

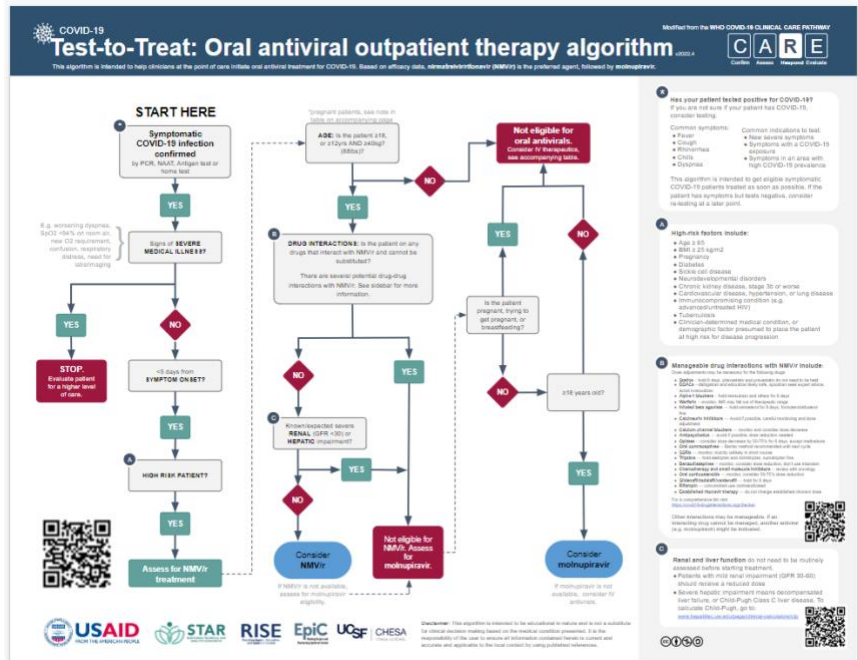
Implementation Guide: Test to Treat

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. It provides a systematic framework to determine the contextual factors that must be considered when implementing Test to Treat, including the policy considerations, prescribers' continuing education (through clinical grand rounds, postgraduate educational series, etc.), supply chain, and medication availability for successful implementation. The guide is presented in five sections:

1. Clinical Test-to-Treat guidance tool
2. Pre-implementation guide using the Exploration, Preparation, Implementation, Sustainment (EPIS) framework
3. Step-by-step strategy for implementation planning
4. Further resources for rapid point-of-care tests
5. Further resources for COVID-19 oral antivirals

1. Clinical Guidance Tool

The COVID-19 Test-to-Treat approach is designed for individuals who test positive for COVID-19, are within five days of symptom onset, and meet the clinical criteria for receiving oral antiviral therapeutics. A treatment algorithm designed to help clinicians identify eligible patients and select the applicable oral antivirals at the point of care has been developed separately and is available [here](https://opencriticalcare.org/resources/usaaid-global-goods-covid-19-test-to-treat-algorithm/).¹



¹ <https://opencriticalcare.org/resources/usaaid-global-goods-covid-19-test-to-treat-algorithm/>



2. Pre-implementation Guide Using the EPIS Framework

This guide is based on the EPIS framework (see section 3) for implementation, grounded in the four phases of exploration, preparation, implementation, and sustainment. Contextual considerations are categorized as health systems level (outer context) or service delivery venue level (inner context), providing a structured approach for further delineating the key domains within these contexts. Included in the guide are details related to both contexts that are critical to 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 following as a checklist, and thus as an opportunity to identify gaps that if not addressed would impede the implementation of Test to Treat.

