daily for 5 days. Note that Molnupiravir is not recommended to use in patients who are pregnant, trying to get pregnant or breast-feeding. Contraception should be used while taking and for 4 days (females) or 3 months (males) after taking Molnupiravir. • Perform a Covid-19 control test at Day 6 (after completing the 5-days course of oral antiviral therapy) counting from the time of commencement of Paxlovid or other treatment. If the control test remains positive, the next control test is performed every 3 days until the result is negative.

COVID-19 antivirals for USAID-supported and non-USAID-supported IPs across the country, GHS was able to ensure that each T2T facility had access to tests and antivirals - redistributing one IP's excess RDTs or antivirals when others were running low. Similarly, RISE leveraged T2T activities to promote wellness clinics which allowed broader public health promotion when COVID-19 cases waned.

Collaborating for effective demand generation

The collective demand generation efforts from MOHs, IPs, and health facilities were effective in generating widespread awareness of the importance of T2T in all Program Review countries. Community and religious leaders played a pivotal role in building trust and confidence in messages from governments and MOHs, as they conducted person-to-person outreach on the ground. This direct communication helped alleviate some apprehension about oral antivirals and clarify some of the misinformation they were hearing from various media outlets. Across the board, grassroot campaigns took advantage of various multimedia sources to reach the broader community. Examples of these sources include community radio spots, TV ads, street banners, pamphlets, flyers, and posters. These include even megaphone messages to local communities at public spaces such as bus stations, markets, and car parks in Rwanda and "edutainment" live theater and music events in Malawi. Across all of this demand generation work, engaging grassroot local civil society organizations (CSOs), including CBOs and community radios, helped T2T reach communities, supported community ownership, and improved awareness and sensitization of communities. When compared to other programs in these regions, T2T had to target older populations and reach individuals with pre-existing conditions, rather than, for example programs related to HIV prevention, targeting women of reproductive age or, with diarrheal diseases, targeting children.

Implementers in Côte d'Ivoire worked directly with the MOH to conduct initial needs assessments that later resulted in demand generation materials. Both Côte d'Ivoire and Mozambique also worked with another USAID partner, Breakthrough ACTION and

RESEARCH, and their MOHs to develop communication strategies and tools. Malawi and

> *This experience has really highlighted the need to figure out the best ways to engage elderly populations. Traditional routes of using social media to spread messages and create awareness is not going to work for everyone.*
>
> **HQ**

Mozambique leveraged their community relations and worked strategically with community and religious leaders to expand their reach and meet communities' needs. While RISE in Rwanda utilized awareness campaigns targeting faith-based organizations, they also synergized to incorporate T2T messaging into their vaccination campaigns targeting schools to also promote T2T - pairing preventative demand generation with therapeutic demand generation. Overall, the best practices around demand generation helped strengthen the T2T promotion while growing the community solidarity.

Figure 18. T2T poster from El Salvador (courtesy of EpiC/Palladium).

Utilizing a practical, multi-disciplinary training approach

Integrating relevant, multi-lingual (where appropriate), mixed-method trainings with practical application of knowledge and skills were a key component in the T2T pilot programs in all six review countries. In these countries, the incorporation of TOTs effectively prepared site-level facility staff to respond, lead, and carry-out T2T implementation tasks appropriately such as protecting client data and assessing antiviral eligibility, safe handling and prescribing of oral antiviral drugs. and communicating important health messages with patients. In Côte d'Ivoire, EpiC utilized training opportunities to include non-clinical sessions focused on QI, strategic information and M&E. In Mozambique, an existing virtual

> *The training was very organized, very focused. There was an adequate amount of time. The materials received were very helpful because they summarized the slides and [helped us] feel more confident to manage COVID cases.*
>
> **RWANDA**

platform called *TeleSaúde* was leveraged to host virtual trainings, which accelerated the roll-out of T2T trainings.

> *Our virtual training, from the moment we started, added value. Then with supportive supervision, there was an interest, a dedication.*
>
> **MOZAMBIQUE**

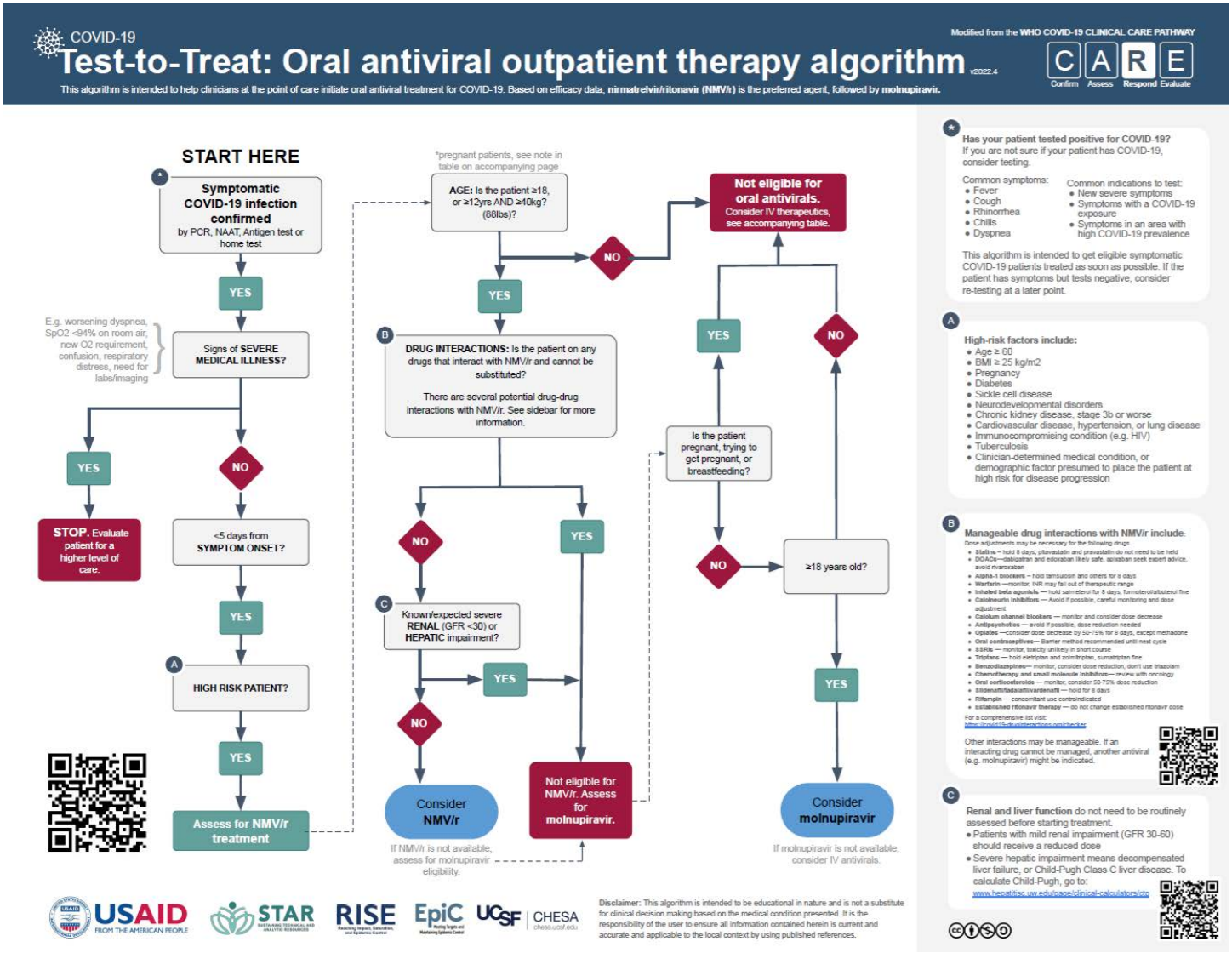
Mentorship and communities of practice also emerged as a valuable tool in the post-training phase. In Rwanda, for example, on-site mentorship, a pre-existing model before T2T, played a key role in providing ongoing support and opportunities for skill enhancement following formal trainings. Similarly, in both Rwanda and Mozambique pilot facility staff were in direct communication with trainers and other champions for real-time troubleshooting and support when making decisions about clinical eligibility of patients presenting at the health facilities. El Salvador utilized communities of practice and regular meetings with sites implementing T2T as opportunities to share lessons learned in near real-time. Additionally, they hosted a learning exchange in May 2023 to share those lessons learned with other EpiC-supported T2T countries.

> *[There was the] possibility of empowering ourselves from training. That is, to tell us, the doctor, now I have trained you and you are going to replicate the rest to me.*
>
> **EL SALVADOR**

Creating simple, clear tools

Against the backdrop of a rapidly evolving landscape, stakeholders recognized the potency of adaptable tools that were customizable, adapting to the unique needs of each country and specific health facilities. Job aids, T2T algorithms (Figure 19), and SOPs increased technical expertise at pilot sites and emphasized the continued threat of COVID-19 and importance of T2T in all Program Review countries. Most site-level staff reported the algorithm as the most widely utilized tool, often noting its ability to quickly help triage patients based on the countries' eligibility criteria. Information sheets in simple language, adapted for local context, and the dissemination of up-to-date guidance through webinars and WhatsApp groups built on the evidence coming from global leaders, such as the Africa Centers for Disease Control and Prevention (CDC) and WHO. Patient flow diagrams were often adapted by health facility staff themselves, as they knew their services, triaging, clinical spaces, and contexts best. Dedicated efforts in creating, disseminating, and training with tools like T2T clinical algorithms, SOPs, and job aids were pivotal.

Figure 19. T2T algorithm developed by STAR-UCSF and available to the public including all USAID-supported T2T pilot countries via OpenCriticalCare.org.



Barriers and Key Challenges to T2T Implementation

Similar to enablers and best practices, common barriers and key challenges were identified from the KII notes and described below. Some themes were cross-country and commonly experienced in many T2T countries, while others were unique to specific local contexts (Table 5).

Table 5. Common barriers and challenges for T2T across countries

Barriers	Côte d'Ivoire	El Salvador	Ghana	Malawi	Mozambique	Rwanda
Supply chain and regulatory obstacles	X	X	X	X	X	X
Competing health priorities and deprioritization of COVID-19			X	X	X	X
Misinformation and mistrust			X	X	X	X
Concerns around efficacy and safety due to delayed information-sharing with policymakers			X	X	X	X
Key Challenges						
Short initial pilot duration	X	X	X	X	X	X
Slow buy-in from local leadership	X				X	
Limited inclusion in trainings	X			X	X	X
Poor access to high-quality data		X		X		

Barriers

For the purposes of this Program Review, STAR-UCSF has defined a barrier as an obstacle or impediment that prevents progress or achievement and cannot be easily overcome. Barriers can be physical, environmental, structural, or systemic and hinders key stakeholders from reaching a program's goals. Barriers can be internal or external and can arise from various factors such as lack of resources, social or cultural norms, or personal beliefs.

> *Everything comes back to the availability of antivirals.*
>
> **HQ**

Supply chain and regulatory obstacles

As the world faced many challenges with global supply chain interruptions during COVID-19, all six Program Review countries experienced similar substantial barriers with oral antiviral procurement, shipping, and distribution to pilot facilities, which led to significant delays in implementation of T2T. Global COVID-19 antiviral availability was delayed in part by high-income countries reserving doses and in part because manufacturers were worried about indemnity and, thus, wouldn't sign contracts to donate the oral antivirals with the Global Fund nor USAID. Key informants in Rwanda noted competition for procuring oral antivirals as an extraordinary challenge. Additionally, challenges in medication availability, expiration dates, and stock-outs in various regions emphasized the need for improved logistics and inventory and supply chain management. Even when countries were able to procure or receive donations of RDTs or oral antivirals, stock-outs and short expiration dates made it difficult to ensure a consistent and reliable supply. In Côte d'Ivoire, for example, a non-USAID-supported T2T pilot began following receipt of a stock of antivirals with a short two-month expiration timeline; fortunately, nearly 2/3 of that stock was prescribed before expiration. Once the remaining stock expired, however, implementation, including the USAID-supported sites, was paused indefinitely as new shipments were delayed indefinitely due to lack of regulatory approval. In Mozambique, thousands of oral antivirals set to expire only nine months after receipt led the country to rapidly expand from four to 18 T2T pilot facilities to make use of the surplus stock before expiry. Authorities in Malawi, on the other hand, made the difficult

Expired molnupiravir at CHU Yopougon, Abidjan, Côte d'Ivoire, March 2023.

> *We were at the mercy of what was available or what the shelf life was.*
>
> **HQ**

> *We had a slow start...because we had to go through all the various processes of [Ghana] FDA approval trying to get government buy-in. Naturally, the government also had their own challenges because they wanted to be sure that the drugs were safe to use and would not create any situation that could lead to panic in the country.*
>
> **GHANA**

hand, made the difficult decision to reject a shipment of nirmatrelvir-ritonavir that had a short shelf life, despite the country's considerable challenges in procuring oral antivirals. In Malawi and Rwanda, stock-outs of oral antivirals and/or RDTs stopped or delayed implementation in at least one facility during the T2T pilots.

> *A respiratory pandemic moves quickly [and] having drugs arrive more than 3 years later is too late. We are not having that clinically meaningful impact at scale that we would have had when mortality and hospitalizations were still very high during the surges.*
>
> **HQ**

Beyond global supplier competition and internal supply chains, most T2T pilot countries faced significant internal delays in gaining regulatory approval for importing and registering oral antivirals, and ultimately making them available at facilities. Navigating local standards, internal registration or EUA approvals, and limitations in applicability further complicated regulatory processes. Combined with the fact that there were both generic and name-brand/originator drugs available for two oral antiviral options, molnupiravir and nirmatrelvir-ritonavir, at times political influence, generally at the MOH or highest level of government, significantly hindered drug registrations over objective scientific evaluations by regulatory agencies. Delays for registrations with bodies like the Autoridade Nacional Reguladora de Medicamento (ANARME) in Mozambique and the Dirección Nacional de Medicamentos (DNM) in El Salvador demonstrate the result of lacking independent regulatory agencies for medicines, especially in emergency situations when decision-making needs to occur quickly to have the most impact. Many pilot country teams noted these barriers were, in part, because they had to establish new procurement mechanisms outside of national supply chains routinely used and navigate influences related to regulatory approval processes under EUA. For example, the supply chain of COVID-19 commodities in Malawi has not yet been integrated into the routine supply chain of pharmaceuticals and diagnostic commodities. The lack of access to regulatory data to alleviate safety concerns also impacted regulatory approvals, in particular when it came to potential risks of the antivirals. This was particularly true for countries that do not conduct official business in English as most documents are only available in English. On a related note, the WHO's declaration of the end of the COVID-19 public health emergency led the MOH in Côte d'Ivoire to reject antiviral use and quantification in October 2023, preventing the pilot team from restocking facilities and continuing to implement T2T moving forward.

> *There was COVID fatigue and a relaxation of response to COVID.*
>
> **MALAWI**

Competing health priorities and deprioritization of COVID-19

Stakeholders faced a multifaceted barrier as interest in dedicating time to implement T2T dwindled. The difficulty in forecasting oral antiviral needs, especially with reduced cases, posed a significant hurdle. Framing the T2T approach as directly beneficial to patients became challenging as the demand for testing and the number of cases identified decreased from the end of 2022 into 2023, for example in Ghana. Reduced cases also led to less frequent meetings with regulatory authorities in

some countries. Added onto other escalating health concerns, overwhelmed MOHs and health facilities occasionally found it challenging to prioritize T2T implementation. Instances of infectious disease outbreaks, like Ebola (Rwanda) and cholera (Mozambique), as well as routine childhood vaccination programs (Rwanda) diverted attention away from T2T in some countries. The devastating tropical cyclone Freddy in February and March 2023 hindered the initiation of T2T implementation in the affected districts of Malawi (see Case Study above).

Malawi Case Study: Responding to Natural Disasters

Severe Tropical Cyclone Freddy heavily damaged Malawi's Southern region for more than five weeks in February and March of 2023. Specifically, in Zomba and Mangochi districts, there was no road access, people were displaced and staying in camps, and districts were struggling to recover. Before Cyclone Freddy arrived, the country had been experiencing its worst cholera outbreak to date, and all of this created an unsuitable environment to pilot T2T. Initially, seven to eight facilities were selected as pilot sites for T2T. However, Malawi's decision to revisit their strategy was intentionally wise. They reselected pilot sites central to the camps so the displaced population would have greater and easier access to services. They realized how important access and reach was for vulnerable populations and adapted to better meet their needs.

