

USAID Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program

Improved Access.
Improved Services.
Better Health Outcomes.



Malagasy Central Medical Analysis Laboratory (LA2M) representatives installing diagnostic equipment in Fianarantsoa peripheral LA2M. December 6, 2023. Photo credit: MTaPS Madagascar

MTaPS COUNTRY SUMMARY REPORT MADAGASCAR (2022–2024)

About USAID MTaPS

The US Agency for International Development (USAID) Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program (2024–2025) enables low- and middle-income countries to strengthen their pharmaceutical systems, which are essential to establishing higher-performing health systems and achieving better health outcomes. The program is implemented by a consortium of global and local partners, led by Management Sciences for Health (MSH), a global health nonprofit.

Learn more at <https://www.mtapsprogram.org/>

INTRODUCTION

The USAID MTaPS program enables low- and middle-income countries to strengthen their pharmaceutical systems, which are critical for ensuring access to and appropriate use of safe, effective, quality-assured, affordable medicines, vaccines, health technologies and products, and related pharmaceutical services to improve health. MTaPS' objectives are to (1) strengthen pharmaceutical sector governance; (2) increase institutional and human resource capacity for pharmaceutical management and services, including regulation of medical products; (3) increase availability and use of pharmaceutical information for decision making and advance the global learning agenda; (4) optimize pharmaceutical sector financing, including resource allocation and use; and (5) improve pharmaceutical services, including product availability and patient-centered care, to achieve desired health outcomes.

MTaPS employs a pharmaceutical system–strengthening (PSS) approach to identify and implement strategies and actions that achieve coordinated and sustainable improvements of a pharmaceutical system to make it more responsive and resilient for achieving better health outcomes. The MTaPS approach emphasizes locally led development, country ownership, and self-reliance to support countries on the pathway to sustainability.

At the country level, the MTaPS approach is adapted to the specific context, national health system–strengthening strategies, and USAID's vision and support. In Madagascar, from 2022 to 2024, MTaPS provided technical assistance to the Ministry of Public Health (MOPH) to improve governance and management of the COVID-19 Response Mechanism (C19RM) launched by the Global Fund (GF) to address the challenges posed by the pandemic. The program strengthened pharmaceutical systems and services in the areas of Governance, Capacity, Information Systems, and Supply Chain, which primarily corresponded to Laboratory Systems and Coordination of Operations result areas in the USAID's COVID-19 Response Framework.¹



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CHALLENGES

- Only 26% of C19RM funds utilized from 2020 to 2022
- Limited staffing and capacity at national referral and peripheral laboratories
- Critical improvements needed for LIS and COVID-19 rapid diagnostic test (RDT) distribution for pandemic response
- Inadequate monitoring and evaluation (M&E) of the National Strategic Plan for Laboratory Development (PSNDL), technical manual, and standard operating procedure (SOP) implementation



PARTNERS

- Global Fund (GF)
- Country Coordinating Mechanism (CCM) for the GF
- GF Scaling-up Testing and Strengthening Lab Systems (STELLAR) project
- MOPH Directorates of Care Provision (DGFS), Preventive Medicine (DGMP), Resources (DGR); Pharmacy, Laboratories and Traditional Medicine (DPLMT), Communicable Disease Control (DLMT), Health and Epidemiological Surveillance and Response (DVSSER); Studies, Planning and Information System (DEPSI), Professional Training (SFP), Expanded Vaccination Program (DPEV), and Basic Health Care (DSSB)
- MOPH Project Coordination Unit (UCP)
- Malagasy Medical Analysis Laboratory (LA2M)
- Mérieux Foundation
- National Central Medical Warehouse (SALAMA)
- National Disease Control Programs: Tuberculosis (TB), Malaria, Sexually Transmitted Infections and HIV/AIDS
- Pasteur Institute of Madagascar (IPM)
- World Bank (WB)
- World Health Organization (WHO)
- USAID's Infectious Disease Detection and Surveillance (IDDS) project

COUNTRY CONTEXT

The GF's C19RM aimed to strengthen national response to the COVID-19 pandemic, yet the absorption capacity of these funds was low. From 2020 to 2022, Madagascar managed to utilize only an average of 26% of the total funds awarded, which highlighted a critical gap in operational efficiency and underscored the necessity for enhanced management and organizational capabilities. Recognizing these challenges, the Malagasy government proactively sought to strengthen its COVID-19 diagnostic capabilities by establishing the Malagasy Central Medical Analysis Laboratory (LA2M) at both the central and peripheral levels. However, for these laboratories to function optimally and effectively contribute to the national COVID-19 response, significant improvements were needed in the Laboratory Information System (LIS) and their networking capabilities, as well as integrating supply chain activities to improve the quantification and distribution of COVID-19 RDTs, which directly impacted the country's ability to conduct widespread testing, a cornerstone in controlling the pandemic's spread.

Other critical tasks included establishing electronic data exchange between the national reference laboratory and regional surveillance laboratories, requiring the development of SOPs and LIS; and monitoring and evaluating the PSNDL to gauge its mid-term progress and assess the effectiveness of strategies implemented under the plan to improve Madagascar's health care response to COVID-19 and future health crises.

