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m-mama EMERGENCY TRANSPORT: NATIONATIONAL SCAPE-UP

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m-mama EMERGENCY TRANSPORT: NATIONAL SCALE-UP

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ACRONYMS

ACRONYM	DEFINITION
3DM	Three delays model
ANC	Antenatal care
BEmONC	Basic Emergency Obstetric and Newborn Care
CEmONC	Comprehensive Emergency Obstetric and Newborn Care
CQI	Continuous Quality Improvement
DC	District Council
EmTS	Emergency Transportation System
GoT	Government of Tanzania
IPs	Implementing partners
ICT	Information Communication Technology
LGAs	Local Government Authorities
MOH	Ministry of Health
M&E	Monitoring and evaluation
MMR	Maternal mortality rate
NGO	Non-governmental organization
PO-RALG	President's Office Regional Administration and Local Government
RCs	Regional Councils
SDGs	Sustainable Development Goals
TA	Technical Assistance
USAID	United States Agency for International Development

THE STATE OF MATERNAL AND NEONATAL HEALTH IN TANZANIA

In the past decade, Tanzania made significant improvements in the availability, access, and quality of maternal and neonatal health services. However, maternal, and neonatal mortality rates have not declined as expected.

MATERNAL MORTALITY RATES

In Tanzania, maternal mortality contributes to over 5% of deaths among women of childbearing age[1]; with the leading causes of death being: postpartum hemorrhage, preeclampsia, and anemia.[2] While maternal mortality rates (MMR) have steadily declined from 854 in 2000 to 524 in 2017[3], Tanzania still has to make significant strides to achieve national and global targets.

From 2010 to 2020 the neonatal mortality ratio has decreased by **19.3% ↓**

Global Sustainable Development Goal (SDG) 3 includes reducing maternal mortality to less than 70 per 100,000 live births by 2030. In 2016, Tanzania's goal was to reduce MMR to 292 by 2020 and to a level that is not higher than 140 per 100,000 by 2030.[4] The Ministry of Health (MOH) suggested in its 2021 Health Sector Strategic Plan that the 2020 goal was not met; the 2030 goal may still be reachable if maternal and neonatal interventions are expanded significantly.[4]

5% + deaths among women of childbearing age due to maternal mortality

NEONATAL MORTALITY RATES

In 2020, the Tanzania neonatal mortality rate (NMR) was estimated to be 20 deaths per 1, 000 live births,[5] still far from the SDG target of reducing NMRs to 12 per 1,000 live births.[4] The leading causes of neonatal deaths were birth asphyxia, preterm births and sepsis.[2]

From 2010 to 2020 the neonatal mortality ratio decreased by 19% [6]. However, data from 2020 indicates that the quality of neonatal care still needs significant improvement. For example, 61% of health facilities had the ability to offer newborn resuscitation, kangaroo mother care[7] was offered at only 34% of health facilities, and 41% of health facilities offered injectable antibiotics for neonatal sepsis.[2]

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[1] Sunguya, B.F., Mlunde, L.B., Njiro, B.J., & Munishi, C.G. (2022). Endline Evaluation of the m-mama Program on Strengthening Health Systems to Reduce Maternal Mortality and Morbidity in Shinyanga Region, Tanzania: Endline Evaluation Report. Touch Foundation

[2] Ministry of Health, Community Development, Gender, Elderly and Children. (2021). National Plan for Reproductive, Maternal, Newborn, Child and Adolescent Health and Nutrition (2021/2022 -2025/2026): One Plan III. Ministry of Health, Community Development, Gender, Elderly and Children.

[3] Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. Geneva: World Health Organization; 2019. Licence: CC BY-NC-SA 3.0 IGO

[4] Ministry of Health, Community Development, Gender, Elderly and Children. (2021). *Health Sector Strategic Plan: July 2021-June 2026 (HSSP V) - Leaving No One Behind.* Ministry of Health, Community Development, Gender, Elderly and Children.

