Implementation Guide: Test-to-Treat

This guide is designed as an implementation aid for policymakers, health facility leads and health program leads planning to implement Test-to-Treat for COVID-19. This pre-implementation guide provides a systematic framework to determine the contextual factors that must be considered when implementing Test-to-Treat , including the necessary policy considerations, supply chain, and medication availability for successful implementation. This guide is divided into 5 sections:

1. A clinical guidance tool of Test-to-Treat
2. A pre-implementation guide using the EPIS framework
3. A step-by-step strategy for implementation planning
4. Further resources for rapid point of care tests
5. Further resources for COVID oral antivirals

1. Clinical Guidance Tool

The COVID19 Test-to-Treat approach is designed for individuals who test positive for COVID-19, who are within 5 days of symptom onset, and who meet the clinical criteria for receiving oral therapeutics. A treatment algorithm designed to help clinicians identify eligible patients and select the applicable therapeutic at the point of care has been developed separately and is available here.

https://opencriticalcare.org/resources/usaid-global-goods-covid-19-test-to-treat-algorithm/

USAID FROM THE AMERICAN PEOPLE   STAR SUSTAINING TECHNICAL AND ANALYTIC RESOURCES   RISE Reaching Impact, Saturation, and Epidemic Control   EpiC Meeting Targets and Maintaining Epidemic Control   UCSF | CHESA chesa.ucsf.edu

2. Pre-implementation guide using the EPIS framework

This guide was developed based on the EPIS framework (see below) for implementation, grounded in the four phases of Exploration, Preparation, Implementation & Sustainment. The contextual considerations are divided between the health systems level and the service delivery venue level, providing a structured approach for further delineating the key domains within these contexts that need to be considered. Provided within the guide are details related to the service delivery venue (inner context) and the health system (outer context) which will be key considerations for successful implementation. The interconnectedness of these factors must be considered, through identification of key facilitators or bridging factors, and supported by innovative factors. Consider using the sections below as a checklist, and thus an opportunity to identify gaps, that if not addressed would impede the implementation of Test-to-Treat .

Health Systems Levels (outer context)
To effectively implement the COVID-19 Test-to-Treat approach, essential elements include governmental buy-in, adequate funding for operational support, and equitable and open access to diagnostic services. Specific considerations at the MOH/health systems-level include:

- **Leadership:** National drug regulatory authority approvals/authorizations and relevant local/national treatment guidelines endorsement of the relevant therapeutics, as well as rapid diagnostic tests for COVID-19, are needed. Early identification of MOH leaders and champion will promote integration and adoption of the intervention.
- **Service environment / Policies:** Proactive policies such as those that positively reinforce the use of rapid tests for clinical decision making are necessary to support the implementation of integrated Test-to-Treat programs within existing health care settings. These policies include decentralized testing services (including rapid diagnostic tests and self-testing) and wide availability of medications, specifically targeted at vulnerable populations.
- **Funding / Contracting:** Test-to-Treat is well-suited for settings with universal health coverage, or where the cost of medications is not prohibitive to access. Furthermore, settings where medications can be accessed without a physician prescription will remove one more barrier to accessing treatment in a timely manner. Other considerations are how the approach will fit within the range of existing funded services, cost-absorption capacity of the venues and impact on workforce stability.
- **Inter-organizational environment and networks:** The Test-to-Treat approach is also an opportunity to identify individuals with other (non-COVID) conditions. Ideally the selected service delivery venue should be able to provide onward, on-site referral for non-COVID services (i.e., TB testing). The clinical team on site must have the ability to triage COVID-19 infected individuals who may require a high level of care (i.e., patients needing supplemental oxygen, IV fluids etc.). The venue must be able to provide acute interventions to stabilize the patient and provide an onward referral in a timely manner. Lastly for COVID case management, venue should also have the oppoertunity to identify

individuals who are yet to be vaccinated or in need of a booster, and either provide vaccination or appropiate referal.

- **Patient/Client Characteristics:** Selected venues for implementation must be equipped to receive and care for patients with potential COVID-19, including having adequate PPE on hand.
- **Patient/Client advocacy:** Patients must be able to self-refer for services (e.g., arrive with their positive COVID-19 test), be able to present for care quickly after the onset of symptoms and within the five-day treatment window of symptom onset. Walk-in services are most able to meet these criteria. Targeted campaigns for demand generation and to promote community awareness will be key to ensuing client advocacy for Test-to-Treat availability and uptake.