> *[COVID] slipped off people's radar...there wasn't full prioritization of this as it was needed.*
>
> **GHANA**

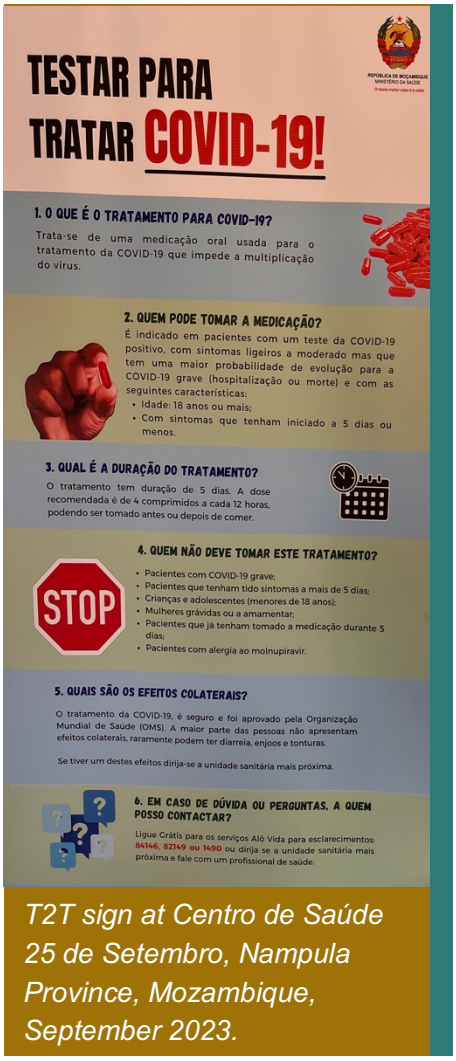
Decreasing COVID-19 cases both locally and globally and decreased severity because of the success of vaccination campaigns and natural immunity led to reduced patient-initiated testing and diminished interest in treatment once diagnosed, impacting various countries. This decline in perceived risk was mirrored among HCWs, resulting in reduced routine testing at sites for example in Ghana and Mozambique where no referrals to T2T pilot sites visited by the STAR-UCSF team had been seen due to suspected lack of testing at rural health centers. Nationally in Malawi, COVID-19 case management was initially linked to incentives (risk allowances) for HCWs, and, with the integration of services into routine care, some HCWs were resistant and did not perceive COVID-19 as a priority disease, especially at higher-level facilities like district hospitals. The local IP, EpiC, continues to work with the MOH and district leadership to mentor and engage HCWs on integration and pandemic preparedness.

Misinformation and mistrust

Misinformation and mistrust surrounding COVID-19 impacted T2T implementation from communities

Sign at Nathenje Health Centre stating that "COVID-19 is not over," Nathenje, Malawi, September 2023

to HCWs and national/facility leadership levels. In Rwanda, a CBO working on demand generation noted challenges in local communities at combating misinformation such as people not believing the disease was real, believing that Africans wouldn't get it as it was a European or Asian problem or seeking



T2T sign at Centro de Saúde 25 de Setembro, Nampula Province, Mozambique, September 2023.

cures from COVID-19 from traditional healers. Similarly, key informants in Ghana noted the spread of misinformation as one reason for low testing rates. Communities in Mozambique often sought care from traditional healers, known as *curandeiros*, before health facilities. In addition, the use of the word 'antiviral' posted an unexpected barrier due to ongoing stigma and discrimination faced by PLHIV (see Case Study above). Also, staff at one facility in Malawi expressed concerns about treatment side effects, requiring patient follow-ups three days into treatment and testing upon treatment completion. This increased the burden on patients and facilities while posing additional transmission risks.

Mozambique Case Study: The Importance of Language

> *You only hear it as an 'antiviral,' [and] we associate an antiviral with HIV.*
>
> **MOZAMBIQUE**

Due to decades-long campaigns to raise awareness about HIV and antiretroviral therapy in Mozambique, the use of the term "antiviral" during the T2T pilot created a misconception that molnupiravir was for treating HIV instead of COVID-19. As a result of this similar terminology and the continued stigma faced by PLHIV, facility-level staff thought this created fear and resistance toward receiving nirmatrelvir-ritonavir treatment. One recommendation was that after the pilot, there should be a media campaign to ensure that the population knows that it is not an antiretroviral for HIV but simply 'treatment for COVID.'

Concerns around efficacy and safety due to delayed information-sharing with policymakers

In some countries, slow decision-making due to slow information-sharing stalled T2T implementation. Distinctions between the two oral antivirals, molnupiravir and nirmatrelvir-ritonavir, were topics of conversation during the early stages of planning as MOHs and key stakeholders discussed which oral antiviral(s) to use in their respective countries. In Mozambique, the inclusion of ritonavir in Paxlovid (nirmatrelvir-ritonavir) raised potential HIV-related concerns, emphasizing the need for careful and thoughtful demonstration of drug

efficacy and evidence of safety to the MOH and regulatory stakeholders at local levels. This concern delayed decision-making around the COVID-19 antiviral for the USAID pilot by many months. Ultimately, this challenge was overcome after RISE and USAID met with the Mozambican MOH to present the latest evidence. The Government of Mozambique had reasonable concerns, especially considering that the oral antivirals for COVID-19 had yet to be studied among LMICs and local populations in the countries being asked to roll out T2T. The predominance of scientific studies showing efficacy and safety had been among mostly White, American and European populations. MOHs like in Mozambique took careful time for consideration of appropriateness of these drugs for their local populations. Meanwhile, the sudden cessation in the recommendation and use of one oral antiviral (molnupiravir) by the MOH in Rwanda due to reduced effectiveness prompted HCWs at pilot facilities to question the efficacy of the second (Paxlovid). Ghana faced similar concerns from policymakers surrounding the efficacy and safety of molnupiravir, which led to delays in implementing T2T and ultimately a shift toward only using nirmatrelvir-ritonavir at the USAID-supported pilot sites. In Malawi, drugs were delayed from reaching

> *Organizations were ready, strategy was there, catchment area was clearly identified, flyers were developed, things had been translated into local languages. We were only waiting for the availability of medicine.*
>
> HQ

facilities for several months despite arriving in the country due, in part, to pending MOH approval for T2T implementation and subsequent antiviral distribution. This challenge highlights the room for improvement in sharing evidence with leadership, recognizing the crucial role of providing justification and supportive evidence to MOHs when implementing new programs and strategies.

Key Challenges

For the purposes of this Program Review, STAR-UCSF has defined a challenge as a difficult task or situation that requires effort, skill, and determination to overcome. A challenge can be an opportunity for growth and development, requiring key stakeholders to overcome it in order to reach the program's full potential. Challenges can be both internal and external factors and can be mitigated or controlled for with modifications to program development and implementation.

> *It's not a good idea to design a pilot for six months, particularly when you have so many unknowns. Design it for a longer time with an anticipation of the next steps.*
>
> HQ

Short initial pilot duration

The limited time factor emerged as a critical challenge in the COVID-19 response, impacting various aspects of implementation in all six Program Review countries. Stakeholders voiced concerns about the insufficient time available for crucial meetings with MOHs, hindering effective decision-making and collaboration. Last-minute decisions and unrealistic timelines for the entirety of the workplan, including pre-implementation needs such as development of materials and trainings, set by the funder imposed significant pressure on the IPs, requiring them to be exceptionally nimble in adapting to evolving circumstances. The overarching

challenge lay in balancing the urgency of the response with the practicality of achieving objectives within constrained timeframes. Across the board, USAID and IP headquarter teams as well as in-country staff felt that the proposed pilot period of 6 months was too short and unrealistic for effective implementation, with some noting a 9- or 12-month pilot period would have been more appropriate. In particular, while supply chain delays did pose a significant challenge to timely implementation, even in countries like Rwanda and El Salvador, where fewer procurement barriers existed, T2T implementation was still delayed from the anticipated timeline by at least a few months.

> *By the time the product was available, the urgency at MOH was gone to take the bold decision to give EUA for a drug that was not formally approved by WHO. The political will [had] evaporated.*
>
> **HQ**

Slow buy-in from local leadership

While governmental buy-in and leadership facilitated programming in some countries, insufficient or slow adoption and support posed a barrier in others. In Mozambique, T2T initially wasn't considered a priority for the MOH until the local IP, RISE, garnered support by suggesting the utilization of pre-existing COVID-19 spaces within health facilities. In Côte d'Ivoire, the T2T pilot program was originally implemented independent of USAID funding by the MOH, with EpiC providing non-clinical TA. After months of the MOH's implementation, there was a shift in the MOH's approach to the USAID-supported T2T pilot, with them viewing it more as a temporary study than a public health program.

Limited inclusion in trainings

Training gaps also posed barriers for effective T2T implementation. At one health center in Malawi, all pharmacists missed the IP's T2T trainings. As a result, they felt uncomfortable providing instructions regarding the oral antivirals to patients and sent them back to their clinicians for instructions, adding to the site's existing inefficient patient flow. Additionally, Malawi faced limitations not only specific to T2T-focused trainings, but also point-of-care testing was only initially conducted by laboratory technicians. Patients complained of long wait times, resulting in reduced testing in the early stages of T2T implementation. Following the training of additional cadres of staff and task shifting testing to patient attendants, the Malawi team saw an improvement in implementation and testing numbers increase. Doctors at referral facilities in

> *There's still a gap, a huge gap. Once we did the training, we went back and did a gap assessment. Then [we] conducted a training on prescription and testing for key central staff only to fill the gaps.*
>
> **MALAWI**

Mozambique expressed frustration to district officials and felt low ownership over T2T as they had no stock of antivirals and were not able to prescribe them despite having been trained and understanding eligibility criteria to do so. In Rwanda, because so few providers from private health facilities were trained, one key informant suggested that more be included in the future to better link public and private facilities' emergency responses. In Côte d'Ivoire, EpiC was limited in its ability to address training gaps despite interest, as the MOH was responsible for all clinical aspects of

T2T and did not approve requests for SOPs or workshops on guideline development.

Poor access to high-quality data

Insufficient access to dependable, real-time data constrained several countries' capacity to strategically select pilot sites, oversee implementation, and use data for QI. In El Salvador and Malawi, the discontinuation of national reporting on COVID-19 cases, hospitalizations, and deaths undermined confidence in the selection of appropriate pilot sites. This gap potentially contributed to a widespread perception of an exaggerated reduction or elimination of COVID-19 cases. Apart from national reporting halts, some countries observed data quality challenges, impeding their ability to effectively monitor implementation and enact timely corrective actions to improve quality. Multiple countries cited incomplete site-level data entry, an issue some managed to address through intensified training and on-site mentorship. Malawi expressed the immense challenge of integrating their COVID-19 data collection indicators into routine reporting systems, hindering their direct reporting to the MOH. For example, IPs in Malawi noted that the case management form used in the pilot would not be realistic post-pilot as large amounts of data, such as symptoms or vaccine status for patients who tested negative, were not routinely asked from patients. Additionally, site staff did not have the time to collect that data due HRH shortages and high patient volumes. Subsequently, this data collection tool may present a challenge for scale-up of T2T in Malawi, while also presenting an opportunity to use the forms for future infectious disease threats.

On the contrary, in Mozambique there are new data tools and dashboards being revised and implemented that will allow information from follow-up visits conducted by *activistas* to be reported. This will allow the tracking of individuals farther along in the cascade (i.e., completion of antivirals. This provides Mozambique an opportunity to improve their data visualizations, better understand their T2T implementation, and prepare for future pandemics.

T2T register and SBC materials inside the Paragem Única at Hospital Provincial da Matola, Maputo Province, Mozambique, September 2023

Conclusion & Recommendations

Successes of T2T Program

Overall, despite the complex barriers and unexpected challenges of launching a pilot program during a global pandemic, it's evident that the T2T program was viewed as successful by key stakeholders in the countries included in the Program Review.

Direct benefit to patients

The majority of key informants across review countries noted the benefit of T2T implementation in addressing the COVID-19 pandemic. Clinicians at health facilities recounted stories of patients that received oral antiviral treatment and recovered rapidly and effectively, ultimately lowering the burden on the health system by reducing complications and deaths. This progress was an important motivating factor for staff implementing T2T at the HQ- and national-levels to local levels, as many felt rewarded and proud of their work.

> *COVID more or less devastated health systems of many countries, including ours, and the fact that for a long time the notion or the rhetoric here was that there is no treatment….this is really what we are very excited about as a country - we have been able to provide that option that will save lives, prevent people from progressing to critically ill conditions and that may lead to mortality.*
>
> **GHANA**

> *This….has been incredibly rewarding. To see the smile [of] sincere gratitude….and people of very limited means [having] access.*
>
> **EL SALVADOR**

> *The biggest benefits are for patients who have been diagnosed, and they have been treated. If we are able to treat those, we are in a way blocking the transmission, including [to] us, health workers. We managed to treat them and they did not come back with serious complications.*
>
> **MALAWI**

> *From a clinical perspective, it helped to reduce the burden of severe cases in hospitals immediately.*
>
> **RWANDA**

Integration into and strengthening of routine, decentralized programs

In many countries, stakeholders were able to successfully integrate T2T into routine health systems, albeit at pilot and not full-scale implementation. This included the integration of T2T into general COVID-19 response activities, leveraging newly formed structures like COVID-19 TWG meetings and WhatsApp groups for real-time troubleshooting about eligibility, and building upon

existing relationships with health facilities to establish mentorship models with follow-up visits. Furthermore, as the COVID-19 pandemic shifted, this systematic embedding of the T2T program into the routine standard of care became even more important as resources were pulled away to other emerging health threats facing these countries like Ebola and cholera. When countries like Mozambique and Rwanda utilized one-stop models and rapid response teams, respectively, they were able to more seamlessly integrate into existing spaces and systems at health facilities. In the future, health systems should have pre-existing mechanisms in place to incorporate new therapeutics into routine care quickly, orient clinicians, and engage with communities. Every new medicine should not require creating a separate system to make it available for use. Instead, pandemic preparedness and health system strengthening resources should focus on preparing existing systems to be able to quickly adapt their processes to make therapeutics, testing, etc. available for eligible patients in a quick, effective manner. Implementation of the T2T program has emphasized the importance of adaptability, customization, and building on existing structures and therefore strengthening the overall health systems in preparation for future pandemics.

> *The health system strengthening component cannot be underlined enough - how critical that is. And also keeping the structures that were put in place during COVID, like the TWGs.*
>
> HQ

Additionally, countries like El Salvador, Ghana, Mozambique, and Rwanda were able to leverage referral systems to meet individuals where they are presenting for care and ensure that T2T had the biggest reach possible. Countries utilized satellite health facilities and CHWs who could refer and link positive patients up to district hospitals, for example, which served as pilot sites with oral antivirals. This decentralized approach, while limited by the geographic distances between those sites, improved equity and addressed some accessibility challenges, especially in larger countries or those which elected not to pilot T2T at many health facilities. While some clinicians at referral facilities, for example in Mozambique, were frustrated to not have been included in piloting the program, the use of referrals allows for a more sustainable strategy in some cases when faced with resource limitations by linking patients at referral sites to treatment.

Finally, numerous countries gained enough buy-in from MOHs to integrate T2T data indicators into routine systems like existing EMRs or paper-based registers rather than adding new T2T-specific tools. This proved faster, more efficient, and more acceptable to adopt at the local level. Moreover, the creation or expansion of data visualization tools like dashboards to include the new T2T data, allowed decision-making to become much more data-driven. When access to those dashboards was granted not only to national-levels like MOH officials but also site-level staff like clinicians and pharmacists, then more stakeholders were engaged in program implementation. This allowed for near real-time monitoring of patients at the site and overall uptake of antivirals at a program level.

Adaptation to local cultural contexts and epidemics

As part of the design of T2T in most countries, USAID and IPs identified and leveraged local partnerships (e.g., CBOs, technical experts) and TWGs to address local, country-specific barriers like

misinformation or selection of sites. Those partnerships facilitated problem-solving for barriers not solvable at the local scale (e.g., international shipping delays or competition over global antiviral stocks). Similarly, countries like Rwanda, which had an existing culture of data use, worked with partners to utilize a data-driven approach to select sites, which included the latest COVID-19 test positivity, case, death, and vaccination data alongside an understanding of the limitations of their epidemiologic data like undiagnosed comorbidities in younger populations.

Moreover, when IPs, EpiC and RISE, and MOHs worked together, in collaboration with CBOs and subnational stakeholders like district/provincial and health facility staff, they were able to actively engage in community mobilization and health promotion, emphasizing the importance of uplifting community voices to ensure an inclusive and equitable response. Stakeholders exhibited a commitment to customization of T2T materials, eligibility criteria, and implementation models, ensuring that initiatives resonate with local contexts and populations. When these implementation plans and demand generation materials were translated into local languages and contexts and utilized by CHWs in the communities, their reach expanded beyond the pilot facilities themselves. Through community sensitization and tailored training models, these adaptations of the T2T program emphasize the importance of building trust, fostering health-seeking behaviors, and connecting communities with essential services. Teams sought new ways of reaching different populations, not usually targeted by other health messages in countries facing other disease epidemics like HIV and malaria, which mostly impact younger populations. This underscores the importance of tailored and culturally-sensitive approaches in fostering community support and overcoming obstacles in the dynamic landscape of pandemic response.

Addressing misinformation and mistrust

During the T2T pilots, instances of community confusion, fear, and hesitancy related to COVID-19 testing were observed. Mistrust and misinformation further fueled resistance to testing and treatment, emphasizing the need for nuanced and sustained strategies to manage and mitigate these challenges. This became especially clear in Mozambique with the use of the word “antiviral” as the country continues to face high rates of HIV and stigma toward PLHIV. On a similar note, despite Rwanda's strong culture of health-seeking behaviors in communities, there were still challenges with misinformation about the existence of COVID-19 and its treatment. Alongside those widespread information challenges, mistrust could even be found among HCWs in Rwanda and Malawi that did not identify COVID-19 as a continued public health threat with the end of the WHO emergency nor view oral antiviral treatments as safe and effective. This persistent misinformation and identified mistrust in the Program Review countries highlighted the importance of spending time not only on promoting T2T but also in combating misconceptions about COVID-19 more generally. As discussed above, this can be done by utilizing CHWs and CBOs at the local, community levels for on-the-ground promotion of health-seeking behaviors and available prevention and treatment options.

