



INFORMATION SESSION

COVID-19 Test and Treat (TNT)

26 November 2024

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Agenda

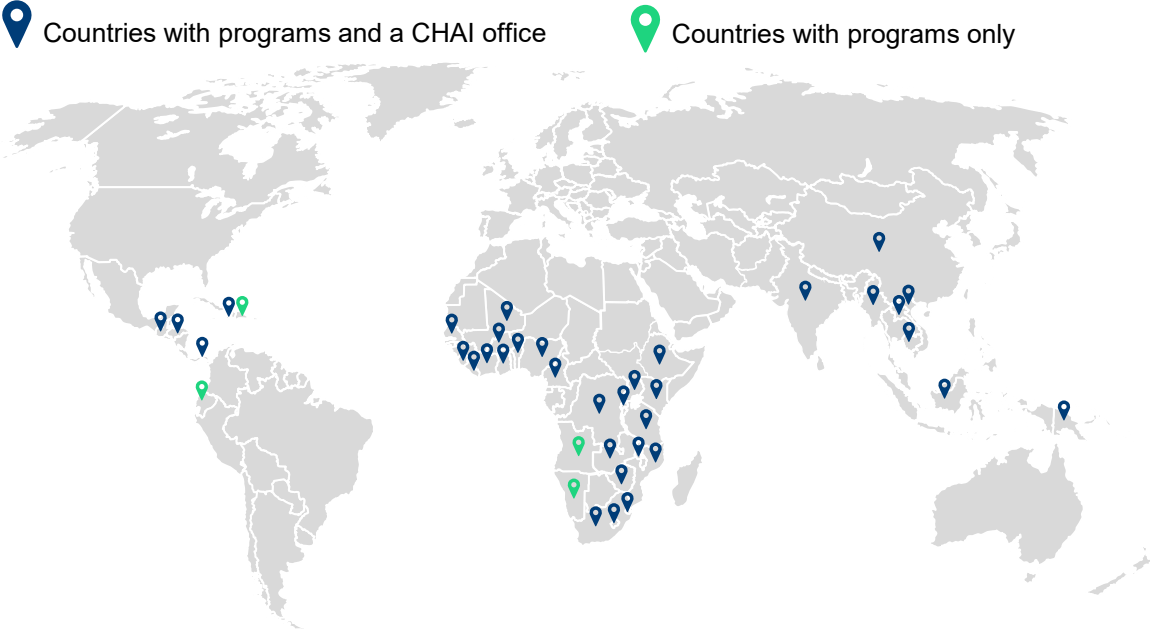
1	Welcome and introduction	Marijke Wijnroks, Strategy Investments and Impact Division Global Fund	10 minutes
2	Introduction to project TNT & operational research insight on TNT feasibility and acceptability	Sean Regan, CHAI, Pandemic Preparedness and Response Jessica Joseph, CHAI, Analytic and Implementation Research	15 minutes
3	Program overview, sustainability plans & surge preparedness: Zambia	Nyuma Mbewe, Zambia National Public Health Institute Lloyd Mulenga, Zambia Ministry of Health	25 minutes
4	Program overview, sustainability plans & surge preparedness: Nigeria	Chukwuemeka Agwuocha, CHAI Nigeria Longji Dakum, Nigeria Federal Ministry of Health Okoli Ijeoma, Nigeria Federal Ministry of Health	25 minutes
5	Discussion and Q&A	David Lowrance, Pandemic Preparedness and Response Global Fund	15 minutes

CHAI operates at the nexus of government, business, and health to catalyze more equitable access to healthcare



CHAI works in over 35 countries across Africa, Asia, and Latin America

- Benin
 - Burkina Faso
 - Cambodia
 - Cameroon
 - China
 - Côte d'Ivoire
 - Dem. Rep. Congo
 - Eswatini
 - Ethiopia
 - Ghana
 - Guatemala
 - Haiti
- Honduras
 - India (CHAI affiliate)
 - Indonesia
 - Kenya
 - Lao PDR
 - Lesotho
 - Liberia
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- Panama
 - Papua New Guinea
 - Rwanda
 - Senegal
 - Sierra Leone
 - South Africa
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 - Zambia
 - Zimbabwe



CHAI works with governments, donors, and other partners across more than 20 programs

Infectious Diseases	Hepatitis	HIV/AIDS	Malaria & Neglected Tropical Diseases	Tuberculosis	Pandemic Response	
Women and Children's Health	Cervical Cancer	Diarrhea & Pneumonia	Maternal & Newborn Health	Nutrition	Sexual & Reproductive Health	Vaccines
Health Systems	Health Financing	Health Workforce	Oxygen Therapy	Digital Health		
Non-Communicable Diseases	Assistive Technology	Cancer	Cardiovascular Diseases	Diabetes	Mental Health	
Cross Cutting Experts	Climate & Health	Diagnostics	Global Markets	Applied Implementation Research	Clinical Sciences	Product Development, Quality, Costing, & Regulatory Affairs

TNT kicked off in late 2022 with the goal of limiting COVID-19's impact on high-risk populations in LMICs utilizing newly EUA'd oral antivirals*



Objective: Limit the impact of COVID-19 on high-risk populations in LMIC settings through Test and Treat integrated service delivery models in Nigeria, South Africa** and Zambia



Approach

- **Facilitate access to novel treatment**, including WHO recommended oral antivirals for high-risk patients with mild/moderate disease within 5 days of symptom onset
- **Provide technical assistance to integrate treatment into existing public health infrastructure** by leveraging existing antigen testing networks, updating clinical guidelines, and integrating COVID-19 testing and treatment activities into health management information systems and supply chains

Intended Impact

- **Improved access to antigen testing and oral antivirals** in LMIC settings
- Improved environment for **identifying and treating high-risk patients with oral antivirals**
- **Improved landscape for scale-up of test and treat models** with antigen testing and oral antivirals nationally/regionally
- Improved preparedness for future surges and other disease outbreaks

*This work was also supported by complementary funding through Unitaid and the QuickStart Consortium

**TNT work in South Africa ended in 2023 due to NEMLC decision to not recommend use of nirmatrelvir/ritonavir



Operational Research (OR)

Results from a subset of activated facilities in 5 QuickStart OR countries*

*Data included here is not yet published and not meant for dissemination.

CHAI, as part of the QuickStart Consortium*, supported 5 countries to assess feasibility and acceptability of the Test & Treat program from Dec 2022 - June 2024

Objective of Operational Research (OR): Measure number of high-risk COVID-19 positive patients identified, turnaround time to treatment initiations, and the cost per case initiated under the test and treat model



Research is based on retrospective patient-level information such as date of symptom onset, high-risk condition, treatment prescribed, initiated, and completed.



Data is collected from facility registers and entered electronically (e.g SurveyCTO, REDCap, DHIS2), starting with individuals testing positive for COVID-19 who were screened for treatment eligibility.



Data is compiled and analyzed to understand the impact on testing and treatment initiation rates and model the cost of treatment initiation.