Service Delivery Venue Consideration (inner context)

Test-to-Treat is amenable for delivery across clinic settings, ranging from community health centers, various levels of health facilities, pharmacies and mobile units. Decentralized service delivery will likely improve access, and proactive strategies to increase reach and access at the community level should be considered. Very little equipment will be needed to facilitate the intervention. Specific considerations:

- **Leadership:** Test-to-Treat as an intervention should be implemented expeditiously, therefore requiring facility leadership and administrative buy-in. Services will ideally be integrated with other primary healthcare functions or urgent care activities, requiring leadership investment and support.
- **Organizational:** Health facilities will need to make available necessary supplies and medications to participate in Test-to-Treat programs, including tests, appropriate infection prevention & control supplies, and medications for initiating treatment. Appropriate policies should be adapted at the facility level in keeping with regional and national guidelines. Facilities will need a plan for effective patient identification, initial treatment when necessary, and transfer of patients requiring a higher level of clinical care.
- **Quality monitoring:** Quality service delivery requires strategies to monitor: the supply chain, appropriate prescribing, fidelity/infidelity to the algorithm and referrals for a higher level of care. Monitoring for adverse drug reactions should be instituted, as well as guidance for patients to self-monitor for adverse events, and a well-defined self-referral pathway for patients who need higher level of care.
- **Staffing:** In keeping with local practice norms, medication can/should be prescribed by physicians, nurses or pharmacists. The minimum competencies of prescribing clinicians should be an ability to correctly identify the most appropriate therapeutic agent, the ability to detect drug-drug interactions, the ability to provide patient counseling on adverse drug events, and the ability to clinically triage individuals who need a higher level of care and thus cannot be treated under the Test-to-Treat algorithm. Staff should also be available to help with the administration and interpretation of tests. Additional

staffing models such as community health workers may be used to increase reach, especially to vulnerable populations. Strategies must be in place to provide supportive supervision and to evaluate competency in correctly identifying suitable clients. Clinical instructions on the use and cautions for specific antivirals must be provided. Community health workers may support operations in the service delivery venue, by collecting client data, screening for eligibility, as well as completion of vital signs to flag clients who have an oxygen requirement and thus will need a higher level of care.

- **Individual:** Individual patients will need to understand the signs and symptoms of COVID-19, the importance of timely diagnosis, when and how to access testing (or self-testing) for COVID19, risk factors for more severe disease progression, and availability of treatment options in their own community. Specific demand generation and outreach activities can support knowledge acquisition and information dissemination. Patients will also need clear information regarding reasons to return for evaluation or further care after initiation of treatment, whether due to worsening clinical symptoms or possible adverse drug reactions.

Facilitators (Bridging Factors)

Additional facilitators can strengthen Test-to-Treat implementation, by improving the uptake of the intervention through awareness and demand generation. Feasibility of successful programming and accessibility of the intervention will also effect uptake.

- **Community/Academic Partnership**: Consider identifying thought leaders to become early adopters and even champions of the intervention; consider their role in training venue staff but also in providing local adaptation/modifications to the Test-to-Treat algorithm.
- **Pilot Implementation/demonstration**: Additional value will be gained through pilot programs and evaluation of impact.
- **Purveyors/Intermediaries:** There must be adequate supply of needed tests, drugs and PPE at reasonable cost; ensure a local stable supply chain and that the current supply meet the needs of anticipated patients.
- **Health systems integration:** Integration of Test-to-Treat within existing COVID service delivery venues, such as COVID vaccination or testing sites.

Innovation Factors

Innovation factors are supporters or strategies that can augment implementation through design innovation and modification of human factors.

- **Fit for the system/organization/provider/patient-client:** Strategies for service integration, can Test-to-Treat be paired with rapid POC testing (including self-testing)? How can Test-to-Treat fit within existing frameworks?
- **Innovation Developers:** The development of Test-to-Treat policies, algorithms and tools must consider the context for usage, and will only be successful if feasibility is considered in development of tools.
- **Innovation Characteristics:** The testing and treatment components of Test-to-Treat must be accessible, affordable, and matched with appropriate patients.