Recommendations for Future Programming

Significant investment to strengthen supply chain and regulatory mechanisms

One of the most significant and commonly discussed barriers during KIIs was accessibility to the oral antivirals themselves. It is evident that regulatory and policy changes are needed to fortify healthcare systems for not only the ongoing COVID-19 pandemic, but also as a proactive measure for future health emergencies. Procurement mechanisms need to be better streamlined and regulatory mechanisms in place to expedite new therapeutics to respond to new and emerging global health threats. While many global supply chain impediments may be too large or require substantial resource investment to

> *But I think my biggest take home message for the future is to have a smaller group up front on supply chain and regulatory [mechanisms], and then engage implementation [teams] when you're closer to ready.*
>
> **HQ**

overcome, there may be more regionally-focused solutions, similar to Rwanda's forging of its own governmental relationship directly with Pfizer and sourcing of nirmatrelvir-ritonavir very early on. Mozambique and Malawi, for example, may be able to utilize laboratories and even drug distribution systems in regional neighboring countries such as the Republic of South Africa, instead of relying on European or American distribution pathways, as suggested by key informants at the country level. Another suggestion was to coordinate small shipments of drugs to be used under EUAs or

> *One global challenge is that given the timeline of when COVID hit hardest and when either vaccines or treatment doses were needed, either there was a shortage or people were kind of were hoarding vaccines or treatment doses. One lesson is we have also tried to invest in local manufacturers or the FDA in country to prepare that arsenal that they could deploy. So whatever comes about, there is more equitable distribution as soon as the [next] pandemic hits.*
>
> **GHANA**

research to quickly launch and start pilots, before scaling up programs like T2T. In parallel then, the regulatory and supply chain obstacles could be addressed, and the antivirals would not have been as much of a rate-limiting step as they were in these T2T pilot countries. This investment into supply chains and regulatory mechanisms would also require long-term work alongside MOHs and other governmental entities in various countries to proactively develop and operationalize non-routine, emergency procurement and regulatory approval

> *And so that is our lesson learned - that if you're talking about a brand new drug, especially for a new disease, that we need to have some different platform or paradigm in place to deal with how those can be made accessible in a more rapid fashion.*
>
> **HQ**

systems and processes, rather than attempting to develop workaround methods in real-time when drugs are needed urgently.

Adjust considerations for country selection and set realistic timelines

Originally, USAID selected T2T pilot countries based on where it had existing partnerships. In this case, EpiC and RISE were selected as appropriate IPs and mechanisms for the T2T pilot work, meaning USAID would need to rely on where FHI360 and Jhpiego already worked. While beneficial in some regards, as this meant teams already had existing relationships with MOHs and other key stakeholders in those countries to conduct this work, it also meant the program did not necessarily target countries most in need of access to oral therapeutics. Even within those countries, because of the way USG activities are divided, the STAR-UCSF team learned that often, even subnational regions for implementation could not be selected based on equity, as regions, provinces, and districts are often divided between USG-funded entities like the U.S. CDC, Department of Defense (DOD), and USAID. That said, USAID did strive to implement this program in a decentralized manner in order to bring these services as close to the community as possible. However, in-country discussions in some countries led to selecting larger, for example, district hospitals as pilot sites and providing them with oral antivirals instead of lower-level, primary care facilities. Additionally, some countries, like Mozambique, faced surpluses of oral antivirals yet were only implementing T2T at a limited number of sites. This did seem to help gain buy-in from the MOH to expand the T2T program to more sites and provinces in the future, but also it may have been averted if more sites were selected from the beginning. Future considerations for country and pilot site selection for similar programs could involve measures of equity (e.g., countries and regions with the most cases, least access to treatment, weakest public health infrastructure, etc.) rather than countries where programs are easier or faster to implement (e.g., where partners already exist), acknowledging that better accounting for equity may lead to additional delays if new partnerships and stakeholder engagement is needed in places with the most need. Moreover, nearly all key stakeholders remarked that the initial pilot timeline was too short as highlighted above. Without procurement in place on a realistic timeframe, countries were stalled many additional months simply waiting on antivirals to arrive in country. This often meant that T2T programs actually missed the largest waves of COVID-19 cases in these countries because of how lengthy the procurement and regulatory processes were.

> *The entire process of selection and implementation felt way too rushed.*
>
> HQ

Share timely information and experience with and across local stakeholders

During the pandemic, information was constantly evolving and changing as new science revealed important facets of COVID-19 transmission and treatment. Available resources like the OpenCriticalCare.org — a website with COVID-19 guidelines and protocols that integrates educational content to resource-variable practice settings from the Partners In Health COVID-19 Manuals — and the rapid availability of FAQs, one-pagers, algorithms, etc. for T2T were immense assets in distilling and clarifying that information so that local staff could make use of it. However, at times during T2T implementation, some key informants from

> *We did so much better with COVID than we did with HIV, but in a respiratory pandemic, that lag in drug access still meant that low- and middle-income countries didn't benefit in the way they could have.*
>
> HQ

MOHs reported that not enough information was shared in a timely manner or not from the highest-level source such as USAID HQ, WHO, or other international stakeholders, especially as it related to oral antiviral options and their clinical efficacies. For example, in Malawi, there were misconceptions and misinformation among facility-level HCWs about needing confirmatory polymerase chain reaction (PCR) testing, though the T2T program was designed to not require it and national-level, MOH stakeholders seemed to be up-to-date on the latest science.

Delayed decision-making, arduous processes to gain approval, and even denial of approvals for the drugs all underline the need to share evidence with MOHs' leadership as quickly as possible and from the right sources, recognizing the crucial role of providing justification when implementing new programs and strategies. This may mean providing stronger recommendations regarding drugs (1st and 2nd line) and supportive evidence to MOHs for decision-making through science reviews or developing a communication strategy. As some MOHs waited for scientific evidence on oral antiviral efficacy and safety from the WHO or other international health bodies such as the Africa CDC, others sought guidance from their local IP teams. It would have been beneficial and more efficient for all MOHs to hear similar guidance and recommendations at the same time and perhaps directly from USAID HQ, especially as it relates to the science of COVID-19 oral antivirals.

In addition, there is room for further sharing and communication across the countries implementing T2T. While there were some examples of this across certain IPs and at an international-scale between USAID and IP HQ teams, there was still a gap for MOH and country-based IP teams to be directly discussing and sharing lessons learned in real-time with each other, regardless of their HQ team supporting them. The sharing of project timelines, objectives, and strategies could be done initially at the onset of funding, while the exchange of lessons learned and best practices could be shared at regular intervals (e.g., bimonthly), mid-, and end-points after implementation begins.

Focus on capacity building and workforce development

Training initiatives emerged as a cornerstone of success in the COVID-19 response. Incorporating and finding effective promotion strategies for virtual training methods, such as *TeleSaúde* in Mozambique, added flexibility and adaptability to the training process. However, health facility staff at one T2T pilot site in Mozambique noted they had heard frustration and noted low ownership of the program from doctors from their satellite sites since they had not been included in initial clinical trainings. Moreover, the challenge of high staff turnover remains in countries like El Salvador and Malawi. Staff turnover not only affects the ability to respond promptly but also impacts the readiness of teams at national and subnational levels. High turnover at health facilities poses a significant challenge not only to the implementation of routine and new public health programs, but also to training and sustainability. Recruitment issues, reliance on consultants and external experts, and the loss of

expertise at local health facilities contribute to the strain on the overall public health workforce and raise sustainability challenges. This challenge stresses the importance of ensuring institutional capacity through team-wide trainings that involve all members of health facility teams when implementing new strategies like the T2T program.

Yet, in order for MOHs to focus on COVID-19 response especially with competing health priorities like Ebola, HIV/AIDS, childhood vaccinations, etc., it takes dedicated staff and resources. This may mean that, in the interim, more clinical experts, specialists, and short-term resources need to be recruited to train local staff in order to build capacity through targeted training initiatives, thereby addressing disparities in knowledge and skill acquisition. Despite best efforts, the scarcity of trained staff and the challenges posed by competing priorities underscore the complexity of managing HRH in the dynamic context of COVID-19 response projects. As organizations grapple with resource management, balancing short-term needs with long-term goals becomes paramount. This theme unravels the delicate balance required to build and maintain robust capacities amidst the ebb and flow of human resources in the relentless pursuit of an effective pandemic preparedness and response.

Despite these challenges, stakeholders in the Program Review countries demonstrated successful development of training materials at the headquarters level, followed by effective adaptations for country contexts to meet the specific needs of local populations. Collaborative efforts to co-create common materials showcased adaptability and a focus on utilizing existing resources. Thus, using simple, clear tools proves effective - these tools facilitate decision-making in clinical settings and can be beneficial not only to diseases like COVID-19, but others with similar signs and symptoms like malaria and pneumonia. Centralized learning management systems (LMS) and online websites with training slides, recorded videos, job aids, SOPs, etc. were developed by EpiC and RISE, respectively, yet they still didn't always gain reach and weren't fully utilized. Further investigation should be done to better understand how these and similar resources could have been better promoted and used, for example through accreditation for continuing medical education (CME) credits, by in-country teams to help address training gaps and provide resources for quick refreshers going forward.

Ensure high-quality data for monitoring program progress

Finally, indicators officially reported to USAID by IPs were not always available from data sources in the various countries, often requiring development of new or revising existing paper-based or electronic tools. While data systems should not necessarily be overhauled for projects like T2T, systematizing reporting requirements and structure early on and being consistent (e.g., eligibility criteria, number of or level of pilot sites, etc.) is crucial to comparing results across countries. Having additional M&E indicators such as the number of patients eligible for COVID-19 according to either national-level or international-level guidelines or patients who completed the course of oral antivirals would have prevented gaps in the treatment cascade that stakeholders longed to see to better understand their programs. At all three facilities visited in Rwanda by the STAR-UCSF team, it was agreed by health facility staff that there would be benefits to tracking clients positive for COVID-19 after consultation with CHWs in the communities; however, this wasn't being done and was viewed as a missed opportunity to better understand the success of T2T. Stakeholders in other countries also included a referral system from CHWs, yet lacked the reporting and/or tools to collect this vital information to better

understand patients' first touchpoints with the healthcare system. Even so, as countries began to successfully implement and monitor T2T progress, some countries like Mozambique made great strides on capturing and visualizing that data for QI. Integrating required indicators into routine data systems such as District Health Information System 2 (DHIS2) allowed for faster updates and reporting of those variables as compared to paper-based tools and registers. Adequately monitoring T2T program progress is crucial and should be considered before implementation begins and should be done in close collaboration with local stakeholders in the respective countries to ensure that data sources are available and feasible for reporting and visualization to promote data use for QI.

Translatability of T2T Program

While T2T programs in most countries were able to leverage existing, routine systems and programs, they also capitalized on gains made during the COVID-19 pandemic more generally. The overall COVID-19 response did strengthen health systems, for example, by forming new TWGs and partnerships or convening existing ones more frequently to respond to the latest updates or even preparing for other viruses like Mpox.

Given all of this, the T2T pilot program can still serve as a model for similar programs treating future respiratory viruses and emerging global pandemics and outbreaks alike. The enablers, best practices, and recommendations mentioned above can be utilized when designing and implementing similar test-to-treat programs in diverse contexts. Similarly, the barriers and key challenges are likely not unique to the COVID-19 pandemic nor this specific T2T program, but instead are likely careful considerations which stakeholders should be prepared to address either before or during the next emerging global health threat. The gains of the COVID-19 pandemic and T2T program in training and capacity building; data collection and visualization; demand-creation and SBC; and, perhaps most importantly, procurement and regulatory mechanisms should not be lost, but instead further examined to better understand how we, globally and locally, can all be better prepared for the next pandemic.

> *To help and serve the community, hopefully we can replicate it as a successful and effective strategy to help with other viruses in the future. Providing care was a key benefit.*
>
> **EL SALVADOR**

> *In terms of translatability, relationships and how to quickly mobilize short-term resources and to make connections between health facilities and pharmacies is key.*
>
> **HQ**

Limitations

Overall, it should be noted that countries were at different stages in T2T implementation when the STAR-UCSF team conducted their site visits, KIIs, and data abstraction. Some countries shared more thoughtful, complete reflections and experiences during the desk review and KIIs (e.g., El Salvador and Rwanda), while others had only recently started implementation and less to share (e.g., Malawi). Similarly, because of delays in procuring and registering antivirals, some STAR-UCSF visits occurred mid-implementation rather than ideally

upon completion of the 6-month pilot period. Moreover, most countries included in the T2T program had a limited number of COVID-19 cases as T2T began (e.g., Côte d'Ivoire and El Salvador) and even saw those numbers wane while waiting for oral antiviral procurement and approval for use, which meant the full potential public health impact of the T2T program could not be assessed.

Another limitation was the biases inherent during KIIs, as participants often exhibited a preference for sharing successes rather than acknowledging challenges. The presence of USAID, IP, and/or MOH representatives during some facility-level KIIs added another layer of complexity, potentially discouraging facility staff from openly expressing negative feedback. Moreover, relying on HQ-based staff to recommend country-level participants and on country-level staff to recommend facility-level participants may have led to a biased, unbalanced perception of the T2T Program overall and may have meant that higher-performing and/or preferred stories were highlighted, ignoring for example facilities which faced more challenges or barriers. Similarly, the STAR-UCSF team only interviewed staff from pilot facilities and did not hear from non-pilot facilities (e.g., referral facilities) which may have been impacted or affected by the program differently. Despite concerted efforts to include the most informed individuals in the KIIs, logistical challenges arose as some stakeholders were busy, unavailable, or had already left the project at the time of the STAR-UCSF visits. These constraints, in some instances, led to incomplete or less reliable responses. Furthermore, in the context of Côte d'Ivoire, where political sensitivities and delicate relationships were at play, the STAR-UCSF team was advised not to interview MOH or health facility-level staff nor collect data on the T2T program. This limitation significantly curtailed the depth and comprehensiveness of the limited Program Review in Côte d'Ivoire.

Finally, indicators and data revealed several limitations, primarily marked by incomplete data as many country programs did not collect, report, or have access to the data requested. In some instances, data reported to USAID and/or documented in IP HQ workplans differed from what was made available to the STAR-UCSF team. For example, the number of pilot sites reported in Côte d'Ivoire, Malawi, and Rwanda varied depending on the data source and timing of reporting (e.g., real-time data pushes vs. monthly or quarterly data abstraction for reporting) being used. Furthermore, some indicators from specific SOW domains have not been officially reported to USAID, for example on demand creation activities in some countries. Additionally, due to the high adaptability of T2T implementation, cross-country comparisons were challenging or impossible. Moreover, variability extended to discrepancies between sites selected for STAR-UCSF visits and all pilot sites, introducing complexities in drawing generalizable conclusions. For instance, during site visits in El Salvador, the three health facilities included in the Program Review had zero reported cases, while other pilot sites had reported cases. Thus, these findings are not generalizable to the entire T2T program or all pilot facilities, which are a subset of all public health facilities in these countries. Additionally, a notable limitation was the lack of available data to monitor the eligibility of patients prescribed oral antivirals as no country included in the Program Review systematically captured and/or reported this data up to national levels. Similarly, the data to track patients originating from referral facilities or CHWs was unavailable and often not captured at all, especially in countries who relied on routine referral systems from CHWs and/or referring satellite facilities. These data gaps hindered the ability to assess the complete patient journey and the impact of the T2T program, posing a challenge in constructing a holistic understanding of the initiative's outcomes.

Appendices

UCSF IRB Outcome Letter

UCSF
University of California
San Francisco
irb.ucsf.edu

Human Research Protection Program
Institutional Review Board (IRB)

IRB Determination

Conducting Research During the COVID-19 Public Health Outbreak: Please visit the Interim UCSF Policy on Human Subjects-Related Research Visits at San Francisco Campuses during COVID-19 Outbreak, which can be found at https://research.ucsf.edu/interim-ucsf-policy-human-subjects-related-research-visits-san-francisco-campuses-during-covid-19 to determine whether and how this Policy may affect this IRB approved or exempt study.

Date: December 09, 2022

Principal Investigator
Dr. Michael Lipnick, MD

Study Title: COVID-19 Program Reviews of Test to Treat (T2T) and Oxygen Ecosystem Activities Funded by USAID
Study Status: Not Human Subjects Research
Study #: 22-38124
Reference #: 363646

We have reviewed your project and have made the following determination:

Based on the information you have provided to us, this is a project that includes program evaluations, quality improvement activities, or other activities that do not require further IRB oversight according to the federal regulations summarized in 45 CFR 46.102(l).

You are not required to submit anything further to the IRB. Should you have any questions, or should key project activities change, you may contact me directly, or you can contact the IRB office at 476-1814.

Given the nature of your project, a Material Transfer Agreement may be required if you are transferring specimens and/or data into or out of UCSF. For additional information, please see http://ita.ucsf.edu/researchers/mta.

GHS IRB Outcome Letter

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Digital Address: GA-050-3303
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Email: ethics.research@ghs.gov.gh

My Ref. GHS/RDD/ERC/Admin/App/23/648
Your Ref. No.

3rd November 2023

Dr. Michael Lipnick
University of California, San Francisco
Institute for Global Health Sciences
Mission Hall, Global Health and Clinical Sciences Building
San Francisco, CA, United States of America 94158

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	**GHS-ERC: 004/11/23**
Study Title	STAR-UCSF COVID-19 Oxygen Ecosystems and Test to Treat Program Review
Approval Date	3rd November 2023
Expiry Date	2nd November 2024
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of a yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why.
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.