Health Systems Level (Outer Context)

Effectively implementing the COVID-19 Test-to-Treat approach requires governmental buy-in, adequate funding for operational support, and equitable and open access to diagnostic services and treatment. Specific considerations at the ministry of health (MOH)/health systems level include the following:

- **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 champions 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), health cadre prescribing flexibility, and wide availability of medications, with a focus on 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, allowing non-physicians to prescribe medications 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.
- **Interorganizational environment and networks:** The Test-to-Treat approach is also an opportunity to identify individuals with other (non-COVID-19) conditions. Ideally, the selected service delivery venue will be able to provide ongoing, onsite referral for non-COVID-19 services (e.g., TB testing). The onsite clinical team must have the ability to triage COVID-19 patients who require a high level of care (i.e., need supplemental oxygen, IV fluids, etc.). The venue must be able to provide acute interventions to stabilize patients and provide referrals in a timely manner. Lastly, for COVID-19 case management, the venue should also identify individuals who have not been vaccinated or need a booster, and provide either vaccination or appropriate referral.



- **Patient/client characteristics:** Selected implementation venues must be equipped to receive and care for clients with potential COVID-19, including having adequate personal protective equipment (PPE) on hand.
- **Patient/client advocacy:** Clients must be able to self-refer for services (e.g., arrive with their positive COVID-19 test), and present for care within the five-day oral antiviral treatment window of symptom onset. Most walk-in services can serve clients who meet these criteria. Targeted demand-generation and community awareness campaigns will be key to ensuring client advocacy for Test-to-Treat availability and uptake.

Service Delivery Venue Consideration (Inner Context)

Test to Treat is amenable for delivery across clinical settings, including community health centers, primary health care clinics, hospitals, vaccination sites, telemedicine, 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. The following are specific considerations for implementation at this level:

- **Leadership:** Test to Treat should be implemented expeditiously, and therefore requires facility leadership and administrative buy-in. Services will ideally be integrated with other primary health care functions or urgent care activities, requiring leadership investment and support.
- **Organizational:** Health facilities will need to provide necessary materials to participate in Test-to-Treat programs, including tests, appropriate infection prevention and control supplies, and medications for initiating treatment (or establish referral systems to local pharmacies where medications are available). Appropriate policies should be adopted at the facility level in keeping with regional and national guidelines, and updated in a timely manner. Facilities will need to ensure prescribers' knowledge is up to date as newer antivirals are approved. Health facilities must also have a strategy for screening and triaging clients, with plans for effective client 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 to higher levels of care. Facilities should institute monitoring for adverse drug reactions, and provide guidance for clients to self-monitor for adverse events and a well-defined self-referral pathway for patients needing higher levels of care. Lastly, to ensure safe and effective use of medications, facilities should adopt strategies to support the identification of medication-related errors and harm through a client safety incident reporting system, and a pharmacovigilance system to monitor progress in reducing medication-related harm at the facility. These activities ideally would be integrated within existing pharmacovigilance interventions.
- **Staffing:** In keeping with local practice norms, medications can/should be prescribed by physicians, nurses, or pharmacists who have the medical knowledge to correctly identify



potential drug interactions/contraindications and counsel the patient effectively on the medication's safe use and identification of adverse events. The minimum competencies of prescribing clinicians should be an ability to (1) assess eligibility by evaluation of medical history and tests results (e.g., pregnancy), (2) correctly identify the most appropriate therapeutic agent, (3) detect drug-drug interactions and contraindications, (4) counsel patients on adverse drug events, and (5) 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.

A multidisciplinary team approach will be the most effective strategy to support Test-to-Treat scale-up. Additional staff, such as community health workers, may be used to increase reach, especially to vulnerable populations. Community health workers can also support service delivery by collecting client data, screening for eligibility, and measuring vital signs to flag clients who have an oxygen requirement and thus will need a higher level of care. Strategies must be in place to provide supportive supervision and evaluate competency in correctly identifying suitable clients. Clinical instructions on the use and cautions for specific antivirals must be provided.

- Individuals:** Individual clients will need to understand the signs and symptoms of COVID-19 (e.g., fever or chills, cough, shortness of breath, or difficulty breathing), the importance of timely diagnosis, when and how to access testing (or self-testing) for COVID-19, risk factors (e.g., obesity, diabetes, HIV, and age) for more severe disease progression, and treatment options in their community. 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 uptake of the intervention through awareness and demand generation. Feasibility of successful programming and accessibility of the intervention will also affect uptake. Facilitators include the following:

- Community/academic partnerships:** Consider identifying thought leaders to become early adopters and even champions of the intervention. Consider their role in training venue staff and 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:** A local stable supply chain is important to ensuring adequate supply of tests, drugs, and PPE at reasonable cost to meet the needs of anticipated patients. Use existing pharmacovigilance programs and adverse event reporting systems that can integrate COVID-19 antivirals into their data collection and reporting structure.
- Health systems integration:** Integrate Test to Treat within existing COVID-19 service delivery venues, such as COVID-19 vaccination or testing sites.