[5] Levels & Trends in Child Mortality: Report 2021, Estimates developed by the United Nations Inter-agency Group for Child Mortality Estimation, United Nations Children's Fund, New York, 2021.

[6] Source DHIS2 data on registered home delivery, 2017-2021

[7] Kangaroo mother care is a method to care for preterm babies, in which babies are carried with skin-to-skin contact, usually by the mother.

PURPOSE

m-mama is an Emergency Transportation System (EmTS) being funded by Vodafone Foundation and the Government of Tanzania (GoT), implemented by Vodafone Foundation, the GoT, and implementing partners Touch Foundation and Pathfinder International. m-mama aims to reduce maternal and neonatal mortality by addressing delays in accessing medical care. The EmTS is a centralized digital system that improves the communication, management, and supply of emergency transport.

The purpose of this whitepaper is to inform key actors in the Tanzanian government and development community about m-mama's origins, design, status of implementation, and plans for the national scale-up.

KEY CHALLENGES

UNSKILLED BIRTH ATTENDANTS

Although the proportion of skilled birth attendants increased from 60% in 2015 to 79% in 2019,[2] there are still many women who are not receiving needed services during labor and delivery. Although there has been significant decline in home deliveries in recent years, there were 21,354 registered home births in 2021.[6] This is a marked improvement to the 58,913 home deliveries recorded in 2017 (Data Source: DHIS2).

Contributing factors to unskilled birth attendance and a high number of home births include: cost of accessing health services, long distances from health facilities,[4] low availability of facilities that offer basic emergency obstetric and newborn care (BEmONC)[2] and comprehensive emergency obstetric and newborn care (CEmONC) services.[4]

LACK OF EMERGENCY TRANSPORTATION

53% of health centers had ambulance services to transport women with complications and newborns.[2]

EMERGENCY TRANSPORTATION BARRIERS

Tanzanian women who want to deliver their baby at a health facility or find themselves experiencing labor complications can face barriers when attempting to access the health services they need. Some of these barriers include:

- Insufficient number of emergency transport vehicles and poorly equipped ambulances.
- Uncoordinated, non-centralized, non-standardized emergency transport.
- Ambulances are not available at the time of emergency due to high costs of purchasing and maintenance and/or do not reach most communities in time.
- Lack of drivers skilled in providing emergency transport.
- Insufficient or unsafe road conditions.

56% of the assessed facilities with delivery can offer BEmONC.[2]

FACILITY CAPACITY CHALLENGES FOR MATERNAL AND NEONATAL CARE

Many Tanzanian health facilities are not equipped to provide BEmONC and CEmONC services due to:

- Shortage of health workers trained in BEmONC and CEmONC.
- Insufficient number of health facilities equipped to provide emergency obstetric care (BEmONC and/or CEmONC).
- Interrupted or unavailable electrical supply, phone, and internet connectivity at lower-level facilities.
- Shortage of equipment (e.g., surgical equipment, anesthesia, radiology, sonography, CEmONC equipment, etc.)
- Insufficient maintenance and management of equipment.

FINANCIAL RESOURCE CHALLENGES

In most regions of Tanzania, Local Government Authorities (LGAs) require financial resources or have yet to restructure their existing budgets to support emergency health activities.

THREE DELAYS

The three delays model (3DM) identifies the phases of delay that contribute to maternal mortality:

- delay seeking care
- delay reaching care
- delay receiving quality care[8]

Figure 1: Three Delays Model

The challenges for women experiencing labor complications are illustrated in the three delays model:

SEEKING CARE

Women are aware of danger signs and make the decision to seek care.

TRANSPORT TO CARE

The quality of roads, the distance to facilities, and the availability of transportation prevent women from accessing obstetric care.

RECEIVING QUALITY CARE

Shortage of health human resources, supplies and infrastructure contribute to challenges in receiving quality obstetric care.