You are kindly advised to adhere to the national guidelines or protocols on the prevention of COVID -19

Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
Mr. Kofi Wellington
(GHS ERC Chairperson)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra

USAID T2T Program Review 2023

National-Level Indicators

Name of Data Collector

Name of Country
Côte d'Ivoire
Ghana
Malawi
Mozambique
El Salvador
Rwanda

Data Review Period Start Date
yyyy-mm-dd

Data Review Period End Date
yyyy-mm-dd

USAID Indicators

PART 1: USAID INDICATORS

» Question 1. **Question 1. Number of patients who present for care at T2T pilot facilities with suspected COVID-19** USAID T2T Pilot Indicator: CV.T2T.2.5-25

or
No data available

» Question 2.
Question 2. Number of patients who present for care at T2T pilot facilities and have been tested among those with suspected COVID-19
USAID T2T Pilot Indicator: CV.T2T.2.5-33

or
No data available

» Question 3.
Question 3. Number of patients who present for care at T2T pilot facilities who are confirmed to have COVID-19 illness
USAID T2T Pilot Indicator: CV.T2T.2.5-26

or
No data available

» Question 4. Symptom Onset

» » Question 4a.

Question 4a. Number of patients who presented for care at T2T pilot facilities who were confirmed to have COVID-19 illness within 0-5 days of symptom onset
USAID T2T Pilot Indicator: CV.T2T.2.5-25 (time from symptom onset 0-5 days)

or
No data available

» » Question 4b.

Question 4b. Number of patients who presented for care at T2T pilot facilities who were confirmed to have COVID-19 illness 6+ days after symptom onset
USAID T2T Pilot Indicator: CV.T2T.2.5-25 (time from symptom onset 6+ days)

or
No data available

» » Question 4c.

Question 4c. Number of patients who presented for care at T2T pilot facilities who were confirmed to have COVID-19 illness with unknown symptom onset time
USAID T2T Pilot Indicator: CV.T2T.2.5-25 (unknown time from symptom onset)
or
No data available

» Question 5.

Question 5. Number of patients who present for care at T2T pilot facilities who are prescribed COVID-19 oral antivirals at T2T pilot facilities
USAID T2T Pilot Indicator: CV.T2T.2.5-27
or
No data available

» Question 6.

Question 6. Number of facilities selected by USAID/MOH/IPs for T2T pilot
USAID HQ and/or mission records: includes any proposed lists of facilities that were developed as part of site selection process
or
No data available

» Question 7.

Question 7. Total number of health sites where T2T has been piloted
USAID T2T Pilot Indicator: CV.T2T.2.5-29
or
No data available

» Total Health Sites Disagg

Question 7a. Number of community sites where T2T has been piloted
USAID T2T Pilot Indicator: CV.T2T.2.5-29 (Disagg by community site)

Question 7b. Number of primary health sites where T2T has been piloted
USAID T2T Pilot Indicator: CV.T2T.2.5-29 (Disagg by primary health site)

Question 7c. Number of secondary health sites where T2T has been piloted
USAID T2T Pilot Indicator: CV.T2T.2.5-29 (Disagg by secondary health site)

Question 7d. Number of tertiary health sites where T2T has been piloted
USAID T2T Pilot Indicator: CV.T2T.2.5-29 (Disagg by tertiary health site)

Question 7e. Number of other health sites where T2T has been piloted
USAID T2T Pilot Indicator: CV.T2T.2.5-29 (Disagg by other health site)

» Question 8.

Question 8. Is a list of all health facilities available? Including urban/rural classification, population catchment size, and facility type, etc.
Please request full list of facilities from MOH and list of pilot sites from USAID/IP
Yes
No

Please request full list of facilities from MOH and list of pilot sites from USAID/IP

Total Training

» Question 9.

Question 9. Number of HCWs trained on COVID-19 oral antiviral administration
USAID T2T Pilot Indicator: CV.T2T.2.5-28
or
No data available

» Disaggregation of HCW by Cadre

Question 9a. Number of clinical HCWs trained on COVID-19 oral antiviral administration USAID T2T Pilot Indicator: CV.T2T.2.5-28 (Disagg by cadre: clinical)

Question 9b.Number of community/lay HCWs trained on COVID-19 oral antiviral administration USAID T2T Pilot Indicator: CV.T2T.2.5-28 (Disagg by cadre: community/lay)

Question 9c.Number of supervision/logistics HCWs trained on COVID-19 oral antiviral administration USAID T2T Pilot Indicator: CV.T2T.2.5-28 (Disagg by cadre: supervision/logistics)

Question 9d. Number of other HCWs trained on COVID-19 oral antiviral administration USAID T2T Pilot Indicator: CV.T2T.2.5-28 (Disagg by cadre: other)

» Disaggregation of HCW by Site Type

Question 9e. Number of HCWs at primary health facilities trained on COVID-19 oral antiviral administration USAID

T2T Pilot Indicator: CV.T2T.2.5-28 (Disagg by site type: primary)

Question 9f. Number of HCWs at secondary health facilities trained on COVID-19 oral antiviral administration USAID T2T Pilot Indicator: CV.T2T.2.5-28 (Disagg by site type: secondary)

Question 9g. Number of HCWs at tertiary health facilities trained on COVID-19 oral antiviral administration USAID T2T Pilot Indicator: CV.T2T.2.5-28 (Disagg by site type: tertiary)

Question 9h. Number of HCWs at community sites trained on COVID-19 oral antiviral administration USAID T2T Pilot Indicator: CV.T2T.2.5-28 (Disagg by site type: community)

Question 9i. Number of HCWs at other facilities trained on COVID-19 oral antiviral administration USAID T2T Pilot Indicator: CV.T2T.2.5-28 (Disagg by site type: other)

TRAINING

» Question 10.

Question 10. Number of non-clinical health facility staff trained on COVID-19 Test-to-Treat program, including triaging, referral, and prescription dosages

Non-clinical health facility staff include pharmacists, laboratorians, data managers, and other non-clinical staff. Data source: MOH/IP training data

or

No data available

» Disaggregation of Non-clinical by Cadre

Question 10a. Number of pharmacy non-clinical staff trained on COVID-19 Test-to-Treat program MOH/IP Training data (Disagg by cadre: pharmacy)

Question 10b. Number of laboratory non-clinical staff trained on COVID-19 Test-to-Treat program MOH/IP Training data (Disagg by cadre: lab)

Question 10c. Number of data entry non-clinical staff trained on COVID-19 Test-to-Treat program MOH/IP Training data (Disagg by cadre: data entry)

Question 10d. Number of other non-clinical staff trained on COVID-19 Test-to-Treat program MOH/IP Training data (Disagg by cadre: other)

» Disaggregation of Non-Clinical Staff by Site Type

Question 10e. Number of non-clinical staff at primary health facilities trained on COVID-19 Test-to-Treat program MOH/IP Training Data (Disagg by site type: primary)

Question 10f. Number of non-clinical staff at secondary health facilities trained on COVID-19 Test-to-Treat program MOH/IP Training Data (Disagg by site type: secondary)

Question 10g. Number of non-clinical staff at tertiary health facilities trained on COVID-19 Test-to-Treat program MOH/IP Training Data (Disagg by site type: tertiary)

Question 10h. Number of non-clinical staff at community sites trained on COVID-19 Test-to-Treat program MOH/IP

Training Data (Disagg by site type: community)

Question 10i. Number of non-clinical staff at other facilities trained on COVID-19 Test-to-Treat program MOH/IP Training Data (Disagg by site type: other)

REFRESHER TRAININGS

» Question 11.

Question 11. Number of HCWs who attended a refresher or follow-up training on Test-to-Treat MOH or IP Training data

or
No data available

» Disaggregation of HCW by Cadre

Question 11a. Number of clinical HCWs who attended a refresher or follow-up training on Test-to-Treat MOH/IP Training data (Disagg by cadre: clinical)

Question 11b. Number of community/lay HCWs who attended a refresher or follow-up training on Test-to-Treat
MOH/IP Training data (Disagg by cadre: community/lay)

Question 11c. Number of supervision/logistics HCWs who attended a refresher or follow-up training on Test-to-Treat
MOH/IP Training data (Disagg by cadre: supervision/logistics)

Question 11d. Number of other HCWs who attended a refresher or follow-up training on Test-to-Treat MOH/IP Training data (Disagg by cadre: other)

» Disaggregation of HCW by Site Type

Question 11e. Number of HCWs at primary health facilities who attended a refresher or follow-up training on Test-to-Treat
MOH/IP Training data (Disagg by site type: primary)

Question 11f. Number of HCWs at secondary health facilities who attended a refresher or follow-up training on Test-to-Treat
MOH/IP Training data (Disagg by site type: secondary)

Question 11g. Number of HCWs at tertiary health facilities who attended a refresher or follow-up training on Test-to-Treat
MOH/IP Training data (Disagg by site type: tertiary)

Question 11h. Number of HCWs at community sites who attended a refresher or follow-up training on Test-to-Treat
MOH/IP Training data (Disagg by site type: community)

Question 11i. Number of HCWs at other facilities who attended a refresher or follow-up training on Test-to-Treat
MOH/IP Training data (Disagg by site type: other)

MISCELLANEOUS

Question 12.

Question 12. Is patient-level data for those who presented with suspected COVID-19 or were diagnosed available at a national level with demographics (age, sex, geography, site, diagnosed, COVID-19 antiviral prescribed, time from symptom onset, etc.

Get name of and contact info of data manager who could provide extract or provide additional information

Yes

No

Name and Email of contact

Additional notes

Question 13.

Question 13. Cost of single T2T treatment course

USAID, MOH, and/or IP records

Question 13a. Currency of cost

or

No data available

USAID T2T Program Review 2023

Facility-Level Indicators

Facility 1 Questions

» Facility Information

This data will be collected during the site visits to selected pilot facilities

Name of Facility

Name of Region

Name of Province

Name of District

Urban/Rural Classification
Urban
Rural
Unknown

Site Type
Primary health facility
Secondary health facility
Tertiary health facility
Community site
Other

Other, specify

Population Catchment Area
Approximate number of people served by health facility

Is the facility a pilot site or referral center?
Pilot
Referral

Data Review Period Start Date
yyyy-mm-dd

Data Review Period End Date
yyyy-mm-dd

» » Facility Testing

Question 1. Start Date of T2T at Facility
This should be the day that the health facility began the Test- to-Treat program and started screening and prescribing COVID-19 oral antivirals to patients with COVID-19.
yyyy-mm-dd

» » Total Testing
Question 2. Total number of positive tests at this health facility
Include only positive tests conducted at facility; do not include tests by associated referral hospitals/clinics **Question 3. Total number of negative tests at this health facility**

» FACILITY TRAINING

TRAINING
» » Disaggregation of Trained HCW by Cadre
This only includes formal training from TOT or Cascade/Step Down (e.g., from EpiC/RISE/MOH). It does not include informal facility-wide meetings or on-the-job training.

Question 4a. Number of clinical supervisor/medical director HCWs at this facility trained on COVID-19 oral antiviral administration at client-facing entry points
MOH/IP Training Data (Disagg by cadre: supervision/logistics); Since the start of implementation through day of site visit

For supervisors that also see patients, count as supervisor rather than clinical HCW

Question 4b. Number of clinical HCWs at this facility trained on COVID-19 oral antiviral administration at client facing entry points
MOH/IP Training Data (Disagg by cadre: clinical); since the start of implementation through day of site visit

Question 4c. Number of community/lay HCWs at this facility trained on COVID-19 oral antiviral administration at client-facing entry points
MOH/IP Training Data (Disagg by cadre: community/lay); since the start of implementation through day of site visit

Question 4d. Number of other HCWs at this facility trained on COVID-19 oral antiviral administration at client-facing entry points
MOH/IP Training Data (Disagg by cadre: other); since the start of implementation through day of site visit

» » Total HCW Trained
Question 5. Total number of HCWs at this facility trained on COVID-19 oral antiviral administration at client-facing entry points (e.g., outpatient department intake staff, clinical providers, etc.)
This should be the sum of 4a-4d, if available. Since the start of implementation through day of site visit. Source: MOH/IP Training Data

or
No data available

» » Disaggregation of Trained Non-clinical by Cadre

Question 6a. Number of pharmacy non-clinical staff trained on wider T2T program at T2T-related entry points at this facility
MOH/IP Training data (Disagg by cadre: pharmacy); since the start of implementation through day of site visit

Question 6b. Number of laboratory non-clinical staff trained on wider T2T program at T2T-related entry points at this facility
MOH/IP Training data (Disagg by cadre: lab); since the start of implementation through day of site visit

Question 6c. Number of data entry non-clinical staff trained on wider T2T program at T2T-related entry points at this facility
MOH/IP Training data (Disagg by cadre: data entry); since the start of implementation through day of site visit

Question 6d. Number of other non-clinical staff trained on wider T2T program at T2T-related entry points at this facility
MOH/IP Training data (Disagg by cadre: other); since the start of implementation through day of site visit

» » Total Non-Clinical Trained

Question 7. Total number of non-clinical staff at this facility who were trained on wider T2T program at T2T-related entry points (e.g., pharmacy, laboratory, data entry)
This should be the sum of 6a-6d. Training includes triaging, referral, and prescription dosages at this facility. Source; MOH/IP Training Data

or
No data available

» » Question 8.

Question 8. After 6 months (or 3 months), number HCW trained on COVID-19 oral antiviral administration at client facing entry points (e.g., outpatient department intake staff, clinical providers, etc.) who remain assigned at this facility

MOH or IP staffing data; Number of previously trained staff who are still assigned to the facility on day of site visit

or
No data available

WORKFORCE

» FACILITY WORKFORCE

» » Clinical HC Workforce

» » » Disaggregation of Total HCW by Cadre

This is the total number of HCWs assigned and working at this facility. This includes HCWs both trained and not trained on T2T.

Question 9a. Number of clinical supervisor/medical director HCWs at this facility at client-facing entry points
MOH/IP Staffing Data (Disagg by cadre: supervision/logistics); for supervisors that also see patients, count as supervisor rather than clinical HCW

Question 9b. Number of clinical HCWs at this facility at client-facing entry points
MOH/IP Staffing Data (Disagg by cadre: clinical)

Question 9c. Number of community/lay HCWs at this facility at client-facing entry points MOH/IP Staffing Data (Disagg by cadre: community/lay)

Question 9d. Number of other HCWs at this facility at client-facing entry points

MOH/IP Staffing Data (Disagg by cadre: other)

» » » Total HCW at Site

Question 10. Total number of HCWs at this facility at client-facing entry points (e.g., outpatient department intake staff, clinical providers, etc.)
This is the sum of 8a-8d. MOH/IP Staffing Data - this includes all client-facing staff regardless if trained on T2T

or
No data available

» » Non-Clinical Workforce

» » » Disaggregation of Non-clinical by Cadre

Question 11a. Number of pharmacy non-clinical staff at T2T-related entry points at this facility MOH/IP Staffing data (Disagg by cadre: pharmacy)

Question 11b. Number of laboratory non-clinical staff at T2T-related entry points at this facility MOH/IP Staffing data (Disagg by cadre: lab)

Question 11c. Number of data entry non-clinical staff at T2T-related entry points at this facility MOH/IP Staffing data (Disagg by cadre: data entry)

Question 11d. Number of other non-clinical staff at T2T-related entry points at this facility MOH/IP Staffing data (Disagg by cadre: other)

» » » Total Non-Clinical Workforce

Question 12. Total number of non-clinical health facility staff at this facility at T2T-related entry points (e.g., pharmacy, laboratory, data entry)
This is the sum of 10a-10d.
Staffing Data. This should add up to pharmacy + lab + data entry + other

or
No data available

T2T CASCADE

» cascade

» » Question 13.

Question 13. Number of patients who presented for care at this facility who were referred by community-based organizations and/or community health workers
Patient intake/referral register; since the start of implementation through day of site visit; this is not all patient who present at this facility,

only those who were referred by CBO/CHWs

or
No data available

» » Question 14.

Question 14. Total number of patients who presented for care at this facility who were prescribed COVID-19 oral antivirals
Site-level clinical register/database; since the start of implementation through day of site visit

or
No data available

» » Question 15.

Question 15. Number of patients who have picked up COVID-19 oral antivirals at this facility Pharmacy records; since the start of implementation through day of site visit

or
No data available
Question 15a. Number of patients who have picked up Paxlovid at this facility

Question 15b. Number of patients who have picked up Molnupiravir at this facility

Question 15c. Number of patients who have picked up other oral COVID-19 antivirals at this facility Other Antiviral

PHARMACY

» Pharmacy Section

» » Question 16.

Question 16. Number of unique HCWs who ever prescribed COVID-19 oral antivirals at this facility
Facility pharmacy records: count the number of unique provider names in pharmacy register for COVID-19 oral antiviral prescriptions

since start of T2T implementation

or
No data available

» » Unique HCW Disagg

Question 16a. Number of unique HCWs who ever prescribed Nirmatrelvir-ritonavir at this facility
Facility pharmacy records: count the number of unique provider names in pharmacy register for COVID-19 oral antiviral prescriptions since start of T2T implementation

Question 16b. Number of unique HCWs who ever prescribed Molnupiravir at this facility
Facility pharmacy records: count the number of unique provider names in pharmacy register for COVID-19 oral antiviral prescriptions

since start of T2T implementation

Question 16c. Number of unique HCWs who ever prescribed other COVID-19 oral antivirals at this facility
Facility pharmacy records: count the number of unique provider names in pharmacy register for COVID-19 oral antiviral prescriptions since start of T2T implementation

» » Question 17.