Countries	#OR Facilities	#Months OR
Ghana	8	13 months
Malawi	4	12 months
Nigeria	20	11 months
Rwanda	15	15 months
Zambia	12	19 months

Eligibility Criteria for Treatment

- Presenting with mild or moderate disease
- Within 5 days of symptom onset
- At least one moderate or high-risk factor for disease progression

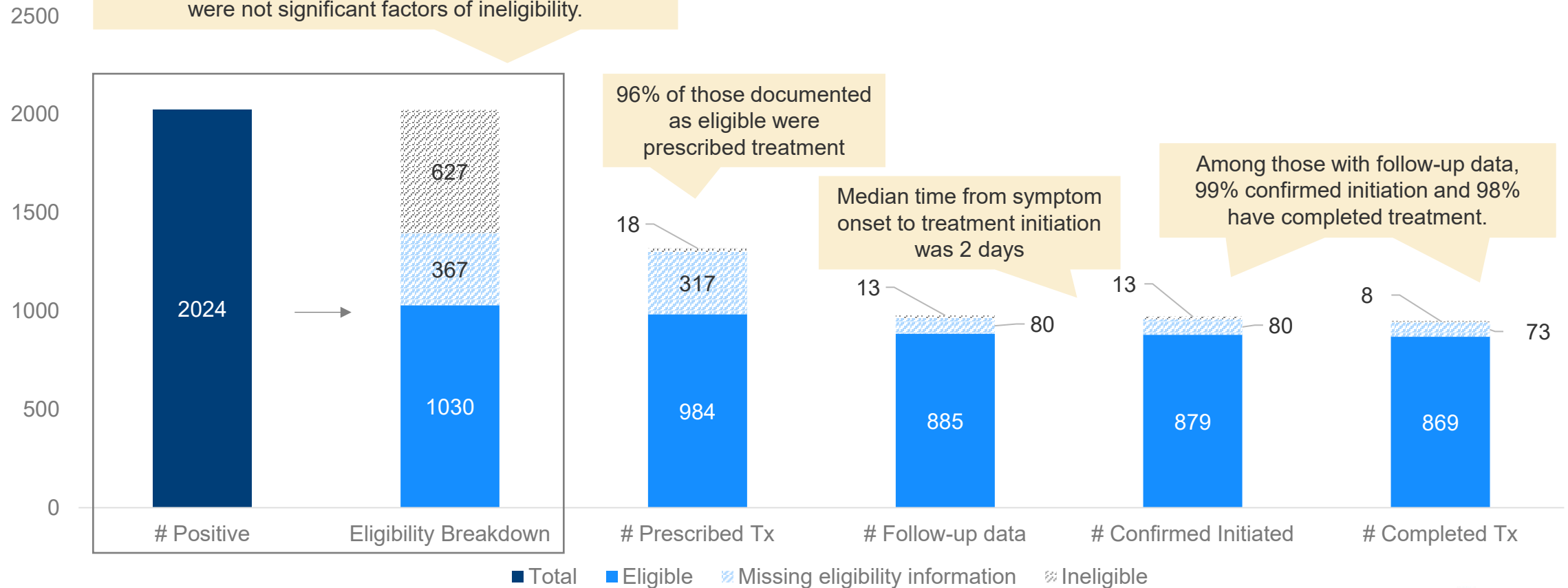
The cascade of care documents over 2,000 positive tests from OR sites, resulting in 1,319 prescriptions documented (Dec 2022 - June 2024)

Cascade of care* December 2022 to June 2024:

Participants testing positive, screened for eligibility, prescribed and followed-up, all countries**

Unpublished data

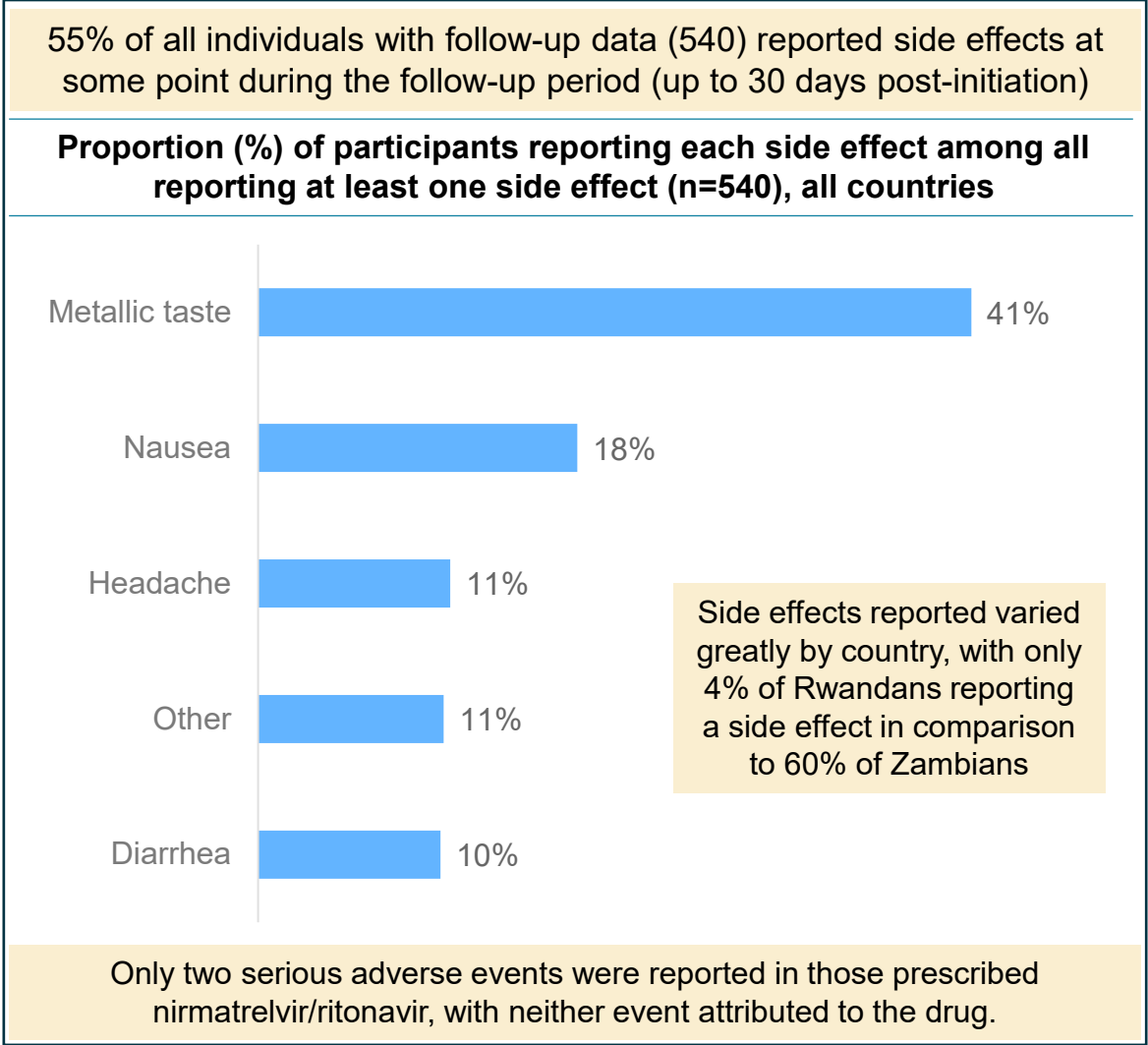
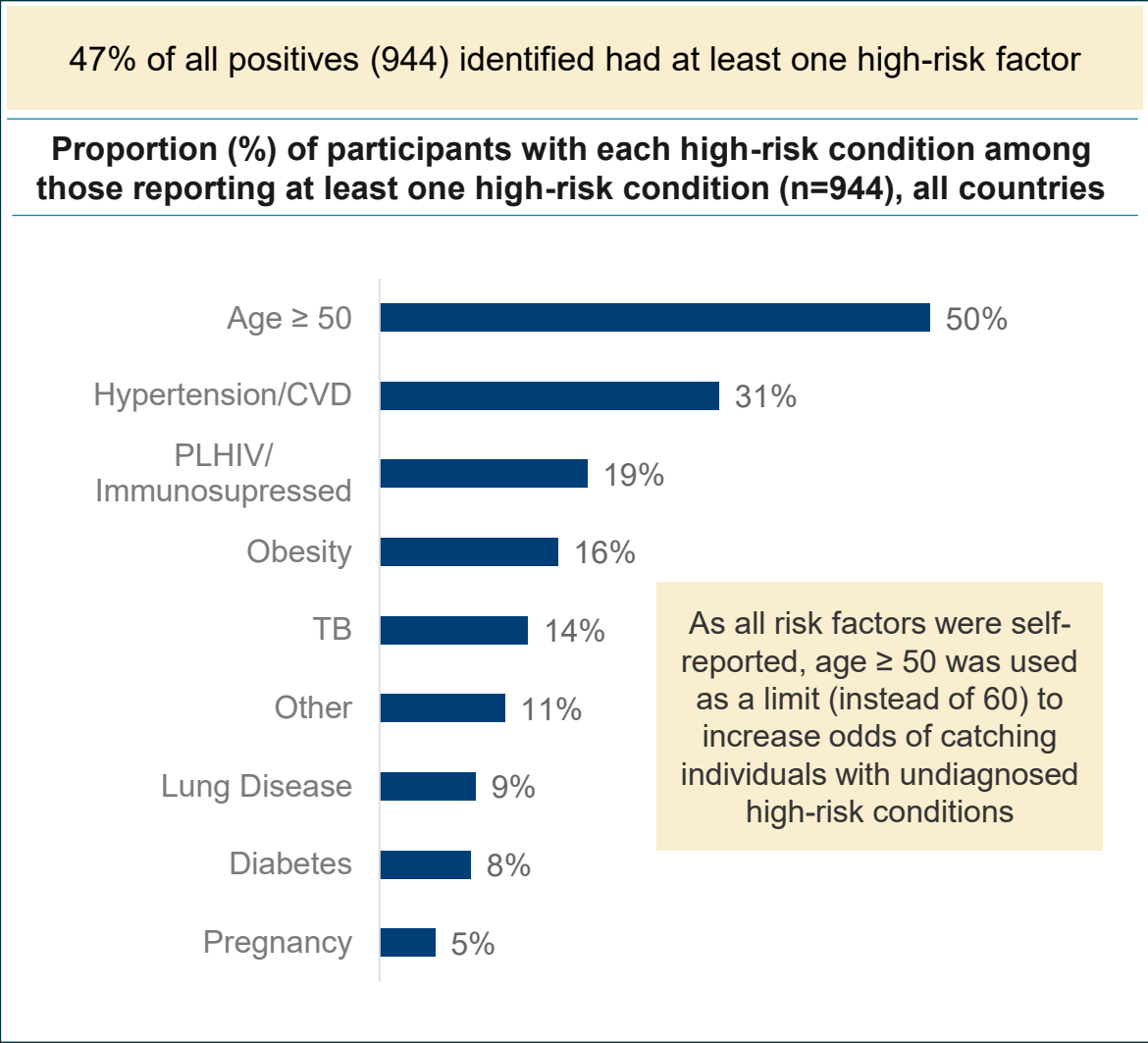
Absence of high-risk factors among positive screened was the main driver of treatment ineligibility. Presenting after 5 days of symptoms or with severe/critical disease were not significant factors of ineligibility.