[8] Thaddeus S, Maine D. To far to walk: maternal mortality in context. *Soc Sci Med. 1994;38:1091–1110.*

SOLUTIONS

m-mama aims to reduce maternal mortality by addressing the ***delay in reaching care*** by improving availability of emergency transport from lower to higher level facilities, to provide services for women experiencing labor and post-partum complications, and for their newborns. m-mama also works to make emergency transportation accessible from the community level and to enhance emergency preparedness at health facilities by improving communication between the referring facility and the receiving facility.

m-mama EmTS is facilitated by:

- A 24-hours, 7-days a week toll-free number to contact the emergency dispatch in the region.
- Remote triage by a trained dispatcher using m-mama Information Communication Technology (ICT) application.
- Providing government ambulances or community vehicles (if no ambulance is available) to transport women and/or newborns to the nearest BEmONC or CEmONC facility.
- Community awareness and engagement.

Benefits of m-mama

A cost-effective solution that reduces the need for upfront capital investments and requires limited operational costs.

Reduce the time required to locate, pick-up and transport patients during emergency situations.

Adapt and implement the emergency triage protocol to assess all maternal and neonatal emergencies.

Make data-informed decisions by using m-mama ICT application data.

Increase the availability of emergency transportation through dispatch centers and supplemental community drivers.

Increase the capacity of health workers in maternal and newborn care.

Use technology to standardize and centralize rapid triage of maternal and newborn emergencies (under 2 minutes).

Transport women and newborns in emergencies to appropriate, capable and ready health facilities based on the emergency

EVOLUTION

Throughout its implementation, m-mama has identified and applied lessons to make improvements at each new phase.

Figure 2: The Phases of m-mama

The Evolution of m-mama

PHASE I - PILOT

m-mama was **piloted** in 2014 in Sengerema District Council (DC) and Buchosa DC; and followed in 2016 by Shinyanga DC.

Funders: USAID, Vodafone Foundation, ELMA Foundation and Swiss Re Foundation

PHASE II - SHINYANGA EXPANSION

Phase II **expanded** the scale of m-mama implementation across the **Shinyanga region (6 DCs)** from 2017 to 2021.

Funders: Vodafone Foundation, ELMA Foundation, Grand Challenges Canada, and Touch Foundation

PHASE III – NATIONAL SCALE-UP

National **scale-up** of m-mama to **all regions** of Tanzanian Mainland and Zanzibar. The current focus is on addressing delay 2 (transport to care), with the aspiration of addressing delay 1 and 3.

Funders: Government of Tanzania, Vodafone Foundation and USAID

KEY ACHIEVEMENTS OF PHASE 2:

- Provided life-saving care to more than 140,000 women in 15 health facilities of the Shinyanga region. [9]
- Contributed to the reduction in maternal deaths in Shinyanga from 60 in 2015 to 15 in 2021.[1]
- Contributed to a 70% decrease in maternal deaths between 2019 and 2020 in the Shinyanga region.[1]
- Community taxis transported more than 9,000 women in the six DCs.[9]
- m-mama trained 220 healthcare workers in the Shinyanga region.[9]
- As of FY2020/21, the Shinyanga district governments paid for 100% of community drivers transport costs, improving the prospects for sustainability.[8]

NATIONAL SCALE-UP

In 2022, President Hassan requested the scale-up of m-mama to all regions of Tanzania. All regional governments in Tanzania Mainland and Zanzibar are scheduled to roll out m-mama under the instruction from PO-RALG and the MOH. The effort was launched in April 2022 and is being funded by the GoT with additional funds from Vodafone Foundation and USAID. [9] Donor funds are for technical assistance (TA) which includes the set-up of the EmTS in each region and ongoing information systems support for monitoring and evaluation (M&E).

[9] Ministry of Health. (2022). M-mama Tanzania Critical Emergency Transportation Infrastructure for Pregnant Women and Newborns (Project Proposal). Tanzania.