STRATEGIC APPROACH

The MTaPS approach to enhancing Madagascar's capacity to respond to the COVID-19 pandemic is based on USAID's COVID-19 Global Response and Recovery Framework, and international evidence-based guidelines, including the quality and competency requirements for medical laboratories established by the International Organization for Standardization (ISO 15189), which are used by the World Health Organization (WHO) on a global scale, and the guidance for COVID-19 antigen testing provided by US Centers for Disease Control and Prevention (CDC).^{1,2,3}

MTaPS' strategic approach centers on reinforcing existing health systems and leveraging established infrastructure and expertise; supporting national government coordination and regulatory bodies to develop and implement relevant policies and regulations; alignment with national strategies (e.g., PSNDL 2021–2025); promoting interagency collaborative mechanisms to ensure broad technical consensus; assuring participatory mechanisms for all methods, tools, and development of materials; building in required and refresher training provisions and quality management systems (QMS); developing record systems to support accountability; and periodic compliance monitoring as per the developed SOPs. MTaPS' strategic approach also underscores the need for M&E to measure the system's performance and capacity to ensure progress toward the country's strategic health goals.

KEY MILESTONES

2022

- Improved governance of the C19RM fund with significant increase in the absorptive rate from 26% to 62%
- Published manuals and guidelines for COVID-19 RDTs and GeneXpert platform, including machine mapping

2024

- The LA2M LIS, networking, and coordination three-year improvement plan, with a focus on QMS, has been approved by the MOPH
- Training and training of trainers (TOT) materials and tools for integrated laboratory supply management for COVID-19, TB, malaria, and HIV developed for laboratory workers

2023

- Mid-term M&E report on PSNDL (2021–2025) implementation to inform Plan adjustment
- Six-month action plan approved for improvement of central LA2M

KEY RESULTS

Working in collaboration with MOPH and other stakeholders, MTaPS supported Madagascar in achieving the following key results:

Governance

- The C19RM fund is now functioning more optimally, following improvements in management processes, governance structures, and the clear definition of roles and responsibilities for all stakeholders involved: UCP, DGFS, DPLMT, DVSSER, and LA2M, as a result of applying the Responsible, Accountable, Consulted, and Informed (RACI) matrix to fund both management and the laboratory commodities supply chain.
- The C19RM fund absorption rate increased from 26% to 62% after 1 year, following the implementation of an institutional capacity building plan for the UCP-C19RM principal recipient (PR), as well as sub-recipients (SRs) and beneficiaries at the health facility level, which has improved their capacity to mobilize and utilize resources.
- M&E of PSNDL 2021–2025 improved, particularly in LA2M and clinical biology labs development, due to coordinated LA2M and DPLMT efforts, aligned partner activities, biannual meetings, and proactive information sharing, reducing duplication of effort and optimizing resource use.

Capacity

- Key MOPH personnel, including PR and SR, empowered through the Leadership Development Program Plus (LDP+), focused on C19RM fund management, which enabled rational use of funds, further cascaded training, and contributed to the improvement of the C19RM fund's absorption rate.
- Central and peripheral LA2M personnel, trained on the roles of the National Reference Laboratory (NRL) and the implementation of QMS through the LDP+ program, have contributed to improved laboratory performance and ensured compliance with national and international standards.
- Standardized supply chain management processes for integrated procurement of laboratory commodities at the MOPH have been adopted, preventing shortages and overstocking.
- Harmonized laboratory logistics management across 14 USAID-supported regions through cascaded training for personnel from central to district levels, effectively addressing previous disparities in supply management.

C19RM fund absorption rate increased from 26% to

62%
after 1 year of
MTaPS support

110

laboratory
technicians



(60 male, 50 female) trained in COVID-19 testing and specimen transport with USG support, including



63 lab
technicians

from 21
regions and

50 districts, along with 27 members of regional training offices and the central level, and 20 LA2M personnel.

135 health workers

across 14 USAID-supported



regions trained in logistics and management of laboratory supplies,

reducing disparities in supply management



23

policies, protocols, standards, and guidelines adopted with MTaPS support for COVID-19



Information Management

- MOPH-developed guidelines on laboratory data integration and management harmonized national DHIS2 software reporting mechanisms for malaria, HIV/AIDS, TB, and COVID-19.
- Road map developed based on LA2M’s assessment of laboratories (LIS, data, and QMS) to guide future improvements in laboratory efficiency.
- LA2M’s information and networking systems strengthened through a three-year mobilization plan aimed at enhancing surveillance and laboratory organization for prompt outbreak response, including assistance in software selection that aligns with technical specifications and SOPs to ensure long-term system sustainability.



For the Malagasy Ministry of Public Health, specifically through the Department of Malagasy Medical Analysis Laboratories and the Department of Pharmacy, Laboratories, and Traditional Medicine, the support provided by the USAID MTaPS program in standardizing the management of laboratory supplies across all health structure levels is essential to ensure permanent availability and avoid overstocking of these laboratory supplies. I extend my gratitude to the American people and the MTaPS program for making this training possible. Your efforts and continuous support are helping to improve the supply chain, as well as laboratory management in the country.”