*In this cascade, each subsequent bar is a subset of the previous one.

**Ghana, Malawi, Rwanda, Nigeria, and Zambia

Age over 50 was the most common reported risk factor for severe disease amongst all positive cases identified



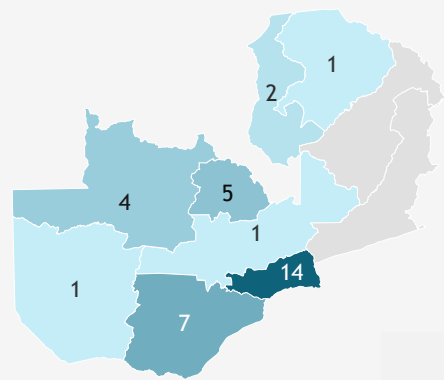


Zambia Program Overview

Zambia's TNT program was launched in December 2022, and had rapidly deployed services in public and private facilities across eight provinces

Geographic reach

- 8 provinces have at least one facility providing treatment.



Facilities per province:
 Lusaka (15),
 Central (1),
 Copperbelt (5),
 Southern (7),
 Western (1),
 Luapula (2),
 Northern (1),
 Northwestern (4).

Model of care

- Patients are screened at various entry points, (e.g., emergency, out-patient, TB and HIV clinics), symptomatic patients are tested onsite, and positive cases are assessed and prescribed treatment if eligible.
- Patient flow varies by facility-type. Typically, higher-level facilities offer services at various points/departments, while lower-level facilities may offer multiple services at a single point/department.
- Bi-directional testing is offered to PHLIV and TB patients at HIV/TB specialty clinics; eligible patients are directly linked to treatment.

Facilities selected for roll-out

36 hospital facilities (public and private) provide treatment (i.e., activated). Lower-level facilities (e.g., health centers and health post) only test and refer patients.

Specialist Hospitals (Level 4)	Teaching hospitals (Level 3)	General/provincial hospitals (Level 2)	District hospitals/ Clinics (Level 1)	Total
1	5	13	17	36