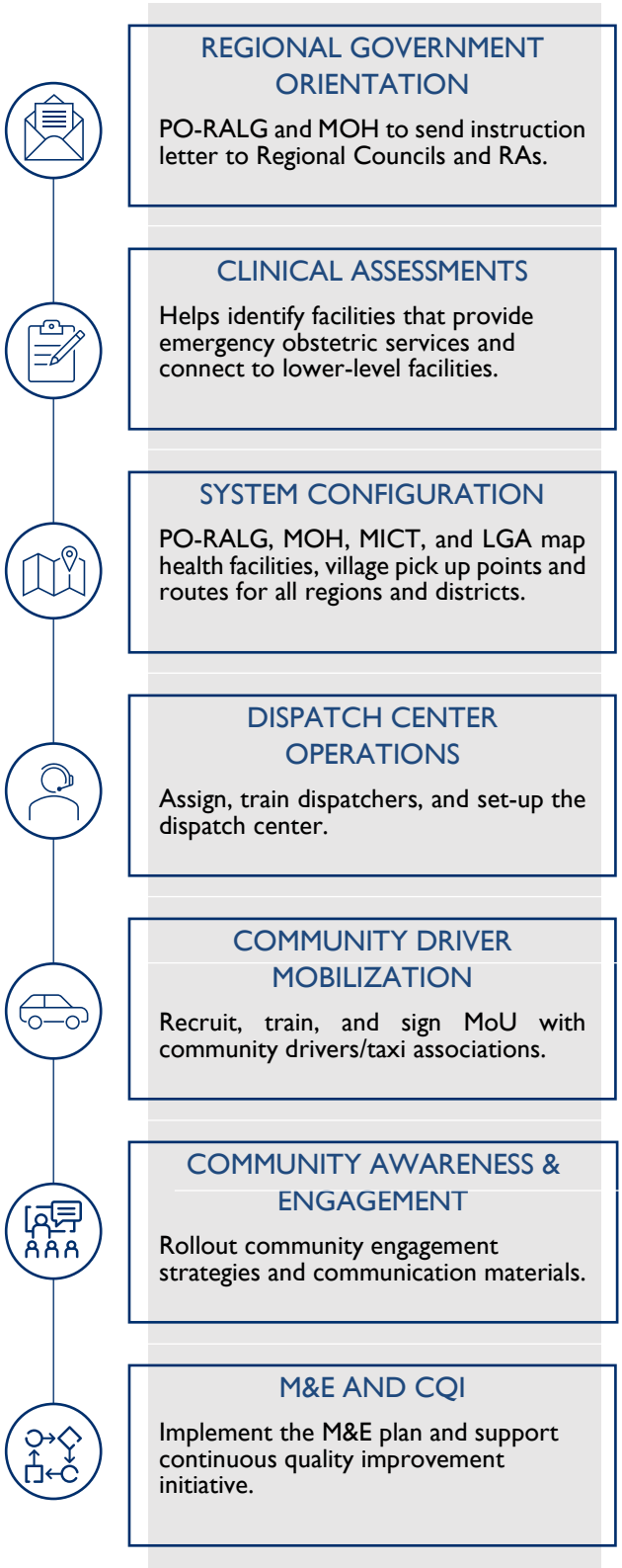
[10] Pathfinder. (2021, December 21). *m-mama: An Emergency Transport System in Tanzania is Saving Mothers' Lives*. Retrieved from Pathfinder: https://www.pathfinder.org/m-mama-an-emergency-transport-system-in-tanzania-is-saving-mothers-lives/

The phased scale-up began in July 2022 in the regions of Lindi and Morogoro; Dodoma and Tanga began prelaunch activities in August, and had begun implementation in November 2022 at the time of finalizing this report. The goal is to scale-up all regions in Mainland and Zanzibar by September 2023.

SCALE-UP PROCESS

Two to three regions will be added each month to the national scale-up of m-mama. Each region will have three months of prelaunch activities and launch on the 4th month. To ensure successful launch, m-mama first establishes coordination arrangements with LGAs and other critical actors; an implementation plan is reviewed and approved with the Regional Government Authority and LGAs to ensure their buy-in and commitment. Clinical assessments are conducted to review the capacity of the health facilities; the EmTS is configured based on the clinical assessment findings. This includes mapping pick-up points, routes, and other logistics. This is followed by the set-up of the dispatch center operations, including workspace, selection, training, and assignment of dispatchers. In addition, drivers are recruited and trained; and the district and regional health teams are trained in M&E functions. Once the system is in place, community awareness activities including local radio are used to disseminate messages about the EmTS and the toll-free number. Finally, the process moves to full implementation of the EmTS which is monitored and managed using a government owned and managed m-mama dashboard.