Question 17. After 6 months (or 3 months), number of unique HCWs who continue to prescribe COVID-19 oral antivirals to eligible patients
T2T pilot facilities pharmacy records. Example: if implementation began in January, how many unique providers have still prescribed COVID 19 oral antivirals from July onward

or
No data available

Key Informant Interview Guide

T2T Key Informant Interview (KII) Guide

Instructions for Interviewer:

1. *Before the Interview:*
    a. *Introduce yourself (and your team, if applicable) and confirm the title/position(s) and organization(s) of the key informant(s).*
    b. *Read the background information below about the program review and scope of the KII. Give the KI(s) a copy of the "Project Information and Contact Information" document and answer any questions they may have.*
    c. *Once the KI(s) have received the information and had their questions answered, proceed to obtain informed consent to record and conduct the interview.*
2. *Conducting the interview:*
    a. *Once informed consent has been provided, start recording the interview on your device (e.g., phone or computer). At the start of the recording, verbally state, "Informed consent to conduct this key informant interview has been given by the key informants from [Organization Name] today, on [X Date]."*
    b. *If possible, take notes as you conduct the interview. If you miss anything during the interview, you may use the recording afterwards to fill in any gaps in your notes.*
    c. *Allow the interview to flow naturally - questions do not have to be answered in order and some KIIs may naturally focus on certain domains/topics and skip others depending on the informant's area(s) of expertise. Allow other topics to be discussed but be sure to guide the interview back to the questions listed.*
3. *After the interview:*
    a. *Thank the KI(s) for their time and remind them of the contact information provided should they have further questions.*
    b. *Complete your notes within 5 business days of the interview. If more than one member of the team took notes, be sure to work together to complete one set of accurate and comprehensive notes.*
        i. *Note: if interview is conducted in a non-English language, then notetaker should not only complete notes within 5 business days, but also the translation into English.*
    c. *DocuSign where designated to indicate that informed consent was given by the KI(s).*

Background Information (to be read prior to the interview):

Hello, thank you for joining us today. My name is _____, and I am working as part of a review team at the University of California, San Francisco (UCSF) in support of the USAID Sustaining Technical and Analytic Resources (STAR) project. At the request of USAID, part of this project is dedicated to conduct a program review of COVID-19 activities aimed at improving clinical care, especially related to piloting Test-to-Treat in low- and middle-income countries. The purpose of this program review is to better understand Test-to-Treat pilot implementation in selected countries, including procurement of the oral antivirals, trainings of healthcare workers and other facility-based staff, implementation of T2T, demand generation activities, data use, and more.

This interview shouldn't take longer than 90 mins at most, and your participation is 100% voluntary. Your name or other personally-identifying information won't be recorded. The interview will be audio-recorded to ensure the accuracy of our conversation today in the interview notes. You may skip questions or stop at any time.

If you agree to take part in the interview, we want you to share your perceptions, experiences, and opinions about the Test-to-Treat program funded by USAID. There are no risks or benefits to you for participating, and what you share will be summarized in a report on the lessons learned and challenges identified in implementing Test-to-Treat to respond to COVID-19.

Everything you share today will be secure and anonymous. As mentioned earlier your name or any other personal information about you will not be recorded. Overall findings will be provided to USAID, implementing partners, and Ministries of Health.

If you have any questions about taking part in this interview or about the reviews, please ask them now.

Pause to allow the KI(s) to read the "Project Information and Contact Information" document and to answer any questions.

This program review has been given a non-human subjects research determination by the IRB at UCSF as its primary focus is programmatic quality improvement. Your taking part in the interviews indicates that you've had the opportunity to ask any questions and that they have been answered to your satisfaction. If you have any further questions, please refer to the contact information provided in the "Project Information and Contact Information" document. I will record your informed consent on your behalf. Thank you!

Key Informant Interview Consent Form *(complete via DocuSign)***:**

Interviewer: I have read this informed consent form aloud to the interviewee and confirm that the individual(s) has agreed to participate.
Name of the interviewer: _____ Signature of the interviewer: _____ Date: _____

T2T Key Informant Interview Guide per Domain by Type of Interviewee

Title/position: _____

Organization: _____

Domain	USAID and EpiC/RISE HQ Teams	MOH/USAID Mission Offices and EpiC/RISE Local Offices	Health Facility Staff at T2T Pilot Sites
(1) Procurement and Supply Chain Logistics	Describe the process and timeline for the procurement and importation of antiviral treatments for COVID-19. ● *Who are the key stakeholders?* ● *Did the process and timeline different by Paxlovid or molnupiravir? Or by organization leading procurement?*	Describe the process and timeline for the procurement and importation of antiviral treatments for COVID-19 in [*Country X*]. ● *Was Paxlovid or molnupiravir (or both) imported?* ● *How were prices negotiated?* ● *Who are the key stakeholders?* ● *Did the process and timeline different by Paxlovid or molnupiravir?*	
		What was the logistical process in distributing oral antivirals to pilot facilities? ● *How did you track the antivirals (from importation to facility, from facility to patient)?* ● *How long did it take between successful importation distribution to pilot facilities?* ● *What were the distribution points for oral antivirals (e.g., national MOH storage, district-level storage, facility-level storage)?*	
	Have you experienced any major procurement and/or supply chain challenges in procuring COVID-19 rapid diagnostic tests (RDTs) or oral antivirals for T2T pilot countries? If so, describe major barriers.	Have you experienced any procurement and/or supply chain issues or national-level stock-outs in [*Country X*] of COVID-19 rapid diagnostic tests (RDTs) or oral antivirals and if so, describe major barriers.	Have you experienced any supply chain issues or stock-outs of COVID-19 rapid diagnostic tests (RDTs) or oral antivirals at your facility, and if so, describe major barriers.

Domain	USAID and EpiC/RISE HQ Teams	MOH/USAID Mission Offices and EpiC/RISE Local Offices	Health Facility Staff at T2T Pilot Sites
		• *Were these challenges different than normal process delays for other tests or medicines? Was there something specific about RDTs or oral antivirals for COVID-19 that caused delays?*	• *If the facility didn't experience stock outs, were there significant periods of low supply for RDTs or oral antivirals that affected implementation?*
	What actions have been taken and/or resources have been used to mitigate procurement and/or supply chain issues?	What actions have been taken and/or resources have been used to mitigate procurement and/or supply chain issues?	What actions have been taken and/or resources have been used to mitigate supply chain issues?
(2) Pre-Implementation	Who were the key stakeholders involved in the design and implementation of the T2T pilots supported by USAID? • *E.g., USAID, MOH, Global Fund, EpiC/RISE, etc.*	Who were the key stakeholders involved in the implementation of T2T in [*Country X*]? • *E.g., USAID, MOH, Global Fund, EpiC/RISE, CHAI, PSI, etc.*	Who were the key stakeholders involved in the implementation of T2T at this facility? • *What are their departments within the facility?* • *Are there other local institutions involved, for example transportation companies?*
	Which countries were chosen to pilot T2T and how were they selected? • *What are key characteristics of each country? (i.e., geographic region, HCW cadre, population served, etc.)* • *What methods did you use to focus on health inequities?*	Which facilities were chosen to pilot T2T in [*Country X*] and how were they selected? • *What are key characteristics of each facility? (i.e., geographic region, healthcare workers cadre, population served, etc.)* • *What methods did you use to focus on health inequities?* • *What additional service delivery details played a role in site selection (e.g., hours of service, distance to communities, etc.)*	Were any site-level staff at this facility involved in the decision-making process of implementing T2T here? • *Was there an effort to include your input to tailor the pilot?* What role does each type of health facility staff member play in implementing T2T? • *From patient intake to screening to prescribing oral antivirals to dispensing them*
	Was a central T2T technical working group established? • *Who is part of the technical working group and how were they selected?*	Was a T2T technical working group established in [*Country X*]? • *Who is part of the technical working group and how were they selected?*	At this facility, who is the responsible individual or authority for the T2T pilot?

Domain	USAID and EpiC/RISE HQ Teams	MOH/USAID Mission Offices and EpiC/RISE Local Offices	Health Facility Staff at T2T Pilot Sites
	• *How often does the technical working group meet?* • *What are the main functions of the technical working group?* • *Describe MOHs' involvement in the technical working group*	• *How often does the technical working group meet?* • *What are the main functions of the technical working group?* • *Describe MOH's involvement in the technical working group*	• *What type is this staff person (e.g., clinician, pharmacist, manager, etc.)?*
(3) Training	How were T2T training materials developed? • *Were they adapted for specific audiences (i.e., staff type, country, etc.)?* • *What were the goals of the trainings from your perspective?*	How were T2T training materials developed or adapted? • *Were they adapted for [Country X]'s audiences (i.e., staff type, country, etc.)?* • *What were the goals of the trainings from your perspective?*	Were any facility or site staff included in the development or adaptations of T2T training materials? *Who and how?* • *What were the goals of the trainings from your perspective?* • *What was the most impactful or helpful aspect of the trainings?*
		Describe how trainings were conducted: • *How many trainings? Were there any follow-up trainings* • *How many participants per training?* • *Types of staff members trained?* • *Training model (i.e., TOT, National, etc.)?*	Were any health care workers, pharmacists, or other staff at this facility trained on T2T topics by EpiC/RISE? • *If so, which topics did they cover?* • *What was the format of the trainings (i.e., on-site, virtual, hybrid)?* If you attended the training(s), can you describe how they were conducted?
	Across countries, what have been best practices in trainings for T2T? What have been common challenges?	Were participants given pre- and post-tests to measure competency/understanding? Did healthcare workers demonstrate increased competency?	Did you feel adequately prepared to implement T2T? Was the training enough time to learn the material or did you need more/less time?
	What are your recommendations for future T2T trainings?	In [*Country X*], what has worked well in training clinicians, pharmacists, and other healthcare staff on T2T? And what has been challenging?	Have you received training on any SOPs or SOWs? Do you think these materials provide adequate instruction on T2T

Domain	USAID and EpiC/RISE HQ Teams	MOH/USAID Mission Offices and EpiC/RISE Local Offices	Health Facility Staff at T2T Pilot Sites
			implementation? If not, how would you have changed these materials?
(4) Implementation of T2T	What are the global clinical guidelines for prescribing Paxlovid or molnupiravir? How and by whom were they developed or adapted? ● *Are certain populations or age groups prioritized and if so, what were these groups and how were they chosen?* ● *Are there any contraindications for Paxlovid or molnupiravir? If so, how did availability of resources (e.g., evaluation of kidney function) affect application of those guidelines?* ● *How were the guidelines developed? Did you use any technical guidance (i.e., WHO, FDA, etc.)?* ● *Which stakeholders were involved in the decision-making process?*	What are the clinical guidelines for prescribing Paxlovid or molnupiravir in [*Country X*]? How and by whom were they developed or adapted? ● *Are certain populations or age groups prioritized and if so, what were these groups and how were they chosen?* ● *Are there any contraindications for Paxlovid or molnupiravir? If so, how did availability of resources (e.g., evaluation of kidney function) affect application of those guidelines?* ● *Are the T2T clinical guidelines finalized and adopted nationally? Are they incorporated into other national-level guidelines?* ● *How were the guidelines developed and adapted for [Country X]? Did you use any technical guidance (i.e., WHO, FDA, etc.)?* ● *Which stakeholders were involved in the decision-making process?* ● *Were clinical standards revised after T2T implementation? If so, describe the revisions and how they were made.*	What clinical criteria/guidelines do you as providers use to prescribe Paxlovid or molnupiravir? ● *What tools do you use to prescribe Paxlovid or molnupiravir? (i.e., clinical standards/algorithms or system support tools)* ● *Do you receive assistance from above-site technical staff to implement T2T (e.g., MOH, EpiC/RISE)?*
	How were the clinical guidelines disseminated to implementing partners?	How were the clinical guidelines disseminated to T2T pilot facilities?	Describe the patient flow (including referrals if applicable) for T2T from presenting at the

Domain	USAID and EpiC/RISE HQ Teams	MOH/USAID Mission Offices and EpiC/RISE Local Offices	Health Facility Staff at T2T Pilot Sites
			facility with suspected COVID-19 to treatment with oral antivirals.
			For Healthcare Workers: In your opinion, are you spending additional time with clients to screen them for and prescribe Paxlovid or molnupiravir for COVID-19? If so, about how much time per client?
			For Healthcare Workers: In an average week or month, of the patients you see, what proportion would you estimate: ● *Have suspected COVID?* ● *Test positive for COVID?* ● *Are screened for Paxlovid or molnupiravir?* ● *Are prescribed Paxlovid or molnupiravir?*
			How would you describe the patient experience in receiving Paxlovid or molnupiravir? Are most receptive to treatment?
	What implementation tools were developed and how: ● *Any SOPs? Job aids?* ● *How did you determine which support tools would be needed?* ● *Who led development?* ● *How were existing tools deemed suitable and, if needed, adapted for T2T implementation?* ● *Were tools tailored to each country?*	What implementation tools were developed and adapted to roll out T2T in [*Country X*] and how: ● *Any SOPs? Job aids?* ● *How did you determine which support tools would be needed?* ● *Who led development?* ● *How were existing tools deemed suitable and, if needed, adapted for T2T implementation?*	

Domain	USAID and EpiC/RISE HQ Teams	MOH/USAID Mission Offices and EpiC/RISE Local Offices	Health Facility Staff at T2T Pilot Sites
		• *Was there a review process or input from end-users such as clinicians? Were tools tailored to the specific populations being served by pilot facilities?*	
	Did these tools improve overall T2T pilot implementation? Are certain tools more useful or widely used than others?	Did these tools improve overall T2T pilot implementation? Are certain more useful or widely used than others?	Which T2T tools do you use most frequently? Which do you find most useful?
	In your expert opinion, what are the key elements of T2T that must be implemented for the pilots in all countries to be considered successful?	In your expert opinion, what are the key elements of T2T that must be implemented for the pilot to be considered successful in [*Country X*] successful?	
	Have you seen successful models of incorporating T2T into national programs, guidelines, or strategies? If so, where?	Have you successfully incorporated T2T into national programs, guidelines, or strategies?	
	What have been best practices identified for implementation of a program like T2T and what have been common challenges?	What has worked well in implementing T2T in [*Country X*]? And what has been challenging?	What has worked well in implementing T2T at your facility? And what has been challenging
(5) Demand-Generation Activities	Describe how demand generation activities were developed across T2T pilot countries. • *What demand generation tools were developed? (e.g., TV ad, radio spots, posters, etc.)* • *What was the audience for each activity? Were activities tailored to each country?*	Describe how demand generation activities were developed in [*Country X*]. • *What demand generation tools were developed? (e.g., TV ad, radio spots, posters, etc.)* • *What was the audience for each activity? Were activities tailored to the specific populations being served by pilot facilities?*	
		Do you know which audiences/areas were reached by each demand generation activity? (i.e., # of people, which regions/health facilities, etc.)	Do you know if there were demand generation activities that took place in or near your health facility to encourage

Domain	USAID and EpiC/RISE HQ Teams	MOH/USAID Mission Offices and EpiC/RISE Local Offices	Health Facility Staff at T2T Pilot Sites
			individuals to show up for testing and treatment for COVID-19?
		After the demand generation activities were conducted, did you see an increased number of people testing/receiving treatment in [*Country X*] or at specific pilot facilities? ● *Were you able to track individuals reached by demand generation activities to showing up at facilities, testing for COVID, receiving treatment?*	If so, after the demand generation activities were conducted, did you notice an increased number of people testing/receiving treatment at your facility? ● *Were you able to track individuals reached by demand generation activities to showing up at facilities, testing for COVID, receiving treatment?*
	What were best practices across country-level demand generation activities and what were common challenges?	What has worked well in generating demand for COVID-19 treatments in [*Country X*]? And what have been challenges?	
(6) Data Collection, Analysis and Use		Can you describe the collection and flow of T2T data from pilot facilities up to national reporting? ● *What data is collected where from patients receiving testing and treatment at T2T pilot facilities?* ● *Is data collected on paper and then abstracted or entered directly into an electronic system?* ○ *Can you share the data collection tools?* ○ *Have you integrated data collection for T2T into an MOH EMR or is it collected in a separate T2T tool?*	

Domain	USAID and EpiC/RISE HQ Teams	MOH/USAID Mission Offices and EpiC/RISE Local Offices	Health Facility Staff at T2T Pilot Sites
		• *How is data reported from the site level up to national level?* • *Are you collecting more data on T2T than is reported to USAID? If so, can you share those data variables?*	
	How are you using data to monitor implementation and improve the T2T program?	How are you using data to monitor implementation and improve the quality of the T2T program in [*Country X*]? • *Are you using other types of data (e.g., number of new cases, deaths, etc.) to inform T2T services?*	
	What challenges affect T2T data collection, reporting, and analysis across pilot countries? • *Are there any data reporting delays? Any data quality issues?*	What challenges affect T2T data collection, reporting, and analysis? • *Do you experience any data reporting delays? Any data quality issues?*	
(7) Future Translatability & Closing	In your opinion, what have been the major benefits of USAID's T2T program?	In your opinion, what have been the major benefits of USAID's T2T program in [*Country X*]?	In your opinion, what have been the major benefits of USAID's T2T program at this facility?
	What are the ongoing barriers to detecting, responding to, treating, and controlling COVID-19 and other influenza-like illnesses in the focus countries?	What are the ongoing barriers to detecting, responding to, treating, and controlling COVID-19 and other influenza-like illnesses in [*Country X*]?	What are the ongoing barriers to detecting, responding to, treating, and controlling COVID-19 and other influenza-like illnesses at this facility?
	If there were future pandemics that antiviral drugs were rapidly developed for, what would be your key recommendations for rolling it out to countries in an effective, timely manner?	If there were future pandemics that antiviral drugs were rapidly developed for, what would be your key recommendations for rolling it out to health facilities in [*Country X*] in an effective, timely manner?	If there were future pandemics that antiviral drugs were rapidly developed for, what would be your key recommendations for rolling it out to health facilities like yours in an effective, timely manner?
		MOH Only: Does the MOH in [*Country X*] plan to continue T2T implementation after end of USAID's-funded T2T program?	