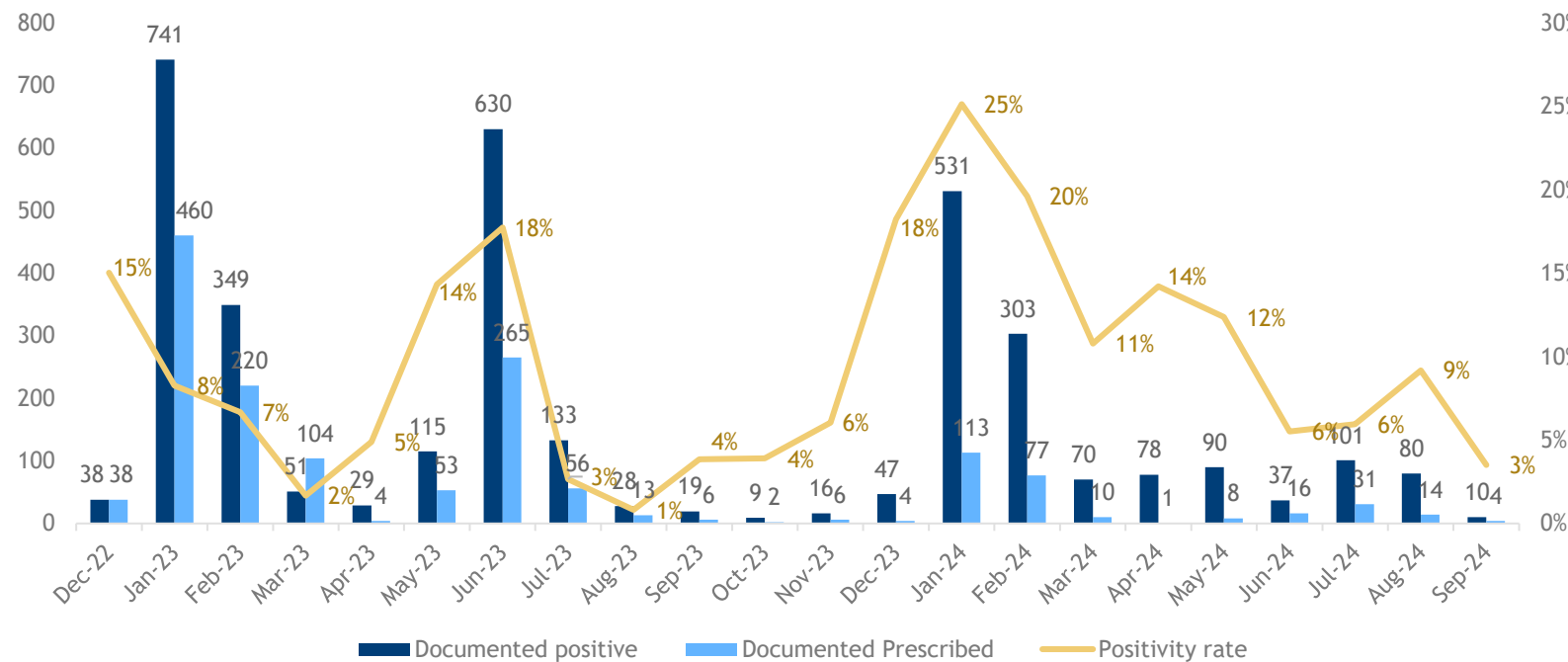
Facility reporting approach

- Retrospective facility data is collected by designated focal point people (FPP) and shared for review, validation, and analysis by CHAI.
 - **27/36 (75%) activated facilities** reported service delivery data **for at least one month over the course of the program** (e.g., # tests, # positives, # treatment, etc.).
 - 9 sites did not report program data since they were activated on a "one-time" needs basis and did not continue to provide routine T&T services throughout the program
 - **The majority of treatment volumes (52%)** from Dec '22 – Sep '24 are attributed to **the two largest facilities in Zambia** - University Teaching Hospital (UTH) and Levy Mwanawasa University Teaching Hospital (both based in Lusaka)
 - Teaching hospitals have a higher catchment area compared to general hospitals (2nd level) and private hospitals.

41,283 tests were conducted from Dec 2022 through Sep 2024 across 27 sites in Zambia (M&E data)

3,505 individuals tested positive, and 1,504 cases were prescribed treatment.

Individuals tested positive and initiated on treatment (December 2022** to Sept 2024)



Routine Test and Treat Monitoring Takeaways

- Epidemiology:**
 - The TNT program was deployed urgently in late 2022 as there was a small but significant surge in-country.
 - Three waves of increased COVID-19 cases were observed in Jan '23, June '23 and Jan '24.
- Testing Volumes:**
 - Implementation of targeted testing strategies towards symptomatic and high-risk individuals, and reduced community demand for tests led to declining testing activity in 2024, compared to 2023.
- Linkage to Treatment:**
 - 42% of all positive individuals were prescribed treatment, based on eligibility status.

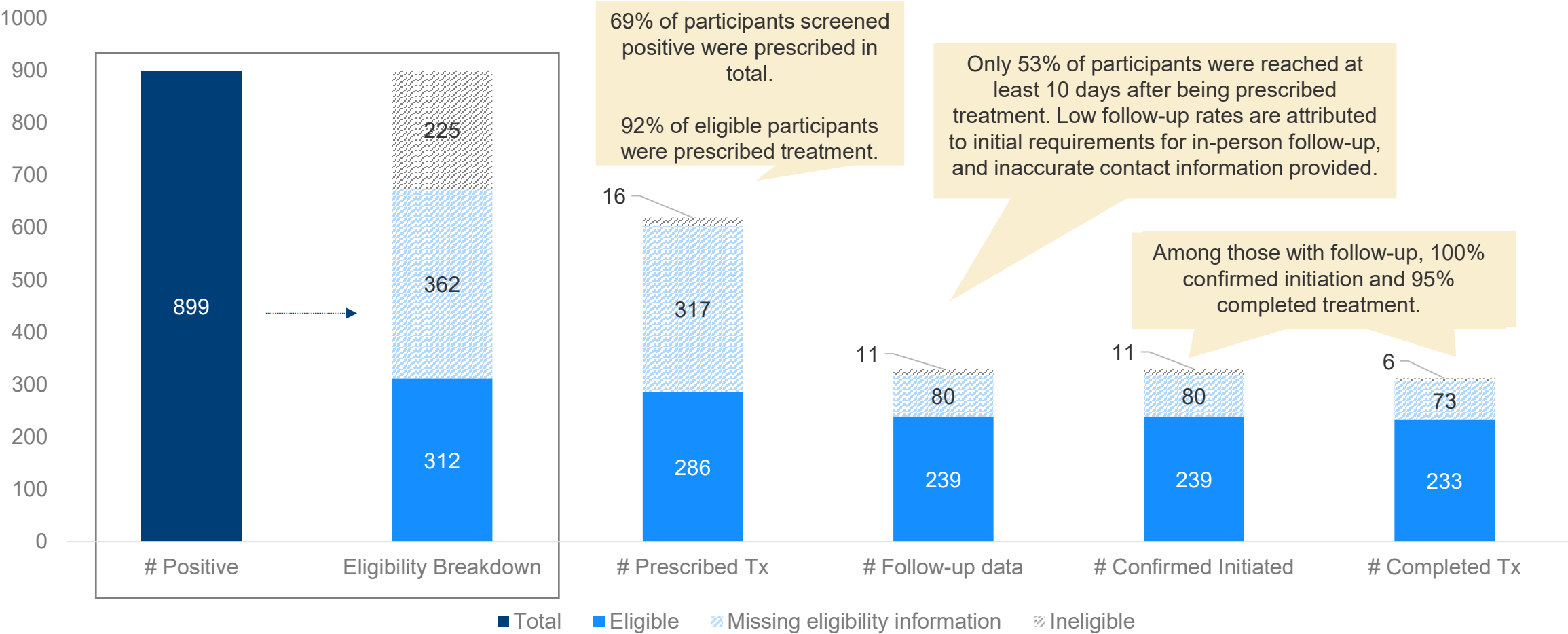
Zambia ('22-'23)	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23
# Tested	253	8,980	5,234	3,057	594	803	3,554	5,020	3,426	493	231	265	258
Reporting Facilities	1	10	10	10	10	11	15	16	17	18	19	19	19

Zambia ('24)	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24
# Tested	2,114	1,546	649	549	728	672	1,699	872	286
Reporting Facilities	17	20	19	22	22	18	21	20	15

*Only a subset of facilities report consistently every month. Since the start of the program, 27/36 unique sites have reported data at least once.
 **TNT launched in one facility (UTH) in late December 2022 and scaled in subsequent months.