3. A step-by-step strategy for implementation planning
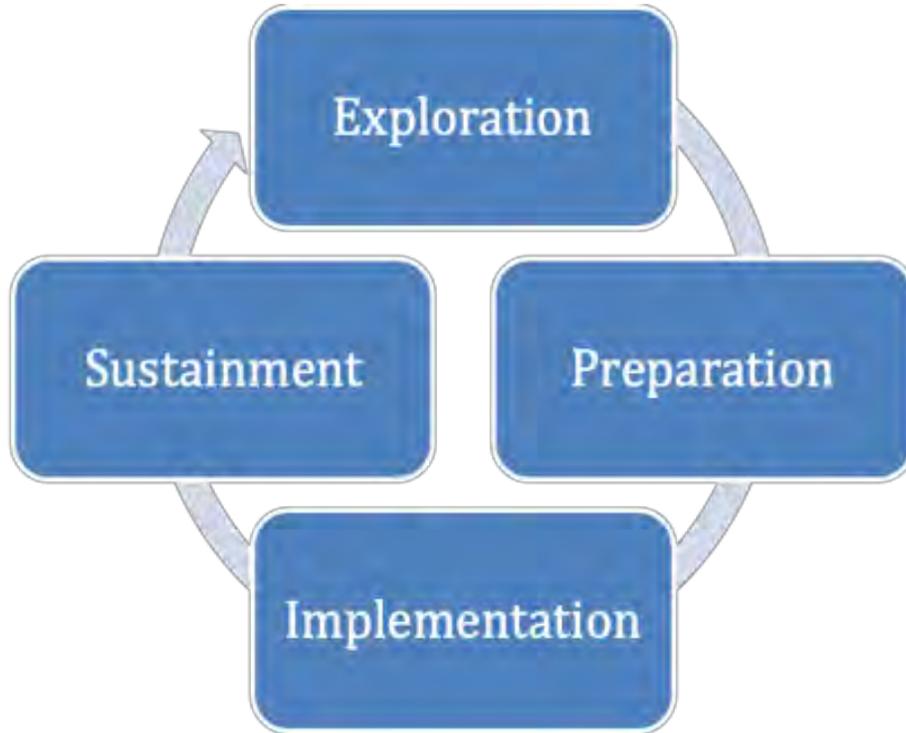
The four phases of the EPIS framework (Exploration, Preparation, Implementation and Sustainment) can be used to align with and guide the implementation process. These four phases are interconnected and can be envisioned as a cycle, but also represent critical and distinct phases of implementation. The factors listed above, including inner & outer contexts, with the bridging and innovation factors, span the phases listed below, and should be considered within the different phases.

EPIS Framework

The four phases of the EPIS framework can be envisioned as a cycle, but also represent critical and distinct phases of implementation.

Exploration

- ☐ Is there government buy-in for local Test-to-Treat implementation?
- ☐ Can the intervention be delivered with the current in-country workforce?
- ☐ Are there appropriate service delivery venues for Test-to-Treat implementation?
- ☐ What Test-to-Treat strategies exist currently to draw from?
- ☐ Are medications approved and available? At the national level? And the local level?
- ☐ Are tests, including rapid tests, approved and available? At the national level? And the local level?

Preparedness

- ☐ Identification of local champions/early adopters.
- ☐ Engage local expert and stakeholders for review of algorithm, and adaptation for the local context.
- ☐ Review the health systems and venue considerations for adequate service delivery.
- ☐ Evaluate the existing barriers, and facilitators, to Test-to-Treat .
- ☐ Determine relevant training needs in terms of triage and identification of adverse events; develop and adapt training materials as necessary.
- ☐ Develop a new product introduction strategy, incorporating local demand generation activities.

Implementation

- ☐ Develop Standard Operating Procedures.
- ☐ Conduct training for venue staff on the clinical algorithm.
- ☐ Provide training on the use of oral antivirals to clinician providers (nurses, physicians and pharmacists) to promote comfort with use of antivirals.
- ☐ Market services, with demand generation activity at the venue level.
- ☐ Define supportive supervision and quality monitoring activities.
- ☐ Develop and implement process monitoring logs, i.e., number of clients, eligibility and successful treatment dispensation.

Sustainment

- ☐ Engage MOH to support scale-up, resources and policy change.
- ☐ Integrate Test-to-Treat into existing health programs.
- ☐ Promote continued use of the new practice, and strategy for refresher training as new treatments are introduced.
- ☐ Incorporate necessary monitoring processes into MOH reporting strategies.