Innovation Factors

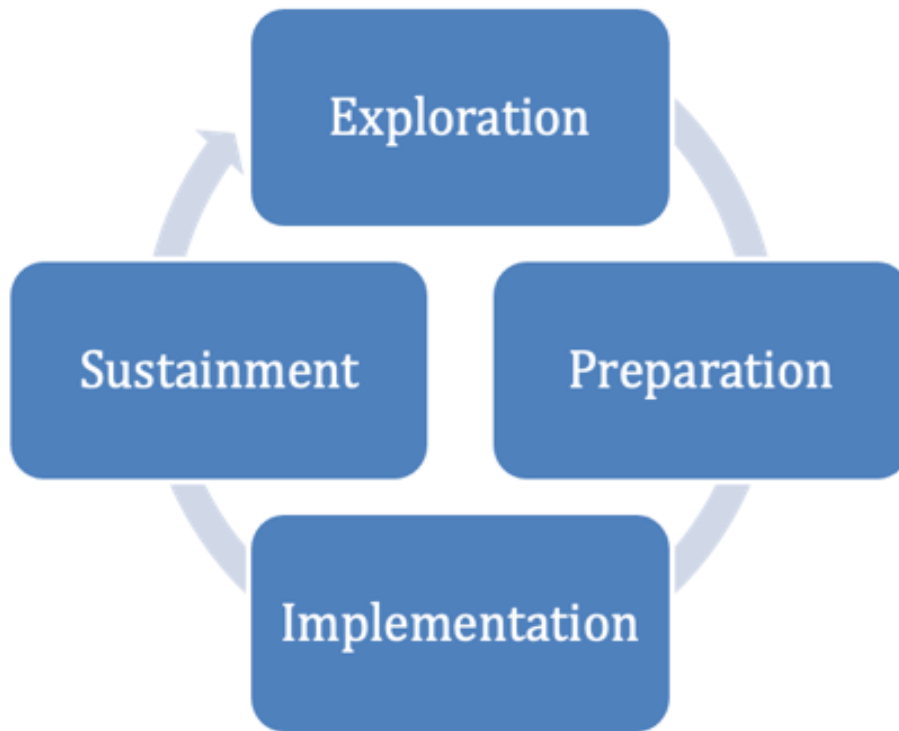
Innovation factors are supporters or strategies that can augment implementation through design innovation and modification of human factors:

- **Fit for the system/organization/provider/patient-client:** Strategies for service integration should consider how Test to Treat can be paired with rapid point-of-care testing (including self-testing) and how the approach fits within existing frameworks.
- **Innovation developers:** For implementation to be successful, the development of Test-to-Treat policies, algorithms, and tools must consider feasibility as well as usage context.
- **Innovation characteristics:** The testing and treatment components of Test to Treat must be accessible, affordable, and matched with appropriate patients.



3. Step-by-Step Strategy for Implementation Planning

The four phases of the EPIS framework can be used to guide the implementation process. As the diagram illustrates, these four interconnected phases can be envisioned as a cycle; however, they also represent critical and distinct phases of implementation. The factors described in the previous section should be considered within these 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 a 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 existing Test-to-Treat strategies can the implementation draw from?
- Are medications approved and available? At the national level? At the local level?
- Are tests, including rapid tests, approved and available? At the national level? At the local level?

Preparedness



- Identification of local champions/early adopters.
- Engage local experts and stakeholders to review the algorithm and adapt it to 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 activities at the venue level.
- Define supportive supervision and quality monitoring activities.
- Develop and implement process monitoring logs (e.g., number of clients, eligibility, and successful treatment dispensation).