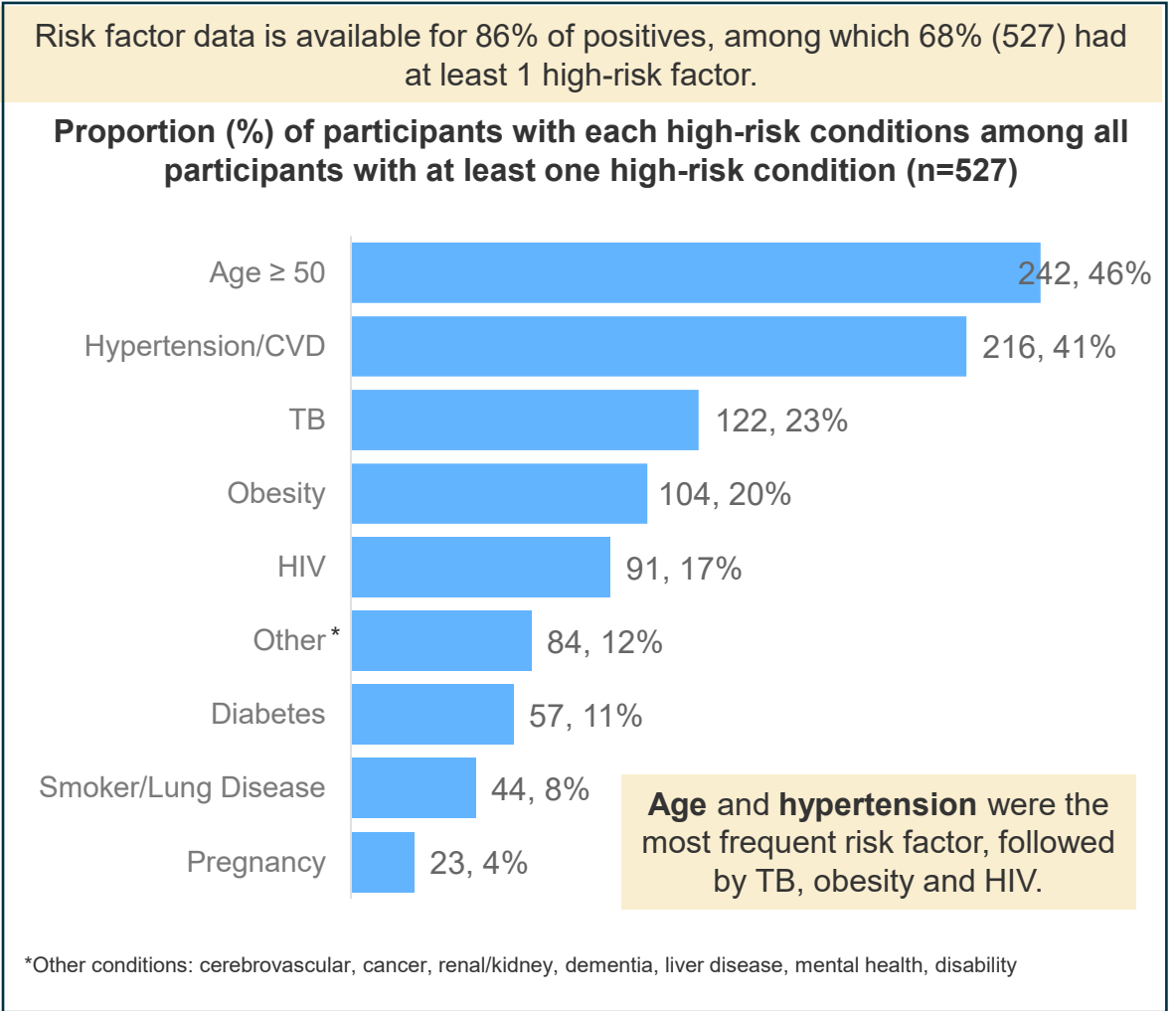
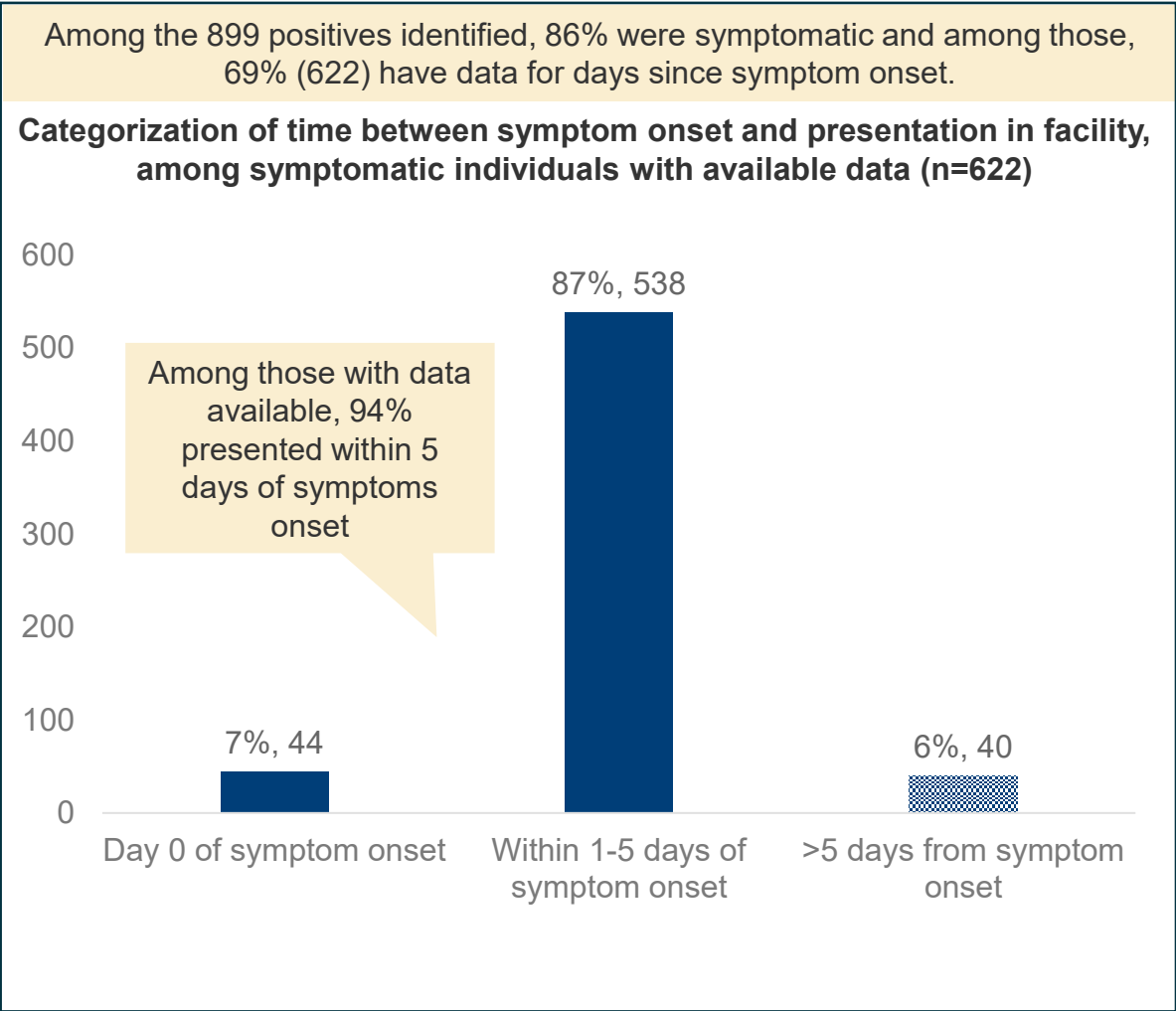
Amongst reported eligible positive participants, 92% were prescribed treatment and 95% confirmed completion of treatment (OR data 1/2)

Operational research was conducted in 12 facilities in Zambia. The cascade of care presented below are preliminary results from the operational research from the period December 2022 – June 2024.*



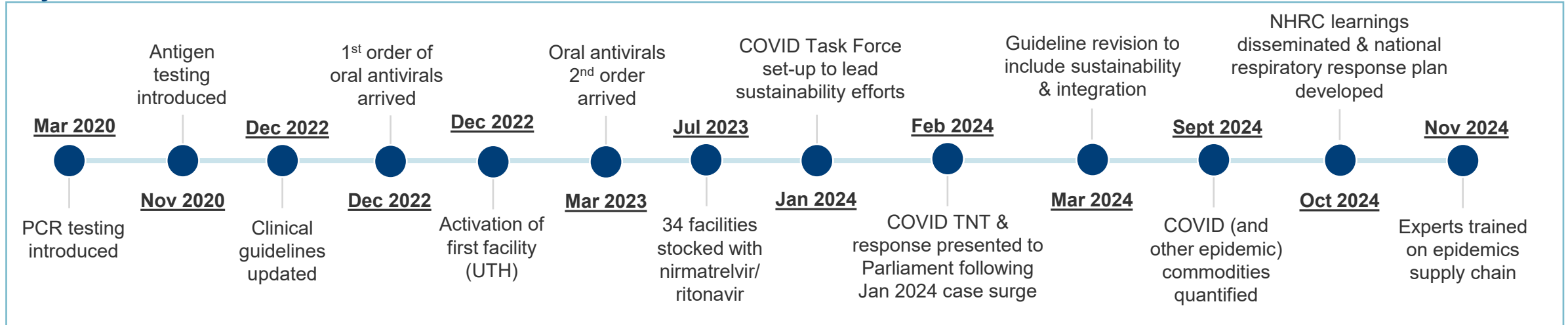
Most symptomatic participants presented at a facility for TNT services within 5 days of symptom onset (OR data 2/2)

The data represents results from operational research from the period December 2022 – June 2024. It represents a subset of positive participants for which individual records were captured.