4. Further resources for Rapid Point of Care tests

Listed here are various resources related to COVID testing. This list is provided as a reference, and sources may change as the knowledge, evidence and guidance around testing continues to evolve.

WHO: Antigen-detection in the diagnosis of SARS-CoV-2 infection
(World Health Organization; updated 6 October 2021; last accessed 17 May 2022; Interim guidance offering recommendations on the priority uses of antigen-detecting rapid diagnostic tests (Ag-RDTs) in specific populations and settings)

Rockefeller Foundation: Dashboard/COVID-19 Diagnostics
(The Rockefeller Foundation; last accessed 17 May 2022; interactive dashboards provides users with a mechanism to sort and filter three separate databases using key product features (including diagnostic target, platform type, sensitivity, specificity, time to results, throughput, etc.)

5. Further resources for COVID oral antivirals

Listed here are various resources related to COVID treatment. This list is provided as a reference, and sources may change as the knowledge, evidence, and guidance around medications and treatment options for COVID continues to evolve.

IDSA Guidelines on the Treatment and Management of Patients with COVID-19
(Infectious Disease Society of America; updated 10 May 2022; last accessed 17 May 2022; recommendations with comments related to the clinical practice guideline for the treatment and management of COVID-19)

NIH Guidelines on Therapeutic Management of Nonhospitalized Adults With COVID-19
(National Institutes of Health; updated 8 April 2022; last accessed 17 May 2022; therapeutic management of nonhospitalized adults with COVID-19)

WHO Therapeutics and COVID-19 Living Guideline
(World Health Organization; updated 22 April 2022; last accessed 17 May 2022; contains the WHO's most up-to-date recommendations for the use of therapeutics in the treatment of COVID-19)

University of Liverpool COVID-19 Drug Interactions
(University of Liverpool; last accessed 17 May 2022; tool to identify COVID-19 drug interactions)

[IDSA Management of Drug Interactions With Nirmatrelvir/Ritonavir (Paxlovid®): Resource for Clinicians](#)
(Infectious Disease Society of America; updated 6 May 2022; last accessed 17 May 2022; resource for clinicians to manage drug interactions with Nirmatrelvir/Ritonavir (Paxlovid®)

[Paxlovid™ (nirmatrelvir/ritonavir) Healthcare Provider Fact Sheet](#)
(Pfizer, Inc.; last accessed 17 May 2022; emergency use Paxlovid™ (nirmatrelvir/ritonavir) fact sheet for healthcare providers)

[PAXLOVID Patient Eligibility Screening Checklist Tool for Prescribers (fda.gov)](#)
(U.S. Food and Drug Administration; updated 4 May 2022; last accessed 17 May 2022; checklist is intended as an aid to support clinical decision making for prescribers)

[Lagevrio™ (molnupiravir) Healthcare Provider Fact Sheet](#)
(Merck & Co., Inc.; last accessed 17 May 2022; emergency use Lagevrio™ (molnupiravir) fact sheet for healthcare providers)

[Monupiravir Screening Eligibility Checklist Tool for Prescribers (fda.gov)](#)
(U.S. Food and Drug Administration; updated 4 May 2022; last accessed 17 May 2022; Monupiravir Screening Eligibility Checklist Tool for Prescribers)

[Nirmatrelvir/Ritonavir (Paxlovid): What Prescribers and Pharmacists Need to Know - Ontario COVID-19 Science Advisory Table (covid19-sciencetable-ca)](#)
(Ontario COVID-19 Science Advisory Table; published 23 February 2022; last accessed 17 May 2022; PaxlovidTM (nirmatrelvir/ritonavir) fact sheet for prescribers and pharmacists)

[USAID Global Goods Test-to-Treat Algorithm](#)
(U.S Agency for International Development Global Goods; last accessed 17 May 2022; algorithm is intended to help clinicians at the point of care initiate oral antiviral treatment for COVID-19. Based on efficacy data, nirmatrelvir/ritonavir (NMV/r) is the preferred agent, followed by molnupiravir)

[USAID Open Critical Care COVID-19 Guidelines Dashboard](#)
(U.S Agency for International Development Global Goods; last accessed 17 May 2022; dashboard is intended to help clinicians at the point of care see the latest COVID19 treatment guidelines from leading authorities and institutions from diverse practice settings.