Domain	USAID and EpiC/RISE HQ Teams	MOH/USAID Mission Offices and EpiC/RISE Local Offices	Health Facility Staff at T2T Pilot Sites
		● *If YES, how will the MOH ensure the sustainability, including national and facility leadership, presence of sustainability plans and ongoing funding mechanism(s)?* - *If YES, will T2T be adapted or remain as it is currently implemented? How will adaptation occur and what elements of the program would be retained after the USAID-funding ends?* - *If NO, why not? What are the reasons that make it unlikely for this program to be continued?*	
	Is there anything else you would like to discuss/share that we did not cover in this interview?	Is there anything else you would like to discuss/share that we did not cover in this interview?	Is there anything else you would like to discuss/share that we did not cover in this interview?

Project Background and Contact Information (to be printed and provided to key informants)

Project Background

You are being interviewed by a member of the review team in support of the USAID Sustaining Technical and Analytic Resources (STAR) project. Part of this project was dedicated to COVID-19 activities to improve clinical care, especially related to piloting Test-to-Treat in low- and middle-income countries. The purpose of this interview is to assess the Test-to-Treat pilot implementation. Specific areas of interest include (1) procurement and supply chain logistics, (2) pre-implementation, (3) training, (4) implementation of T2T, (5) demand generation activities, (6) data collection, analysis and use, (7) future translatability, and more. Materials we hope to discuss include protocols; training curricula and methodology; job aids and other resources developed for providers and community health workers; messages and demand generation materials.

Information about your interview:

The interview should take between thirty to ninety minutes of your time and your participation is 100% voluntary. We will not be recording your name or other personal information about you. The interview will be audio-recorded to ensure the accuracy of our conversation today in the interview notes. At the end of the project period, the recording will be deleted in all forms. You may skip questions or stop at any time. You will not be given any money to participate.

If you agree to take part in the interview, we want you to share your perceptions, experiences, and opinions about the Test-to-Treat program. The information that you provide should not harm you in any way. Similarly, there is no direct benefit to you in taking part, other than helping the review team assess Test-to-Treat pilot implementation.

All information generated will be secure, and anonymity of those taking part will be protected. Only the assessment team will have access to the interview data. Feedback on our overall findings will be provided to USAID, T2T implementing partners, Ministries of Health, and other key stakeholders. As stated above, your name or any other personal information about you will not be recorded. Results will be aggregated to the national-level and above before reporting to others. De-identified findings may be shared and/or published publicly, pending agreement from key stakeholders.

Your taking part in the interviews will indicate that you have had the opportunity to ask any questions and that they have been answered to your satisfaction. If you have any further questions, please refer to the contact information provided. Informed consent will be recorded on your behalf.

Contact Information:

Principal Investigator:	**Interviewer 1:**	**Interviewer 2:**
Email:	**Email:**	**Email:**

Desk Review Table

#	Document Name	Publicly Available	Language(s)	Category	Subject Matter	Audience(s)	Date (if known)	Generic or Country-Specific
1	QI Team journal_50 copies.docx	No	EN	QA/QI Tool	Improvement tracking sheet	IPs (Epic/RISE), Country-Level Stakeholders		Generic
2	QI_Process Map_ CARE OF COVID-19 PATIENTS_50 copies.docx	No	EN	QA/QI Tool	Patient Flow	IPs (Epic/RISE), Country-Level Stakeholders	11/16/2022	Country-Specific
3	Supply chain handout_CDI warehouse_ 50 copies.pdf	No	EN	FAQ	Procurement of Oral Antivirals	IPs (Epic/RISE), Country-Level Stakeholders	3/1/2023	Generic
4	CDI Workshop T2T Day 2 Master Deck Shell. 2.28.pptx	No	EN	Presentation	Cross-Country Learning Exchange	IPs (Epic/RISE), Country-Level Stakeholders	3/6/2023	Generic
5	Day 1 Master Slide Deck.pptx	No	EN	Presentation	Cross-Country Learning Exchange	IPs (Epic/RISE), Country-Level Stakeholders	3/5/2023	Generic
6	Day 3_Master Slide Deck.pptx	No	EN	Presentation	Cross-Country Learning Exchange	IPs (Epic/RISE), Country-Level Stakeholders	3/7/2023	Generic
7	COVID-19-Test-to-Treat-Algorithm-v1.6.pdf	Yes	EN	Job Aid	Oral Antivirals: Algorithm	HCWs	7/15/1905	Generic
8	ISDA Guidelines for testing, treatment.pdf	Yes	EN	Guidance Document	Clinical Management	HCWs, MOHs, Scientific Community	3/14/2023	Generic
9	WHO COVID-19 Living Guidelines.pdf	Yes	EN	Guidance Document	Clinical Management	HCWs, MOHs, Scientific Community	11/23/2021	Generic
10	Effectiveness.Paxlovid.High.Risk.Patients.CID.pdf	Yes	EN	Scientific Publication	Oral Antivirals: Paxlovid	Scientific Community	6/2/2022	Generic
11	Efficacy.Safety.Paxlovid.Jnl.Virology.pdf	Yes	EN	Scientific Publication	Oral Antivirals: Paxlovid	Scientific Community	9/30/2022	Generic
12	NEJM Molnupiravir.pdf	Yes	EN	Scientific Publication	Oral Antivirals: Molnupiravir	Scientific Community	2/10/2022	Generic
13	Oral.Paxlovid.Non-Hospitalized.Vaccinated.COVID19.pdf	Yes	EN	Scientific Publication	Oral Antivirals: Paxlovid	Scientific Community	2/18/2023	Generic

14	NEJM RDTs for COVID.pdf	Yes	EN	Scientific Publication	RDTs	Scientific Community	1/7/2022	Generic
15	RDT study.pdf	Yes	EN	Scientific Publication	RDTs: Patient Triage	Scientific Community	8/1/2022	Generic
16	WHO.COVID.Testing.Guidance.March .2022.pdf	Yes	EN	Guidance Document	RDTs: Self-Testing	MOHs, Country-Level Stakeholders	3/9/2022	Generic
17	Bouncing Back from COVID.pdf	Yes	EN, SP, HI	Guidance Document	COVID-19 Recovery	Patients		Generic
18	Health+ Long COVID _ HHS.gov.pdf	Yes	EN	Report	Long COVID	General Public	11/21/2022	Generic
19	Long COVID- 3 years in.pdf	Yes	EN	News Article/ Editorial	Long COVID	General Public	3/11/2023	Generic
20	BMJ Long COVID Update for Primary Care.pdf	Yes	EN	Scientific Publication	Long COVID: Patients' FAQ	HCWs	9/22/2023	Generic
21	healthplus-long-covid-report.pdf	Yes	EN	Report	Long COVID	General Public	11/1/2022	Generic
22	Long.Covid.Major.Findings.Nature.Reviews.2023.pdf	Yes	EN	Scientific Publication	Long COVID: Signs/symptoms	Scientific Community	3/1/2023	Generic
23	PostCOVID Roundtable Slide Deck.pptx	No	EN	Presentation	Cross-Country Learning Exchange	IPs (Epic/RISE)	3/5/2023	Generic
24	The mind-boggling challenge of long COVID _ Devex.pdf	Yes	EN	News Article/ Editorial	Long COVID	General Public	1/5/2023	Generic
25	resource-epic-covid-19-test-faq-providers.pdf	Yes	EN, UK, SP, RU, FR, AR	FAQ	T2T	HCWs	11/1/2022	Generic
26	resource-epic-covid-19-molnupiravir-brochure.pdf	Yes	EN, UK, SP, RU, FR, AR	Fact Sheet	Oral Antivirals: Molnupiravir	Patients	6/1/2022	Generic
27	resource-epic-covid-19-paxlovid-brochure.pdf	Yes	EN, UK, SP, RU, FR, AR	Fact Sheet	Oral Antivirals: Paxlovid	Patients	9/26/2022	Generic
28	resource-epic-integrated-triage-algorithm.pdf	Yes	EN, UK, SP, RU, FR, AR	Job Aid	Triage, Testing, and Treatment Algorithm	HCWs	1/1/2023	Generic
29	resource-epic-covid-19-test-clinical-training-slide-deck.pptx	Yes	EN, UK, SP, RU, FR, AR	Training Material	T2T: Clinical Training	HCWs	11/1/2022	Generic
30	resource-covid-care-pathways-guide.pdf	Yes	EN	Guidance Document	Integrating COVID Care into Routine Healthcare Systems	HCWs	3/1/2022	Generic

31	resource-epic-oxygen-qa-checklist.pdf	Yes	EN	QA/QI Tool	O2: Quality Assurance	IPs (Epic/RISE)	12/1/2021	Generic
32	Webinar_3_COVID_Across_the_Continuum.pdf	Yes	EN	Presentation	Integrating COVID Care into Routine Healthcare Systems	IPs (Epic/RISE), USAID	5/5/2022	Generic
33	epic-oxygen-assessment-tools.pdf	Yes	EN	Toolkit	O2: Assessing O2 Ecosystem (National to Primary Health Care)	IPs (Epic/RISE), Country-Level Stakeholders	3/1/2022	Generic
34	Example T2T SBC Materials.pptx	No	EN	Presentation	SBC: Example from El Salvador	Country-Level Stakeholders		Country-Specific
35	SBC _ Demand Creation.T2T.Master.Slide.Deck (November 2022).pptx	No	EN	Training Material	SBC: Community Partners	IPs (Epic/RISE), Country-Level Stakeholders	11/1/2022	Generic
36	T2T SBC Implementation Plan Template (Master 9.2022).docx	No	EN	Implementation Plan/Framework	SBC	IPs (Epic/RISE), Country-Level Stakeholders	9/1/2022	Generic
37	PLM Cote d_Ivoire T2T Rapid Assessment Report Final.pdf	No	EN, FR	Report	Demand-Generation: Opportunities to Increase Access & Uptake	USAID, IPs (Epic/RISE), Country-Level Stakeholders	1/1/2023	Country-Specific
38	T2T SI Data Collection Toolkit_Final_11.10.22.xls	No	EN	Data Collection Tool	Data Collection Toolkit	IPs (Epic/RISE), Country-Level Stakeholders	11/10/2022	Generic
39	USAID T2T Press Release.pdf	Yes	EN	News Article/ Editorial	USAID T2T Announcement	General Public	9/23/2022	Generic
40	Global-Goods-Lecture_Long-COVID.pdf	Yes	EN	Presentation	Long COVID: Signs/symptoms, risk factors, treatment	Scientific Community	6/14/2022	Generic
41	PDF-COVID-Self-Tests-Fact-Sheet-T2T-17Jan23.pdf	Yes	EN	Fact Sheet	RDTs	HCWs	8/1/2022	Generic
42	PDF-Molnupiravir-Fact-Sheet-T2T-Oral-Antivirals-17Jan23.pdf	Yes	EN	Fact Sheet	Oral Antivirals: Molnupiravir	HCWs	8/1/2022	Generic
43	PDF-Paxlovid-Fact-Sheet-T2T-Oral-Antivirals-17Jan23.pdf	Yes	EN	Fact Sheet	Oral Antivirals: Paxlovid	HCWs	8/1/2022	Generic
44	T2T-FAQ-for-Clinicians-Fact-Sheet-T2T-17Jan23.pdf	Yes	EN	Fact Sheet	T2T	HCWs	10/1/2022	Generic
45	T2T-Oral-Antiviral-Clinical-Algorithm-Training.pptx	Yes	EN	Training Material	Oral Antivirals: Algorithm	HCWs		Generic

46	T2T-PDSA_Plan-Do-Study-Act-Implementation-3-Apr-23.pdf	Yes	EN	QA/QI Tool	Supervision Visit PDSA	IPs (Epic/RISE), Country-Level Stakeholders	4/1/2023	Generic
47	RISE TnT Activities Menu_June 2022.docx	No	EN	IP Workplan/ SOW	Workplan: Objectives & Activities	USAID	6/1/2022	Generic
48	T2T Summary Country Tracker.xlsx	No	EN	Tracking Sheet	Procurement of Oral Antivirals	IPs (Epic/RISE)		Generic
49	BEC Training_Brief Overview_PPT.pptx	No	EN	Training Material	Clinical Management: Basic Emergency Care Course	HCWs	8/23/2022	Generic
50	Clinical Care Pathways C3R Tool_demo.pptx	No	EN	Presentation	Clinical Management: Core Clinical Care Readiness Tool	MOHs, Country-Level Stakeholders		Generic
51	Creating demand for Test and Treat.pptx	No	EN	Presentation	Demand-Generation	IPs (Epic/RISE), Country-Level Stakeholders		Generic
52	PPE & Safety Officers_Brief Overview_PPT.pptx	No	EN	Presentation	PPE & Safety Officers	IPs (Epic/RISE)		Generic
53	RISE T2T Budget & Finance Overview.pptx	No	EN	Presentation	Budgeting and Planning	IPs (Epic/RISE)	8/24/2022	Generic
54	RISE T2T Monitoring & Evaluation.pptx	No	EN	Presentation	M&E	IPs (Epic/RISE)	8/25/2022	Generic
55	T2T Implementation MODEL Guide_FINAL[8.9.22].pptx	No	EN	Implementation Plan/Framework	T2T: Implementation Model	IPs (Epic/RISE), Country-Level Stakeholders	8/1/2022	Generic
56	T2T Oral Therapeutics PPT.pptx	No	EN	Training Material	Oral Antivirals	HCWs		Generic
57	T2T Procurement & Supply Chain.pptx	No	EN	Presentation	Procurement of Oral Antivirals	IPs (Epic/RISE), Country-Level Stakeholders		Generic
58	USAID T2T Implementation Overview _update 8.17.pptx	No	EN	Presentation	T2T: Implementation Model	IPs (Epic/RISE)	8/17/2022	Generic
59	T2T Fact Sheet - Fast-track Home Tests.pdf	Yes	EN	Fact Sheet	Fast-Track Testing	HCWs	8/1/2022	Generic
60	Agenda for T2T cascade training.docx	Yes	EN	Training Agenda	Training Agenda: 1-Day	IPs (Epic/RISE)		Generic
61	FINAL Implementation Guide_ Test to Treat.pdf	Yes	EN	Guidance Document	T2T: Implementation Model	USAID, IPs (Epic/RISE)		Generic
62	T2T Facility_Implementation Model Guide.pptx	Yes	EN	Implementation Plan/Framework	T2T: Implementation Model	USAID, IPs (Epic/RISE)		Generic

63	T2T Clinical Algorithm Practice cases.pdf	Yes	EN, PT	Training Material	Practice Cases	HCWs		Generic
64	Action_plan_Worksheet by objectives.pdf	Yes	EN	QA/QI Tool	Action Plan Worksheets	IPs (Epic/RISE), Country-Level Stakeholders		Generic
65	COVID-19-Testing-and-Treat_September-2022	Yes	EN	Guidance Document	Guidance: T2T	MOHs, Country-Level Stakeholders	9/1/2022	Generic
66	Revised-COVID-19-Testing-Strategy.pdf	Yes	EN, FR, PT	Guidance Document	COVID-19 Testing Strategy	MOHs, Country-Level Stakeholders	8/1/2022	Generic
67	Form 1.jpg	No	FR	Data Collection Tool	COVID-19 Unit Patient Register (T2T pilot site)	HCWs	3/9/2023	Country-Specific
68	Form 2.jpg	No	FR	Data Collection Tool	Pharmacy Stock Logbook (T2T pilot site)	HCWs	3/9/2023	Country-Specific
69	Form 3.jpg	No	FR	Data Collection Tool	COVID-19 Unit Patient Register (T2T pilot site)	HCWs	3/9/2023	Country-Specific
70	Form 4.jpg	No	FR	Data Collection Tool	COVID-19 Unit Patient Register (T2T pilot site)	HCWs	3/9/2023	Country-Specific
71	Form 5.jpg	No	FR	Data Collection Tool	HCW Attendance Register (T2T pilot site)	HCWs	3/9/2023	Country-Specific
72	EpiC Test to Treat Cote d'Ivoire Budget USAID 8.19.22.pdf	No	EN	IP Workplan/ SOW	Budgeting and Planning	USAID	8/19/2022	Country-Specific
73	EpiC Test To Treat Cote d'Ivoire Workplan Concurrence.pdf	No	EN	IP Workplan/ SOW	USAID concurrence to SOW	IPs (Epic/RISE)	8/31/2022	Country-Specific
74	EpiC Test to Treat Cote d'Ivoire Workplan updated 8.31.22.docx	No	EN	IP Workplan/ SOW	Workplan	USAID	8/31/2022	Country-Specific
75	counter.jpg	Yes	SP	Branding/ Template	Branding: Check-in counter	Patients		Country-Specific
76	folding screen.jpg	Yes	SP	Branding/ Template	Branding: folding screen for patient privacy	Patients		Country-Specific
77	MU2 Fence.png	Yes	SP	Branding/ Template	Branding: fence for queues	Patients		Country-Specific
78	op 2 MU2 Canopy.png	Yes	SP	Branding/ Template	Branding: canopy tent	Patients		Country-Specific