Testing and treatment services will be continued post-TNT and efforts to integrate COVID into broader pandemic preparedness plans are underway

Key milestones to date



Sustainability plans for T&T access

- Routine COVID-19 testing and treatment will continue to be offered to high-risk cases in all activated facilities, under the oversight of the MOH Directorates of Clinical Care & Diagnostics (working closely with the Directorate of Infectious Diseases).
- National surveillance data will continue to be hosted by the Zambia National Public Health Institute utilizing the EIDSR (Electronic Integrated Disease Surveillance & Response) system.
- Oral antivirals plan to be integrated into the standard treatment guidelines to enable MOH mobilize resources for small routine drug procurements or in response to surges.

Broader effort for surge preparedness

- Updating the national surge preparedness plans and integrating into the national respiratory pathogen pandemic preparedness plan. Key domains of focus include surveillance, medical countermeasures, health system preparedness & response, etc.).
- Integrating C19 surveillance into respiratory disease or broader outbreak surveillance using a multi-pathogen open PCR system with national coverage (i.e., minimum one platform per province with linkage to testing lab).
- Quantifying C19 commodities as part of a broader PPR quantification to identify national planning and response for pandemic potential diseases to inform funding and supply needs.

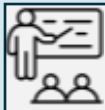
Key lessons and recommendations from COVID-19 TNT that can be applied to broader pandemic preparedness and readiness efforts

Timing of access to new tools



- Zambia's access to oral antivirals during a late 2022 surge in COVID-19 cases enabled high-risk patients to access treatment that prevents progression to severe disease. Earlier access to effective oral antivirals would have significantly reduced morbidity and mortality in the Zambia context.
- Global stakeholders (including multilateral organizations and HICs) should prioritize, coordinate, and accelerate treatment R&D, product access, and delivery as part future pandemic preparedness and response efforts.
- Early-stage investments in country-level initiatives that are robust, inclusive and complementary to ongoing PPR efforts are essential to ensuring LMICs receive timely access to newly developed life-saving diagnostics and treatment.

A whole-of-team training approach



- Training different cadres of providers (e.g., nurses, physicians, pharmacists, laboratory staff) all together proved to be a more effective training model compared to the typical approach of training individual groups. This provided a holistic understanding of the COVID cascade of care and facilitated discussions among providers on potential challenges (e.g., roll-out of a new therapeutic).
- This approach should be applied to improve comprehensive healthcare knowledge and enable an efficient coordinated response towards future infectious disease outbreaks/health threats.

Integration into existing programs



- Integrated service delivery of COVID testing and treatment within existing TB and HIV programs enabled rapid site activation. By leveraging the existing workforce, data systems, diagnostics and treatment infrastructure of those programs, implementation was less resource intensive and quickly rolled out following the arrival of antivirals.
- Identifying and leveraging opportunities to quickly utilize existing health services for containing outbreaks is critical to protecting health resources, building capacities for primary care to respond to future emergencies, and supporting the long-term sustainability of a new program.



Nigeria Program Overview

Nigeria's TNT program was launched in July 2023 with services rolled out in public and private facilities across 8 states

Geographic Reach

➤ 4 out of 36 states in Nigeria were initially selected for T&T introduction.



Core T&T facilities per state:
Ogun (10)*
FCT Abuja (5)
Nasarawa (13), Rivers (14)
 Light-touch T&T facilities:
Kaduna (10), Lagos (1), Gombe (11) and Oyo (5)

Facilities selected for roll-out

- 42 facilities (both public and private) were selected for test and treat roll-out across all levels, and in October 2023, all activated facilities had received treatments.
- In 2024, CHAI provided light touch support to activate additional facilities outside program states (27 facilities across Kaduna, Lagos, Gombe and Oyo). The facilities received training from NCDC, provided testing services, and received nirmatrelvir/ritonavir from program states for linkage to care. However, these light-touch facilities did not receive full implementation support such as periodic mentorship visits.

	Public			Private	Total
	Tertiary	Secondary	Primary		
Core T&T	5	17	15	5	69
Light-touch T&T	1	10	16	0	

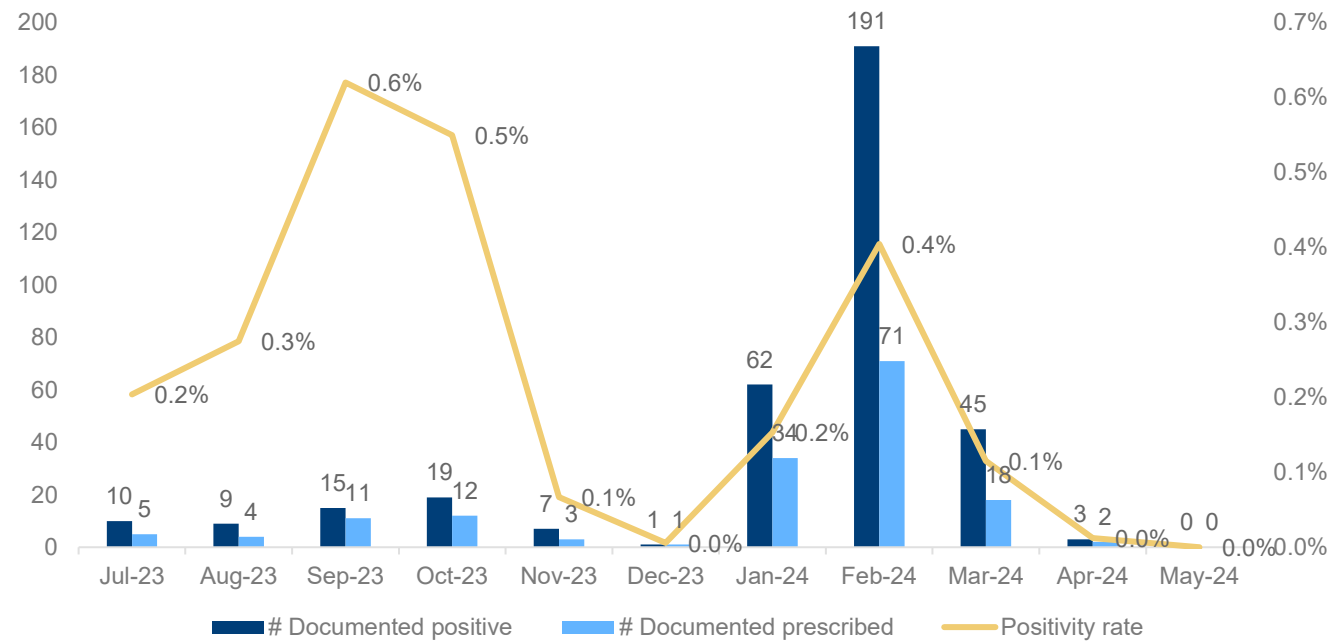
Model of care

- At the facility level:
 - Patients presenting with respiratory symptoms are screened at the various entry points (General Out-Patient Department, Medical Out-Patient Department, Emergency Room, HIV clinics etc.) and referred to the lab for testing. COVID-19-positive patients are seen by a doctor who assesses them for treatment eligibility. Treatment-eligible cases are prescribed nirmatrelvir/ritonavir, dispensed by the facility's pharmacy.
 - A Provider (doctor) Initiated Testing and Counselling (PITC) approach was established to identify patients missed at entry point screening. Identified patients are referred to the lab for testing, and positive cases are prescribed nirmatrelvir/ritonavir.
- At the community level:
 - COVID-19 testing was integrated into health outreaches/campaigns (in urban, peri-urban and rural areas) in collaboration with the NCDC Enhanced Surveillance Testing campaigns and State Ministries of Health (SMOH).
 - Identified positive cases are screened for treatment eligibility. Eligible cases are linked to care in the nearest T&T facilities via established referral pathways.
- All sites offer relevant bi-directional testing to patients presenting with symptoms of other diseases such as malaria, TB and HIV.
- All treatment-eligible cases prescribed nirmatrelvir/ritonavir were followed up via phone calls to confirm treatment initiation and completion, and document any side and/or adverse effects.