Figure 3: The m-mama Scale-up Process



KEY DESIGN ELEMENTS OF THE NATIONAL SCALE-UP

As the national-scale up of m-mama progresses, the following key design elements are proposed for successful implementation:

SUSTAINABILITY PLAN

As a first step, district, regional government and national government authorities, work in partnership with Vodafone Foundation, Pathfinder International and Touch Foundation to develop a sustainability plan.

LOCAL GOVERNMENT OWNERSHIP

LGAs own, fully manage, and implement m-mama in their regions from the onset. The implementing partners (IPs) support the one-time set-up costs and ongoing monitoring of m-mama and implementation of the EmTS. However, the funds to provide ongoing services rely fully on the regional and council governments.

LOCAL OWNERSHIP

Under the national scale-up of m-mama, EmTS implementation is 100% GoT funded through regional and council budgets.

The IPs and GoT engage LGAs in the identification of emergency referral pathways, establish EmTS processes suited to the infrastructure available in each region, conduct clinical assessments, recruit EmTS staff, provide training and support ongoing management of community drivers.

COMMUNITY DRIVERS MEETING DEMAND

In Phase II, most of the emergency transports were completed by community drivers, indicating that m-mama extended the coverage of emergency transport to better meet the demand for emergency services.

KEEPING COSTS LOW

The use of community drivers to reach rural communities is a cost-effective way to meet the demand for emergency transport in hard-to-reach areas.

Using community vehicles keeps costs low because it is a "pay as you go" model. The upfront costs for the GoT are lower than the investment that would be required to purchase ambulances, and cover their on-going maintenance costs. m-mama has a national pricing structure of 1000 to 1500 TZS per kilometer (based on rates in Phase 2); however, each region may negotiate a rate per Km that is suited to the distances from facilities and other local transportation cost implications. The average cost was 100,000 TZS per emergency transport in Shinyanga (with an average distance of 50km for a one-way trip). Although prices and distances will vary per region, m-mama strives to keep cost of transport low in accord with the approach used in Shinyanga. Local actors in Lindi and Morogoro note that when drivers are within the community, the cost of transporting patients is much lower compared to when an ambulance must be sent from the district to the health facility to transfer the patient.

EMERGENCY REFERRAL PATHWAYS

To ensure that health facilities can provide quality care, m-mama customizes emergency referral pathways. During remote triage of patients from either a community or a lower-level facility to a higher-level facility, the dispatcher identifies the most efficient routes and the appropriate receiving facilities based on the patient's health status and the status of the health facilities available. Dispatchers will call the facility in advance to assess the facility's capacity and ability to receive new patients at the time of the emergency.

TOLL-FREE NUMBER

Women experiencing an emergency and/or health workers can call the dispatch center through a dedicated toll-free number. The dispatch center is available 24/7 and coordinates efficient deployment of emergency transportation by an ambulance or community driver. The toll-free number is available to users in all networks, facilitating access of emergency services from lower-level facilities to receiving facilities, to provide services to the poorest and most rural segments of the population.

DATA FOR DEVELOPMENT FOR USAID

SELECTION AND TRAINING OF COMMUNITY DRIVERS

LGAs select community drivers who have a vehicle and deep knowledge of the surrounding communities. Pathfinder International trains community drivers on transportation of obstetric emergencies and equips them with an emergency transportation kit (e.g., gloves, flashlight, a sanitary seat cover, and cleaning materials).