Sustainment



- Engage the MOH to support scale-up, resources, and policy change.
- Engage professional organizations and academia to support continuing education.
- Integrate Test to Treat into existing health programs.
- Promote continued use of the new practice and a strategy for refresher training as new treatments are introduced.
- Incorporate necessary monitoring, gaps identification, and quality improvement processes into health facilities and MOH data assessment and reporting strategies.



4. Further Resources for Rapid Point-of-Care Tests

The following are resources related to COVID testing. Resources are provided as a reference, and sources may change as the knowledge, evidence, and guidance around testing continues to evolve.

[Antigen-Detection in the Diagnosis of SARS-CoV-2 Infection](#)

World Health Organization; updated October 6, 2021; last accessed May 17, 2022

Interim guidance offering recommendations on the priority uses of antigen-detecting rapid diagnostic tests (Ag-RDTs) in specific populations and settings.

[Dashboards: COVID-19 Diagnostics](#)

The Rockefeller Foundation; last accessed May 17, 2022

Interactive dashboards providing a mechanism to sort and filter three separate databases using key product features (including diagnostic target, platform type, sensitivity, specificity, time to results, and throughput).



5. Further Resources for COVID-19 Oral Antivirals

The following are resources related to COVID-19 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-19 continue to evolve.

[IDSA Guidelines on the Treatment and Management of Patients with COVID-19](#)

Infectious Disease Society of America (IDSA); updated May 10, 2022; last accessed May 17, 2022

Recommendations with comments related to the clinical practice guideline for the treatment and management of COVID-19.

[Therapeutic Management of Nonhospitalized Adults With COVID-19](#)

National Institutes of Health (NIH); updated April 8, 2022; last accessed May 17, 2022

NIH guidelines for the therapeutic management of nonhospitalized adults with COVID-19.

[Therapeutics and COVID-19 Living Guideline](#)

World Health Organization (WHO); updated April 22, 2022; last accessed May 17, 2022

Contains WHO's most up-to-date recommendations for the use of therapeutics in the treatment of COVID-19.

[COVID-19 Drug Interactions](#)

University of Liverpool; last accessed May 17, 2022

Tool to identify COVID-19 drug interactions.

[Management of Drug Interactions with Nirmatrelvir/Ritonavir \(Paxlovid®\): Resource for Clinicians](#)

Infectious Disease Society of America; updated May 6, 2022; last accessed May 17, 2022

Resource for clinicians to manage drug interactions with nirmatrelvir/ritonavir (Paxlovid®).

[Paxlovid™ \(nirmatrelvir/ritonavir\) Healthcare Provider Fact Sheet](#)

Pfizer, Inc.; last accessed May 17, 2022

Emergency use Paxlovid™ (nirmatrelvir/ritonavir) fact sheet for health care providers.

[PAXLOVID Patient Eligibility Screening Checklist Tool for Prescribers](#)

U.S. Food and Drug Administration; updated May 4, 2022; last accessed May 17, 2022

Checklist intended as an aid to support clinical decision-making for prescribers.

[Fact Sheet for Healthcare Providers: Emergency Use Authorization for Lagevrio™ \(molnupiravir\) Capsules](#)

Merck & Co., Inc.; last accessed May 17, 2022

Emergency use of Lagevrio™ (molnupiravir) fact sheet for health care providers.



Test-to-Treat: Oral antiviral outpatient therapy algorithm

v2022.4



[Molnupiravir Checklist Tool for Prescribers: Patient Eligibility](#)

U.S. Food and Drug Administration; updated May 4, 2022; last accessed May 17, 2022
Molnupiravir screening eligibility checklist tool for prescribers.

[Nirmatrelvir/Ritonavir \(Paxlovid\): What Prescribers and Pharmacists Need to Know](#)

Ontario COVID-19 Science Advisory Table; published February 23, 2022; last accessed May 17, 2022
Paxlovid™ (nirmatrelvir/ritonavir) fact sheet for prescribers and pharmacists.

[USAID Global Goods: COVID-19 Test-to-Treat Algorithm](#)

U.S Agency for International Development Global Goods; last accessed May 17, 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.