191,700 tests were conducted between July 2023 and May 2024 in 69 facilities and during periodic community testing campaigns (M&E data)

362 (.002%) individuals tested positive, and 161 people were prescribed treatment

Individuals tested positive and initiated on treatment (July 2023 to May 2024*)



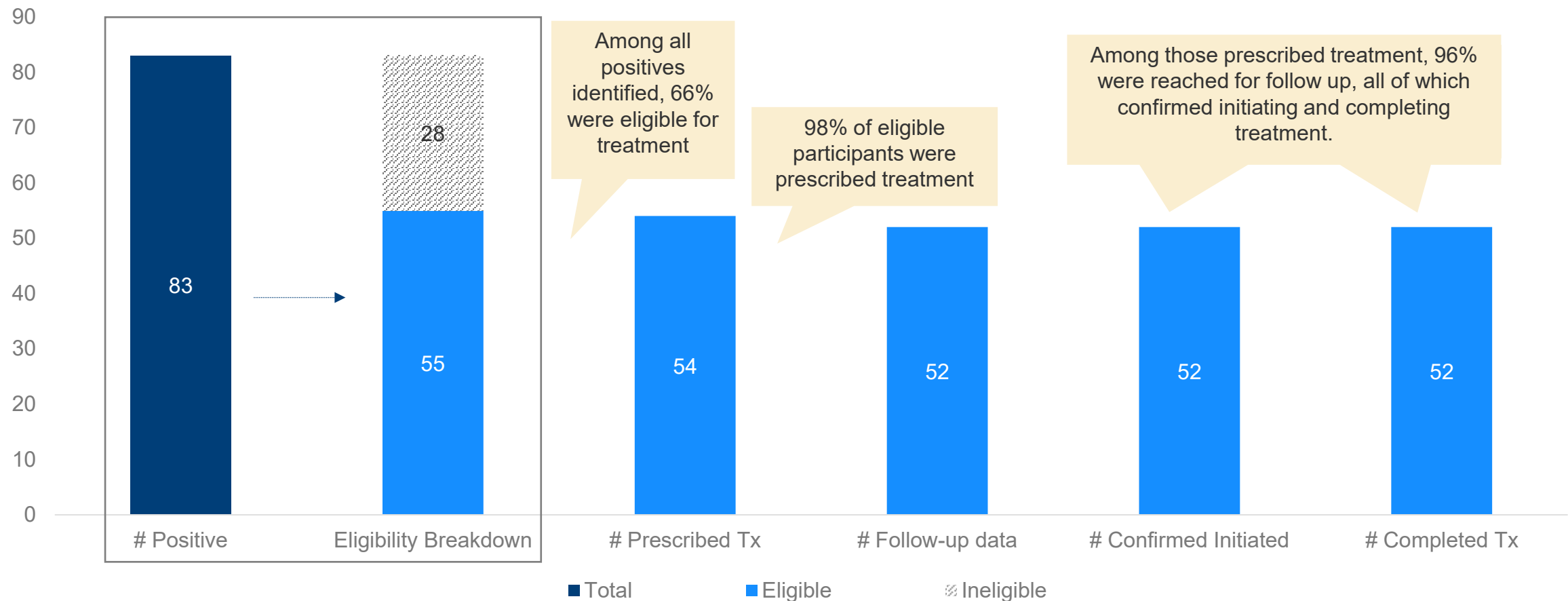
Month	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24
# Tested	4,887	3,261	2,398	3,432	10,491	16,640	40,410	47,069	38,971	24,141	0
# Core T&T facilities	37	37	42	42	42	42	42	42	42	42	42
# Light-touch T&T facilities								27	27	27	27

Routine Test and Treat Monitoring Takeaways

- Epidemiology:**
 - There was a low incidence of COVID-19 in the first six months (*Jul to Nov 2023*) of the program as reported by the activated facilities.
 - A peak in identified cases was recorded in Feb 2024, driven partially by the NCDC’s Enhanced Surveillance Testing campaigns and the activation of an additional 27 facilities across 4 non-program states.
- Testing volumes:**
 - The expiry of existing antigen tests in the country at the end of Apr 2024 resulted in a 45% drop in testing numbers in Apr 2024 compared to Mar 2024 and no tests conducted in May 2024.
- Linkage to Treatment:**
 - 44% of all positive individuals were treatment eligible. The 56% of positive cases who were ineligible for treatment consisted mainly of children identified during community testing.
 - Despite the low number of positive cases identified, 100% of treatment-eligible positive cases were prescribed nirmatrelvir/ritonavir.

98% of all treatment-eligible positive cases were prescribed treatment, and 96% confirmed treatment completion (OR data 1/2)

Operational research was conducted in 20 of the activated sites in Nigeria. The cascade of care presented below are preliminary results from the 17 sites that reported OR data, from the period June 2023 - April 2024.*

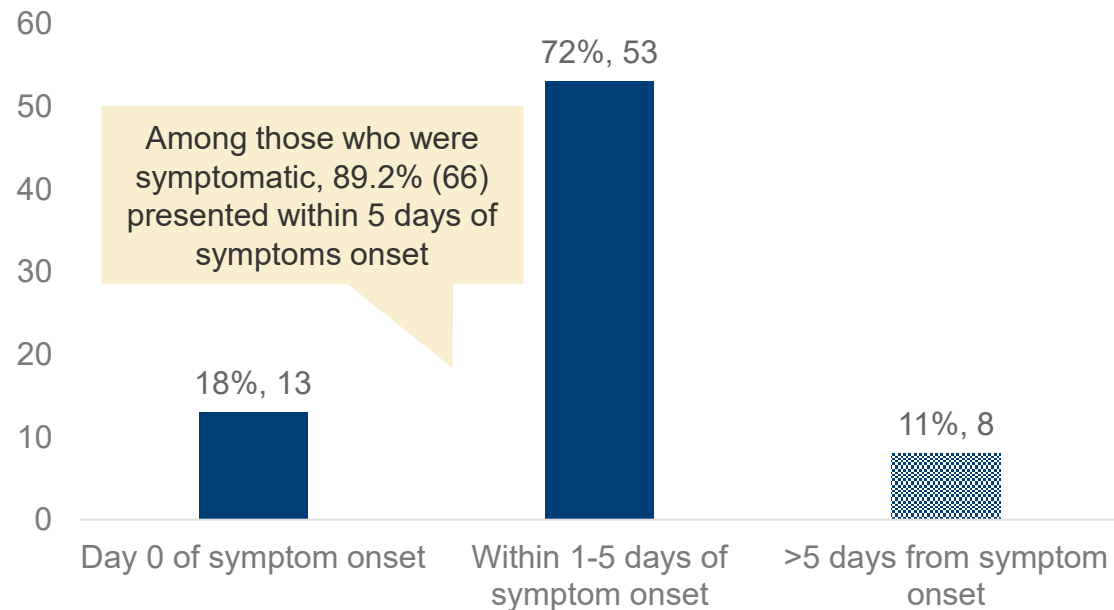


Most symptomatic individuals presented at a T&T facility within 5 days of symptom onset (OR data 2/2)

The data represents preliminary results from operational research from the period June 2023 - April 2024. It represents a subset of positive participants for which detailed records were captured.