LEVERAGING TECHNOLOGY

Use of m-mama ICT app to remotely triage patients

The m-mama ICT app supports dispatchers in the rapid management of emergency transportation, running on a tablet with or without internet connectivity. The m-mama app provides a standardized way of referring maternal and newborn emergencies. The m-mama app includes a decision tool to assess a patient's situation remotely, determine the closest suitable health facility, and then dispatches a government ambulance or a community driver. Patients are transported to the closest health facility that is able to handle the level of emergency identified.[9] The complete remote triaging process is implemented in approximately two minutes.[9]

Use of m-mama dashboard to monitor referral process and make improvements

The m-mama dashboard provides up-to-date information on all dispatched emergencies and their outcomes. The dashboard displays a snapshot of data, e.g., number of emergencies per period, average time and distance for transportation, outcome of mother and baby, types of emergencies, emergencies per location, etc. The dashboard data can be analyzed for real-time monitoring, quality assurance, for making ongoing improvements to implementation and can be used for planning and budgeting.

Payment of community drivers

m-mama pays community drivers based on pre-negotiated rates; and only pays community drivers for the journeys they have completed. In Phases I and II in Shinyanga, community drivers were paid through the mobile app M-Pesa or bank transfer.

Payment of community drivers through mobile money services facilitates quick payment of community drivers and keeps operational and administrative costs low. It is also an important feature because many community drivers do not have a bank account.

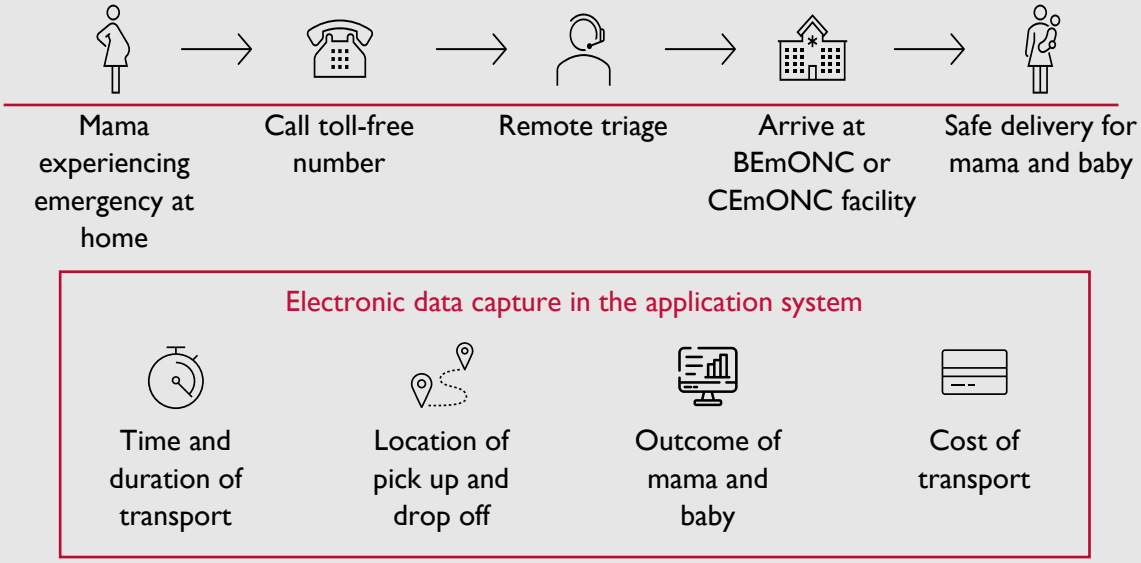
Currently, community drivers in the new scale-up regions are being paid through paper-based means following approval by the LGA. However, the GoT and m-mama IPs are in the process of developing a remote payment solution that is connected to the government payment system and allows the payment of community drivers through a direct bank transfer or the mobile money service of the driver's preference.

The m-mama Model for Emergency Transport

The m-mama toll-free number is disseminated to community members through outreach activities such as radio spots, digital media, posters, ANC clinics and community health workers. Once a person contacts the hotline, they are rapidly assessed using a remote triage protocol approved by the MOH.