79	U Milagro de La Paz.jpeg	Yes	SP	Branding/ Template	Pilot site with branding	Patients	Country-Specific
80	U San Marcos.jpg	Yes	SP	Branding/ Template	Pilot site with branding	Patients	Country-Specific
81	Hoja Informativa CARTA.pdf	Yes	SP	SBC Material	Flyer: T2T and test results	General Public	Country-Specific
82	Slides Pruebas.pdf	Yes	SP	SBC Material	Handout: RDTs and QC	HCWs	Country-Specific
83	SM Mailing-02.jpg	Yes	SP	SBC Material	Handout: T2T reminders for San Miguel	HCWs	Country-Specific
84	SS Mailing-01.jpg	Yes	SP	SBC Material	Handout: T2T reminders for San Salvador	HCWs	Country-Specific
85	KV GENERICO 1 5.5x8.5in.pdf	Yes	SP	SBC Material	Flyer: T2T for San Miguel and San Salvador - results in 30 min, easy, free	General Public	Country-Specific
86	KV GENERICO 2 5.5x8.5in.pdf	Yes	SP	SBC Material	Flyer: T2T for San Miguel and San Salvador - results in 30 min, easy, free	General Public	Country-Specific
87	KV informativo 5.5x8.5in.pdf	Yes	SP	SBC Material	Flyer: T2T for San Miguel - need to test, location/hours, treatment	General Public	Country-Specific
88	KV VIDA SALUDABLE SM A.pdf	Yes	SP	SBC Material	Flyer: T2T for San Miguel and San Salvador - healthy lifestyle, handwashing, vaccine	General Public	Country-Specific
89	KV En Familia.pdf	Yes	SP	SBC Material	Flyer: T2T for San Salvador - handwashing, air circulation, disposing of masks, covering nose/mouth	General Public	Country-Specific
90	KV informativo 5.5x8.5in.pdf	Yes	SP	SBC Material	Flyer: T2T for San Salvador - need to test, location/hours, treatment	General Public	Country-Specific
91	KV VIDA SALUDABLE SS A.pdf	Yes	SP	SBC Material	Flyer: T2T for San Salvador - healthy lifestyle, handwashing, vaccine	General Public	Country-Specific

92	RESUMEN T2T Inglés.pdf	Yes	SP	IP Workplan/ SOW	El Salvador T2T Program	General Public	11/1/2022	Country-Specific
93	Agenda.pdf	No	SP	Training Agenda	SBC	HCWs	1/25/2023	Country-Specific
94	Invitación 4ta red de intercambio-01.png	No	SP	Training Material	SBC: Training Invitation	HCWs	1/25/2023	Country-Specific
95	Invitacion Cuadrada-01.png	No	SP	Training Material	SBC: Training Invitation	HCWs	12/14/2022	Country-Specific
96	AlgoritmoEPIC 11x8.5in.pdf	Yes	SP	Job Aid	Oral Antivirals: Algorithm	HCWs		Country-Specific
97	AlgoritmoEPIC 28x20in.pdf	Yes	SP	Job Aid	Oral Antivirals: Algorithm	HCWs		Country-Specific
98	AlgoritmoEPIC 36x24in.pdf	Yes	SP	Job Aid	Oral Antivirals: Algorithm	HCWs		Country-Specific
99	GUIA RAPIDA DE SEGUIMIENTO.pdf	Yes	SP	Job Aid	Quick Guide: Assess patients at risk for severe COVID-19	HCWs		Country-Specific
100	Recordatorio Express-01.png	Yes	SP	Job Aid	Reminders about T2T	HCWs		Country-Specific
101	ENG Points to reinforce.pdf	Yes	EN	Job Aid	Reminders about T2T	HCWs		Country-Specific
102	DATA FORM SAN MIGUEL.pdf	No	SP	Data Collection Tool	Patient Form (San Miguel)	HCWs		Country-Specific
103	DATA FORM SAN SALVADOR.pdf	No	SP	Data Collection Tool	Patient Form (San Salvador)	HCWs		Country-Specific
104	HOJA DE MONITOREO CLÍNICO SM.pdf	No	SP	QA/QI Tool	Supervision Checklist (San Miguel)	IPs (Epic/RISE), MOHs		Country-Specific
105	HOJA DE MONITOREO CLÍNICO SS.pdf	No	SP	QA/QI Tool	Supervision Checklist (San Salvador)	IPs (Epic/RISE), MOHs		Country-Specific
106	SCREENING HOJA DE MONITOREO CLÍNICO SAN MIGUEL.pdf	No	SP	QA/QI Tool	Supervision Checklist (San Miguel)	IPs (Epic/RISE), MOHs		Country-Specific
107	SCREENING HOJA DE MONITOREO CLÍNICO SAN SALVADOR.pdf	No	SP	QA/QI Tool	Supervision Checklist (San Salvador)	IPs (Epic/RISE), MOHs		Country-Specific

108	Template de documentos.docx	No	SP	Branding/ Template	Template: EpiC-branded Word doc	IPs (Epic/RISE)	Country-Specific
109	folder carta T2T.pdf	No	SP	Branding/ Template	Template: EpiC-branded folder	IPs (Epic/RISE)	Country-Specific
110	Folder-Pocket-Mockup-Front-View-1-Avelina-Studio.jpg	No	SP	Branding/ Template	Template: EpiC-branded folder	IPs (Epic/RISE)	Country-Specific
111	Cuaderno 2023 T2T.pdf (Stationery-Notebook)	No	SP	Branding/ Template	Template: EpiC-branded notebook	IPs (Epic/RISE)	Country-Specific
112	Notebook Mockup01.psd	No	SP	Branding/ Template	Template: EpiC-branded notebook	IPs (Epic/RISE)	Country-Specific
113	MU Sticker Donativo.jpg	No	SP	Branding/ Template	Template: EpiC-branded sticker (for equipment)	IPs (Epic/RISE)	Country-Specific
114	Sticker T2T Donativo 3x1.33in PATHS.pdf (Stationery-Sticker for donated Equipment)	No	SP	Branding/ Template	Template: EpiC-branded sticker (for equipment)	IPs (Epic/RISE)	Country-Specific
115	Sticker T2T Donativo 3x1.33inpaths.pdf (Stationery-Sticker for donated Equipment)	No	SP	Branding/ Template	Template: EpiC-branded sticker (for equipment)	IPs (Epic/RISE)	Country-Specific
116	05_Pinback_Button_Mockup.jpg	No	SP	Branding/ Template	CHWs: T2T button	IPs (Epic/RISE), MOHs	Country-Specific
117	Cap.png	No	SP	Branding/ Template	CHWs: T2T hat	IPs (Epic/RISE), MOHs	Country-Specific
118	CHW.jpeg	No	SP	Branding/ Template	CHWs: using T2T button	IPs (Epic/RISE), MOHs	Country-Specific
119	CHWs.jpeg	No	SP	Branding/ Template	CHWs: team	IPs (Epic/RISE), MOHs	Country-Specific
120	EPIC BRANDING ENG NO PL .pdf	No	SP	Branding/ Template	Branding: Logo order	IPs (Epic/RISE), MOHs	Country-Specific
121	Fannypack.png	No	SP	Branding/ Template	CHWs: T2T fannypack	IPs (Epic/RISE), MOHs	Country-Specific
122	lapiz y lapicero.png	No	SP	Branding/ Template	CHWs: T2T pencils	IPs (Epic/RISE), MOHs	Country-Specific

123	Megaphone.png	No	SP	Branding/ Template	CHWs: T2T megaphone	IPs (Epic/RISE), MOHs		Country-Specific
124	Sleeves.png	No	SP	Branding/ Template	CHWs: T2T protective sleeves	IPs (Epic/RISE), MOHs		Country-Specific
125	Vest-01.png	No	SP	Branding/ Template	CHWs: T2T vest	IPs (Epic/RISE), MOHs		Country-Specific
126	EDITED Boletin No. 1 Avance T2T 14 noviembre 2022.pdf	Yes	SP	Report	El Salvador T2T Program	MOHs, Country-Level Stakeholders, USAID, IPs (Epic/RISE)	11/1/2022	Country-Specific
127	FULL EDITADO Paquete de asistencia T2T.pdf	Yes	SP	Report	El Salvador T2T Program	MOHs, Country-Level Stakeholders, USAID, IPs (Epic/RISE)	11/1/2022	Country-Specific
128	El Salvador_EpiC Test to Treat Workplane Submission_Mission Concurrence.pdf	No	EN	IP Workplan/ SOW	USAID concurrence to SOW	IPs (Epic/RISE)	8/18/2022	Country-Specific
129	EpiC Test to Treat El Salvador USAID Budget 8.18.22.pdf	No	EN	IP Workplan/ SOW	Budgeting and Planning	USAID	8/18/2022	Country-Specific
130	EpiC Test to Treat El Salvador Workplan 8.25.22.docx	No	EN	IP Workplan/ SOW	Workplan	USAID	8/25/2022	Country-Specific
131	T2T team technical concurrence el sal lesotho cote d_ivoire.pdf	No	EN	IP Workplan/ SOW	USAID concurrence to SOW	IPs (Epic/RISE)	8/24/2022	Country-Specific
132	Overview of Testing for SARS-CoV-2, the virus that causes COVID-19 _ CDC.pdf	Yes	EN	Guidance Document	Guidance: Testing	Scientific Community, MOHs	3/11/2023	Generic
133	WHO-2019-nCoV-Ag-RDTs-Self-testing-2022.1-eng.pdf	Yes	EN	Guidance Document	Guidance: Testing	Scientific Community, MOHs	3/9/2022	Generic
134	Ghana T2T Final Report.pdf	No	EN	Report	T2T Rapid Assessment	USAID	6/27/2022	Country-Specific
135	RISE T2T Pilot_Ghana_Workplan_Approved_30 August 2022.pdf	No	EN	IP Workplan/ SOW	Workplan: Objectives & Activities	USAID	8/30/2022	Country-Specific
136	RISE Ghana T2T Feedback Response Matrix_18 Aug 2022.docx	No	EN	IP Workplan/ SOW	Workplan: Responses to Feedback from USAID	USAID	8/18/2022	Country-Specific

137	EpiC Test to Treat Malawi Budget USAID 8.18.22.pdf	No	EN	IP Workplan/ SOW	Budgeting and Planning	USAID	8/18/2022	Country-Specific
138	EpiC Test to Treat Malawi Workplan 8.18.22.docx	No	EN	IP Workplan/ SOW	Workplan: Objectives & Activities	USAID	8/18/2022	Country-Specific
139	Malawi_mission Concurrence_EpiC_Test to Treat Workplan Submission_Malawi.pdf	No	EN	IP Workplan/ SOW	USAID concurrence to SOW	IPs (Epic/RISE)	8/19/2022	Country-Specific
140	T2T team technical concurrence ghana malawi rwanda.pdf	No	EN	IP Workplan/ SOW	USAID concurrence to SOW	IPs (Epic/RISE)	8/25/2022	Country-Specific
141	COVID-19 In Pregnancy_Complications and Differential Diagnosis.pptx	Yes	EN	Training Material	COVID-19 in Pregnancy	HCWs	11/1/2021	Country-Specific
142	COVID-19 in Pregnancy_ Diagnostic workup – Laboratory and Imaging.pptx	Yes	EN	Training Material	COVID-19 in Pregnancy	HCWs	11/1/2021	Country-Specific
143	COVID-19 in pregnancy_ Epidemiology and pathophysiology.pptx	Yes	EN	Training Material	COVID-19 in Pregnancy	HCWs	11/1/2021	Country-Specific
144	COVID-19 In Pregnancy_ Labor, delivery and postpartum care.pptx	Yes	EN	Training Material	COVID-19 in Pregnancy	HCWs	11/1/2021	Country-Specific
145	COVID-19 in Pregnancy_ Patients with severe COVID-19 pneumonia.pptx	Yes	EN	Training Material	COVID-19 in Pregnancy	HCWs	11/1/2021	Country-Specific
146	COVID-19 In Pregnancy_ Pregnant Patients with Moderate Illness.pptx	Yes	EN	Training Material	COVID-19 in Pregnancy	HCWs	11/1/2021	Country-Specific
147	COVID-19 In Pregnancy_ Prenatal Care.pptx	Yes	EN	Training Material	COVID-19 in Pregnancy	HCWs	11/1/2021	Country-Specific
148	COVID-19 In Pregnancy_ Triage and Designation of a Treatment Area.pptx	Yes	EN	Training Material	COVID-19 in Pregnancy	HCWs	11/1/2021	Country-Specific
149	COVID-19 Na Gravidez_ Course Introduction.pptx	Yes	EN	Training Material	COVID-19 in Pregnancy	HCWs	11/1/2021	Country-Specific
150	Endotracheal Intubation_ presentation adapted from RISE Mozambique.pptx	Yes	EN	Training Material	Clinical Management: Endotracheal Intubation	HCWs	1/25/2021	Country-Specific

151	Project proposal -- COVID in Pregnancy course.docx	Yes	EN	Training Agenda	Training Agenda: Pregnancy Course	HCWs	11/1/2021	Country-Specific
152	Translated copy of COVID Prolongado May 2022.docx	Yes	EN	Guidance Document	Long COVID: Signs/symptoms, recommendations	HCWs	5/1/2022	Country-Specific
153	Translated copy of Saude mental no COVID.docx	Yes	EN	Guidance Document	Guidance: HCW Grief and Mourning Discussion Groups	HCWs	5/1/2022	Country-Specific
154	IPC_tool_RISE_presentation	Yes	EN	Presentation	Impact of the IPC Dashboard	IPs (Epic/RISE), USAID	6/1/2022	Country-Specific
155	COVID Oral Antiviral Webinar_Final_Mar 15.pptx	Yes	EN, PT	Presentation	Oral Antivirals	MOHs, Country-Level Stakeholders	3/15/2023	Country-Specific
156	English/Portuguese (Audio Only) - Recording.mp4	Yes	EN, PT	Presentation	Oral Antivirals [Audio Recording]	MOHs, Country-Level Stakeholders	3/15/2023	Country-Specific
157	Full Video Recording Webinar.mp4	Yes	EN	Presentation	Oral Antivirals [Video Recording]	MOHs, Country-Level Stakeholders	3/15/2023	Country-Specific
158	Agenda Traduzida.xlsx	No	PT	Training Agenda	Training Agenda: Half-Day	HCWs		Country-Specific
159	Mozambique T2T Final Report.pdf	No	EN	Report	T2T Rapid Assessment	USAID	6/27/2022	Country-Specific
160	T2T Referral Slip Draft-traduzido.docx	No	PT	Data Collection Tool	Referral Slip	HCWs		Country-Specific
161	RISE T2T Pilot_Mozambique_Workplan_Revised_16 Feb 2023.docx	No	EN	IP Workplan/ SOW	Workplan: Objectives & Activities	USAID	2/16/2023	Country-Specific
162	RISE Mozambique Test to Treat Workplan_Feedback Response Matrix_18 Aug 2022.docx	No	EN	IP Workplan/ SOW	Workplan: Responses to Feedback from USAID	USAID	8/18/2022	Country-Specific
163	RISE T2T Pilot_Mozambique_Workplan_Revised_18 Aug 2022.docx	No	EN	IP Workplan/ SOW	Workplan: Objectives & Activities	USAID	8/18/2022	Country-Specific
164	RBC SOPs Coronavirus 2019(COVID-19) for public and private HF.pdf	Yes	EN	SOP	COVID-19 Outbreak Preparedness & Response	MOHs, Country-Level Stakeholders		Country-Specific
165	Final PPT COVID-19 obstetrics Dr David - Read-Only.pdf	Yes	EN	Presentation	COVID-19 in Pregnancy	HCWs	4/20/2022	Country-Specific

166	Final PPT COVID-19 long covid.pdf	Yes	EN	Presentation	Long COVID	HCWs	5/4/2022	Country-Specific
167	Final PPT RISE - Case Series COVID Dx Tx.pdf	Yes	EN	Presentation	Diagnostics and Therapeutics	HCWs	3/23/2022	Country-Specific
168	Final RISE - PPT COVID-19 MV.pdf	Yes	EN	Presentation	Clinical Management: Mechanical Ventilation	HCWs	4/6/2022	Country-Specific
169	RISE - PPT COVID-19 in PEDS.pdf	Yes	EN	Presentation	COVID-19 in Pediatrics	HCWs	5/18/2022	Country-Specific
170	PDF_Rwanda _Agenda for T2T cascade training.pdf	No	EN	Training Agenda	Training Agenda: 1-Day	HCWs		Country-Specific
171	RISE Rwanda T2T Implementation Report - PDSA Tool - Jan 2023.docx	No	EN	Report	QA/QI: Post-Implementation PDSA report	IPs (Epic/RISE), USAID	1/1/2023	Country-Specific
172	RISE Rwanda T2T Register draft.xlsx	No	EN	Data Collection Tool	Draft Register	HCWs		Country-Specific
173	RISE T2T Pilot_Rwanda_Workplan_Revised_18 Aug 2022.docx	No	EN	IP Workplan/ SOW	Workplan: Objectives & Activities	USAID	8/18/2022	Country-Specific
174	Rwanda T2T reporting cumulative with graphs.xlsx	No	EN	Report	Report with Graphs	USAID	2/28/2023	Country-Specific
175	Rwanda T2T Final Report.pdf	No	EN	Report	T2T Rapid Assessment	USAID	6/27/2022	Country-Specific
176	MEGAPHONE MESSAGES. english final.docx	No	EN	SBC Material	Megaphone messages	General Public		Country-Specific
177	T2T_ promotional video script English.final.docx	No	EN	SBC Material	Promo Video Script	General Public		Country-Specific
178	T2T_Flipchart_English final.docx	No	EN	SBC Material	FAQ Sheet for COVID	General Public		Country-Specific
179	T2T_Street banner English. final.docx	No	EN	SBC Material	Street Banner for COVID	General Public		Country-Specific
180	RISE T2T Pilot_Rwanda_Workplan_Revised_18 Aug 2022.docx	No	EN	IP Workplan/ SOW	Workplan: Objectives & Activities	USAID	8/18/2022	Country-Specific