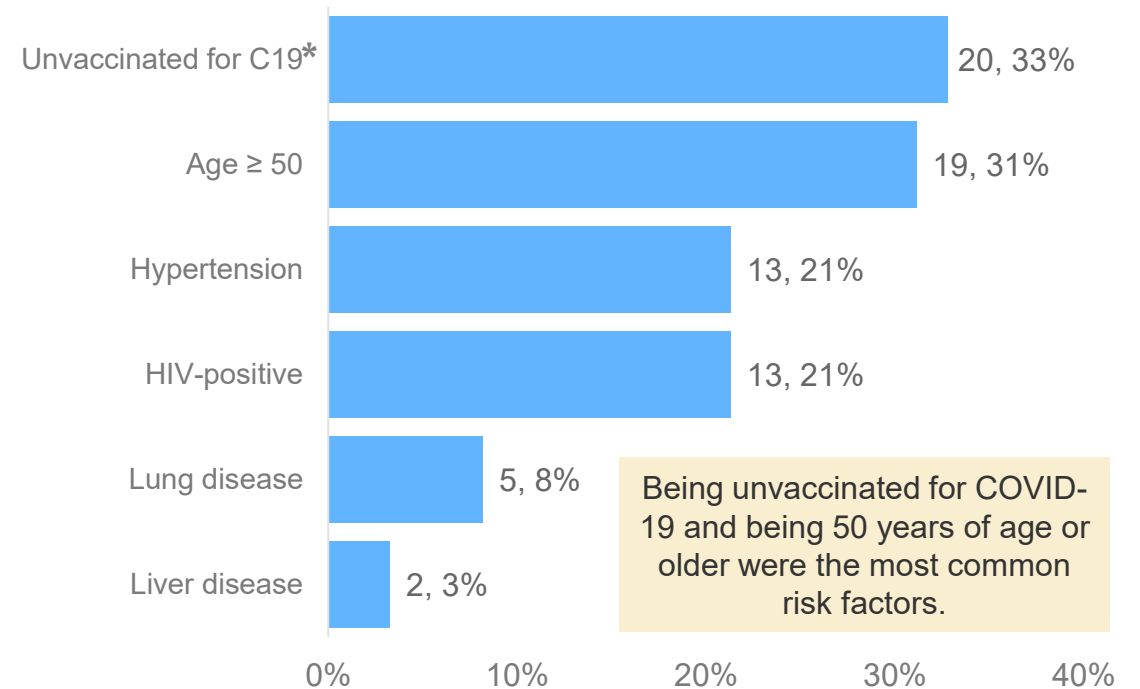
Among the 83 positives identified, 89.2% (74) were symptomatic and have data for days since symptom onset.

Categorization of time between symptom onset and presentation in facility, among symptomatic individuals with available data (n=74)



Risk factor data was available for all 83 positive participants. Among which, 73% (61) had at least 1 high-risk factor

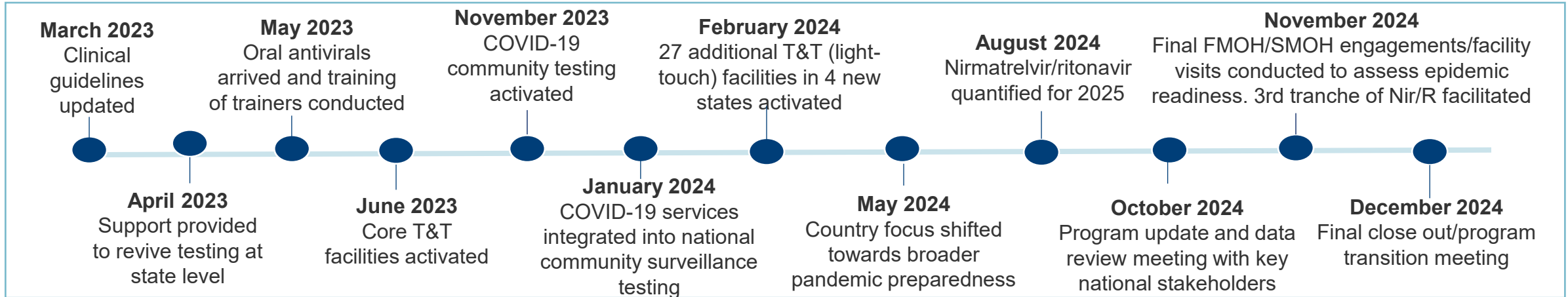
Proportion (%) of participants with each high-risk conditions among all participants with at least one high-risk condition (n=61)



*Being unvaccinated for COVID-19 was a high-risk factor uniquely included in Nigeria

While a COVID-19 response coordination unit exists, availability of T&T commodities will depend on donor support in the short to medium term

Key milestones to date



Sustainability plans for T&T access

- COVID-19 response is coordinated by the Emergency Operations Centre of the National Center for Disease Control (NCDC)..
- Reliable access to testing commodities is a major focus of sustainability efforts in the country
 - A donation of antigen tests is expected to arrive in early 2025 as a short-term option
 - CHAI engaged some SMOHs on the feasibility of leveraging available PCR and specimen referral and transport networks for targeted testing.
 - The government plans to institutionalize passive surveillance for COVID-19 and other epidemic-prone diseases via available PCR infrastructure in eight designated influenza sentinel sites.
- Access to nirmatrelvir/ritonavir in T&T facilities will continue to rely on donations, pending in-country registration and inclusion in the Nigeria EML.

Broader effort for surge preparedness

- In November 2023, a National One Health Steering Committee (NOHSC) was inaugurated to improve multisectoral stakeholder coordination for disease surveillance and national/sub-national operationalization of the country's One Health strategic plan (2019-2023).
- The FMOH and SMOHs are assessing facility readiness for health emergency response in T&T program states. The results of the assessment will inform recommendations on strengthening facility readiness in non-T&T program facilities as part of sub-national operationalization of the country's One Health strategic plan.
- The FMOH's Sector Wide Approach (SWAp) to harmonize investment in the health sector captures health security (called the NCDC gateway) under the country's Basic Health Care Provision Fund (BHCPF). When fully revamped this gateway will provide sustainable funding for national and sub-national surveillance and response to public health emergencies, including COVID-19.

Key lessons and recommendations from COVID-19 TNT that can be applied to broader pandemic preparedness and readiness efforts

Integrated disease surveillance



- The TNT program's screening/testing model (multiple entry point and bi-directional testing) enabled the effective screening/testing of COVID-19 and other diseases both in facilities and during community health outreach.
- This successful approach should be applied to existing infectious disease screening and management guidelines and protocols to include integrated screening/testing of epidemic-prone diseases at different entry points in the facility and during community health outreaches
- An integrated One Health disease screening/testing protocol should be developed for use across the human, animal and environmental health sectors

Empowering Community Structures for PPR



- Decentralizing COVID-19 testing to the community level in January and February 2024 resulted in a significant increase in the number of overall positive cases identified and the number of treatment-eligible cases linked to care in activated health facilities, compared to the preceding six months (July-December 2023). This was partly driven by the engagement and participation of key community stakeholders, such as local leaders and community health workers, in COVID-19 testing demand generation.
- Broader PPR efforts—including guidelines on surveillance (e.g., event-based surveillance), screening/testing demand generation and linkage to care—should define roles for key community stakeholders and include plans for their regular training and engagement.

Promoting investment in PPR capacities



- The stockout of donated antigen tests and nirmatrelvir/ritonavir, which halted the implementation of the T&T program in May 2024, highlights the risk of total dependence on commodity donations and the need for domestic resource mobilization for sustainable supply of essential commodities for public health emergency surveillance and response.
- Operationalization of Nigeria's One Health strategic plan should include budget lines for the long-term procurement of essential PPR commodities within national and sub-national annual budgets to be financed by domestic funding sources such as NCDC gateway of the Basic Health Care Provision Fund.

Thank you!



The Global Fund to Fight
AIDS, Tuberculosis and Malaria

+41 58 791 17 00
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