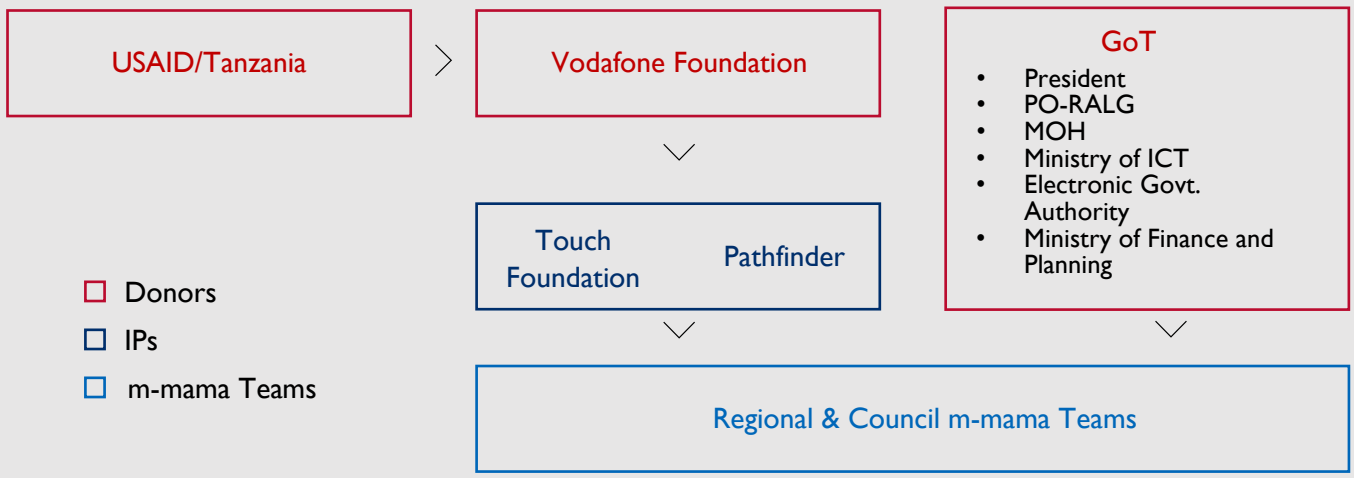
The dispatcher uses the m-mama ICT app to remotely triage the patient, identify the pick-up location and health facility to receive the patient based on the need, and sends a government ambulance or community driver to transport women and/or their newborns to the appropriate BEmONC or CEmONC facility. After the transport has been completed, the journey is confirmed and payment to the driver is processed.

Figure 4: The m-mama EmTS– Under the Scale-up



SCALE-UP COORDINATION ARRANGEMENTS AND ROLES

Figure 5: The m-mama Stakeholders and Roles



VODAFONE
ROLE: Prime implementer and donor
RESPONSIBILITIES:

- Has the overall oversight of the work plan, budget, and coordination of high level/political engagements with the GoT. They are members of the Steering Committee of m-mama with the GoT. In addition, through Vodacom, Vodafone coordinates the liaison for toll free numbers and ICT needs.

USAID/TANZANIA
ROLE: Donor
RESPONSIBILITIES:

- Has oversight of the work plan and provides technical advice and management support alongside the Vodafone board.

TOUCH FOUNDATION
ROLE: Subcontractor implementer
RESPONSIBILITIES:

- TA/Advisory
- EmTS assistance
- Conduct clinical assessments of CEmONC facilities
- Develop M&E plans
- Technical support on ICT system

PATHFINDER
ROLE: Subcontractor implementer
RESPONSIBILITIES:

- Coordinates with regional level and local LGAs and health teams.
- Provides technical support for set-up of the EmTS in each scale up region