*Dr. Andriatiaray Rija Niaina Ramarolahy
General Director of Health Care Supply, MOPH*



In response to the COVID-19 crisis, the Malagasy government, with support from MTaPS, established a NRL network, centered on the LA2M and its regional branches, to expedite pandemic containment.

A critical element of MTaPS’ assistance was enhancing LA2M’s digital infrastructure, particularly its LIS, to improve diagnostic processes and ensure rapid data flow to decision makers. MTaPS’ role included conducting assessments of all LA2M laboratories using WHO tools, which informed a road map for central QMS enhancements and a plan for an integrated LIS network. Establishing detailed technical specifications and SOPs was key to ensuring the sustainability of LA2M’s operational achievements. The improved diagnostic capabilities now allow for near real-time laboratory result dissemination, critical for managing diseases with pandemic potential. The MTaPS and LA2M collaboration has established a strategic and sustainable model for enhancing Madagascar’s public health system.



LA2M central and peripheral key staff receiving LDP+ training focused on NRL subjects. January 13, 2024. Photo credit: MTaPS Madagascar

PATHWAY TO SUSTAINABILITY

MTaPS provides technical guidance and supports countries in establishing strategic direction and development of critical capacities on a pathway to sustainable and resilient pharmaceutical systems. Through its activities in country, MTAps strengthened the capacity of local governments and organizations (public, private, and civil society) for improved, locally led, and more sustainable pharmaceutical service delivery, as highlighted below:

- The RACI matrix developed and adopted by the PR and SR, which clarifies roles and responsibilities for managing the C19RM fund across 14 USAID-supported regions, is now ready for adoption by the remaining regions of Madagascar.
- Leveraging COVID-19 funds, Malagasy health facilities now uniformly manage laboratory supplies for all diseases, including malaria, TB, and HIV, guided by a widely disseminated manual and supported by 135 trained personnel across all levels, ensuring DPLMT and LA2M's sustainable laboratory management approach.
- The MOPH/LA2M's LIS networking plan, collaboratively developed with stakeholders and designed for DHIS2 interoperability, illustrates a scalable and sustainable model for national application and a significant systemic improvement.
- Customized LDP+ training for LA2M's key personnel not only establishes a replicable model for lab technician training but also ensures its transfer to local partners across the country.
- The MOPH's adoption of a systematic quality improvement strategy, supported by regular meetings between MOPH representatives, laboratory technical working group, and financial and technical partners, including the GF, to monitor the PSNDL, underscores its commitment to continuous improvement and oversight.

RECOMMENDATIONS

- MOPH to update legal frameworks to strengthen lab regulatory systems, and to support LA2M's role as NRL.
- MOPH to prioritize human resources capacity development for the laboratory network.
- MOPH to strengthen leadership and structural efficiency in laboratory management for improved decision making, optimal use of resources, and service quality.
- MOPH, LA2M, and DPLMT should enhance resource mobilization and management (HR, equipment, supplies, finances) for optimal efficiency and improved outcomes.
- LA2M and DPLMT to ensure widespread use of LIS plans, procurement guidelines, and training materials.
- LA2M and DPLMT should implement a comprehensive QMS aligned with ISO 15189 quality and competence standards.
- LA2M, with DEPSI support, to continue advancing laboratory operations by completing digitalization of information management systems.
- LA2M to intensify coaching and supervision of laboratory staff to ensure quality and consistency in the work of peripheral surveillance laboratories.
- USAID to continue providing technical assistance to MOPH to enhance the decision makers' knowledge and competencies in laboratory operations, including equipment acquisition, maintenance, and technical specifications.

FUTURE CONSIDERATIONS

- Implementation of advanced LIS upgrades for real-time data sharing and emergency response readiness across all health facilities is very important for timely decision making and improved health outcomes as part of future pandemic preparedness.
- Establishing contingency plans for health commodity supplies is vital to maintaining uninterrupted access to essential medicines and health products during emergencies or unforeseen disruptions.
- Empowering local governments to manage an integrated supply chain for medicines and laboratory commodities covering all diseases is essential for sustainable health and PSS.
- Leveraging the private sector can increase pandemic preparedness and response, offering innovative solutions and additional resources to meet public health needs.
- Improving regulatory systems is a critical component of health system strengthening for assuring the quality, safety, and effective use of laboratory commodities, which can improve public trust and overall health outcomes.

REFERENCES

1. USAID. [USAID Implementation Plan For The U.S. COVID-19 Global Response And Recovery Framework](#) (last updated in 2023).
2. ISO. [ISO 15189:2022 Medical laboratories: Requirements for quality and competence](#). December 2022.
3. US CDC. [Considerations for SARS-CoV-2 Antigen Testing for Healthcare Providers Testing Individuals in the Community](#). May 2023.

RECOMMENDED CITATION

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