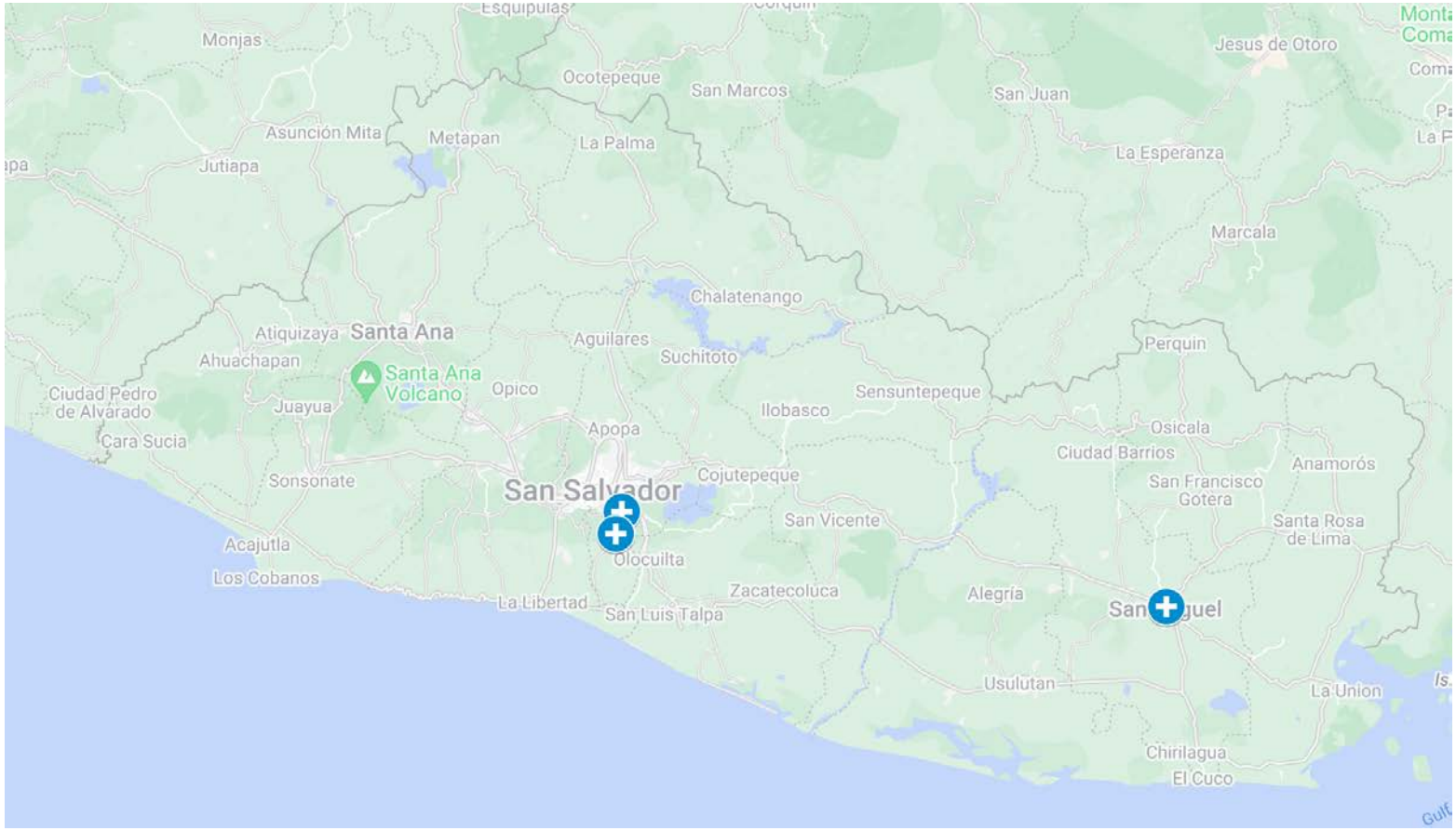
181	RISE Rwanda Test to Treat Workplan_Feedback Response Matrix_18 Aug 2022.docx	No	EN	IP Workplan/ SOW	Workplan: Responses to Feedback from USAID	USAID	8/18/2022	Country-Specific
182	SOPs on T2T mentorship.docx	No	EN	QA/QI Tool	T2T Mentorship Checklist	Country-Level Stakeholders, HCWs		Country-Specific
183	Pretest and Post test for T2T.docx	No	EN	Training Material	Pre- and Post-Test for T2T Cascade Training	HCWs		Country-Specific
184	5th Rwanda COVID-19 Clinical Management Guidelines final.pdf	No	EN	Guidance Document	Clinical Management	Country-Level Stakeholders, HCWs	5/1/2023	Country-Specific
185	WHO-2019-nCoV-therapeutics-2023.2-eng.pdf	Yes	EN	Guidance Document	Guidance: Treatment	Scientific Community, MOHs	11/10/2023	Generic
186	EpiC Test to Treat Cote d'Ivoire Workplan NCE 23-0517.docx	No	EN	IP Workplan/ SOW	Workplan: Objectives & Activities	USAID	5/17/2023	Country-Specific
187	EpiC T2T Final Report El Salvador_10122023.docx	No	EN	Report	T2T Final Report	USAID, IPs (Epic/RISE), MOHs	10/12/2023	Country-Specific
188	EpiC Test to Treat El Salvador Workplan_final_clean.pdf	No	EN	IP Workplan/ SOW	Workplan: Objectives & Activities	USAID	5/16/2023	Country-Specific
189	RISE T2T Pilot Ghana Workplan (18 August 2022).docx	No	EN	IP Workplan/ SOW	Workplan: Objectives & Activities	USAID	8/18/2022	Country-Specific
190	EpiC Test to Treat Malawi Workplan_11.22.2023 clean_USAID Comments.docx	No	EN	IP Workplan/ SOW	Workplan: Objectives & Activities	USAID	11/22/2023	Country-Specific
191	RISE T2T Pilot Mozambique Workplan (16 June 2023).docx	No	EN	IP Workplan/ SOW	Workplan: Objectives & Activities	USAID	6/16/2023	Country-Specific
192	3rd COVID-19 Clinical Management guidelines.pdf	Yes	EN	Guidance Document	Guidance: Clinical Management	HCWs	9/1/2020	Country-Specific
193	4th Clinical management guidelines COVID19.pdf	Yes	EN	Guidance Document	Guidance: Clinical Management	HCWs	9/1/2021	Country-Specific
194	FINAL PRINT COPY OF GUIDELINES FOR COVID-19 TEST AND TREAT IN GHANA	Yes	EN	Guidance Document	Guidance: T2T	HCWs	11/1/2023	Country-Specific
195	List of T2T Facilities.xlsx	No	EN	Implementation Plan/Framework	List: T2T Pilot Facilities	MOHs, USAID, IPs (EpiC/RISE)		Country-Specific

196	Test to treat facility mapping.pdf	No	EN	Implementation Plan/Framework	Map: T2T Pilot Facilities	MOHs, USAID, IPs (EpiC/RISE)		Country-Specific
197	Monulpiravir_DHCP Letter.pdf	No	EN	Guidance Document	Cancellation of EUA	MOHs, USAID, IPs (EpiC/RISE)	10/10/2023	Country-Specific
198	Notice_Cancellation of Molnupiravir for the treatment of COVID-19.PDF	No	EN	Guidance Document	Cancellation of EUA	MOHs, USAID, IPs (EpiC/RISE)	10/04/2023	Country-Specific

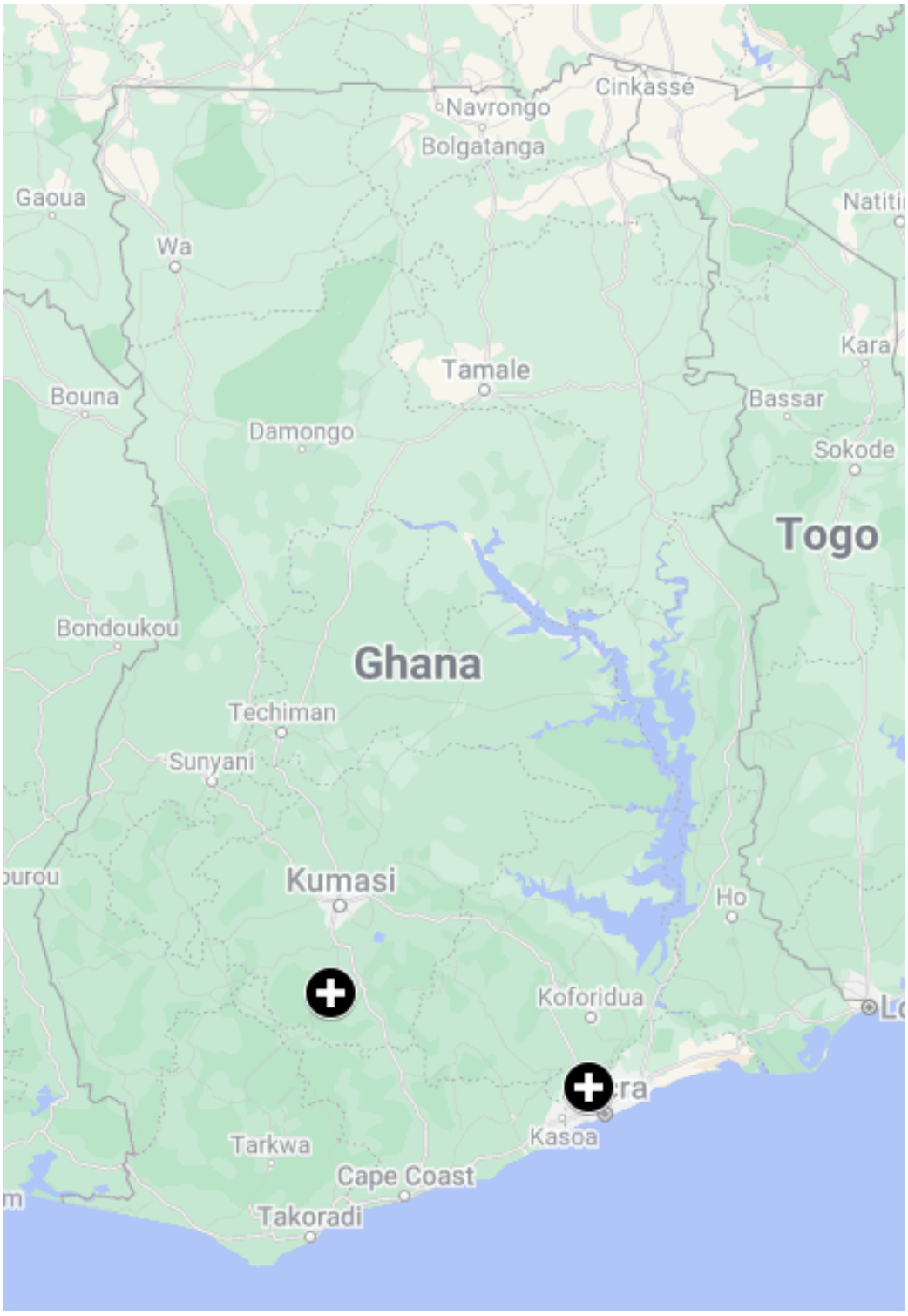
AR = Arabic, EN = English, FR = French, HI = Hindi, SP = Spanish, PT = Portuguese, RU = Russian, UK = Ukrainian

Maps of T2T Pilot Health Facilities Included in Program Review

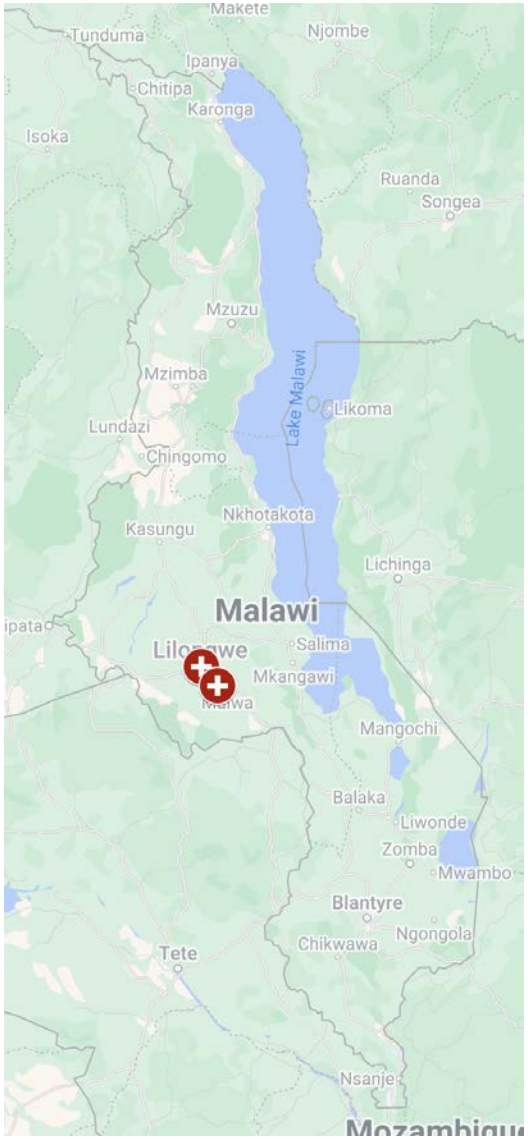
Pilot health facilities (3) included in Program Review in El Salvador, May 2023.



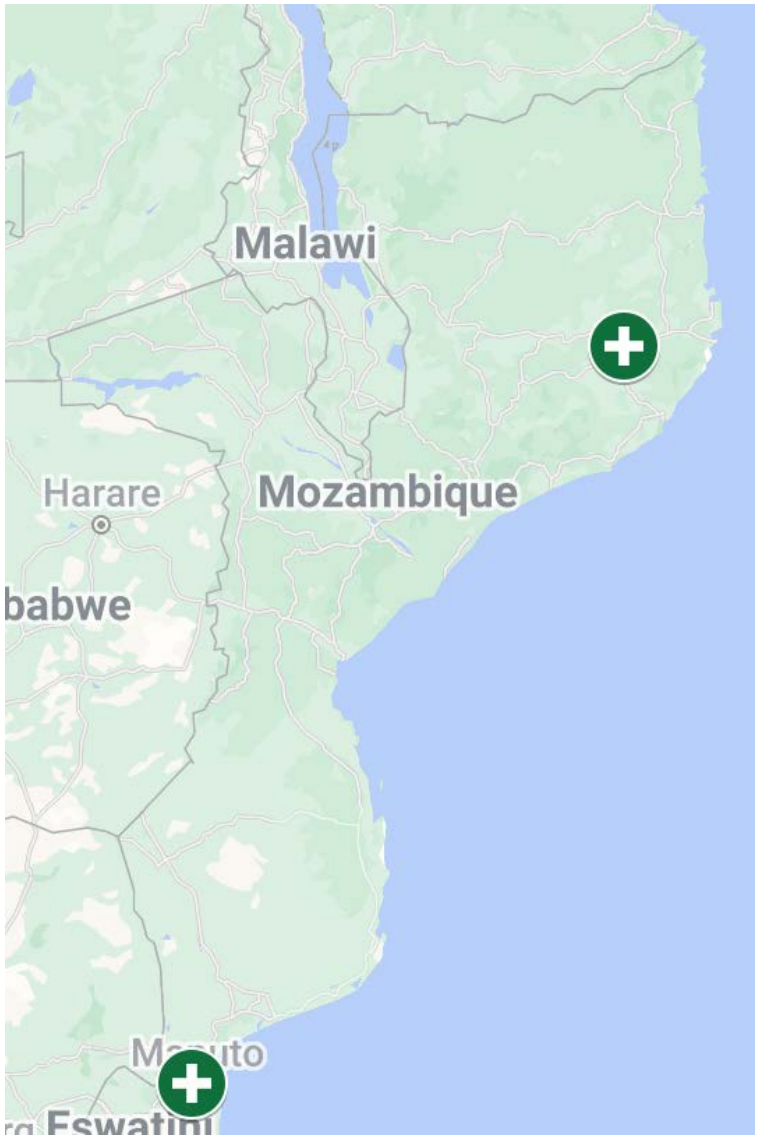
Pilot health facilities (2) included in Program Review in Ghana, January 2024.



Pilot health facilities (2) included in Program Review in Malawi, September 2023.



Pilot health facilities (2) included in Program Review in Mozambique, September 2023.



Sustaining Technical and Analytical Resources (STAR) is a project of the Public Health Institute (PHI) implemented in partnership with the University of California, San Francisco (UCSF) and Aspen Management Partnership for Health (AMP Health).

Pilot health facilities (3) included in Program Review in Rwanda, June 2023.