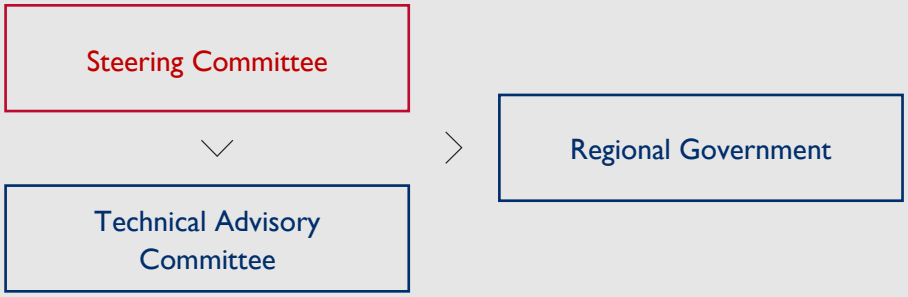
REGIONAL & COUNCIL m-mama TEAMS

ROLE: Technical guidance from inception, design, set-up, and implementation in collaboration with IPs
RESPONSIBILITIES:

- Program management
- Provide guidance and technical inputs to the program team and the regional and council actors.
- Collaborate, provide technical inputs and oversight in the design and integration of the m-mama ICT system into the GoT systems.
- Develop M&E logic framework and indicators to understand program progress and performance

STEERING COMMITTEE, TECHINICAL ADVISORY BOARD AND REGIONAL GOVERNMENT

Figure 6: Steering Committee, Technical Advisory Board and Regional Government Coordination



STEERING COMMITTEE

CHAIR: PS of PRESIDENT'S OFFICE FOR REGIONAL AND LOCAL GOVERNMENT (PO-RALG)
MEMBERS: PS and Director levels of all Gov't partners, Vodafone Foundation and IPs
RESPONSIBILITIES:

- Oversee program and make decisions for effective implementation and governance
- Ensure alignment with GoT objectives
- Lead resolution of strategic and policy level issues

TECHNICAL ADVISORY COMMITTEE

CO-CHAIRS: PO-RALG & Heads of Reproductive, Maternal, Newborn and Child Health of MOH
MEMBERS: Technical level of all Gov't partners, Vodafone Foundation and IPs
RESPONSIBILITIES:

- Facilitate coordination with regions
- Conduct clinical assessments of CEmONC facilities
- EmTS assistance
- Technical support on ICT system
- Develop M&E plans

ENSURING SUSTAINABILITY

Sustainability of m-mama is a key focus in the national scale-up. The aim is for all levels of government to take ownership of m-mama by the end of 2025. To ensure sustainability of m-mama, the following elements must be in place:

Government buy-in is a critical step in ensuring sustainability. In the national scale-up the GoT supports m-mama and contributes funding and human resources for the EmTS. This has been encouraged by the outstanding political will at the national level extending all the way to the level of the President herself.

In a recent televised speech, President Samia Suluhu Hassan instructed all councils to include m-mama funds in their Comprehensive Council Health Plans and she will sign contracts with all RCs to ensure it's done.

"I am glad today to see the m-mama program shows the positive results in rescuing the lives of pregnant women who are in critical delivery conditions and their children".

- President Samia Suluhu Hassan

(video: Mwananchi Digital)

Most regions will be funding 100% of recurrent costs, and a few will start by funding 50%. This allows every region to design and adapt m-mama to their needs and increase the probability of m-mama sustainability.

"It is the government that runs its agenda and ideally, it becomes like a day-to-day task of the hospital, the health facility, the district, and regional as well and so it is sustainable in that way."

- m-mama KII

TOUCH FOUNDATION FOR USAID

Integration of communication and engagement activities into the day-to-day tasks and existing health system structures in the regions and district is critical for success. m-mama is disseminating messages about the EmTS through antenatal care (ANC) clinics, local radio, TV, posters and through community health workers. m-mama aims to also implement complimentary community engagement efforts to raise awareness and strengthen referral networks.

Linkages between ANC, the use of skilled birth attendants and community health workers to assist patients before, during and after a birth is

essential to the ongoing success of m-mama (as observed in Phase II implementation in Shinyanga).

IMPROVE QUALITY, AND USAGE ARRANGEMENTS FOR GOVERNMENT AMBULANCE FLEET

Under m-mama, government ambulances are called upon first in the event of an emergency. Community drivers are used when the ambulances are unavailable or are too far away. Improving the quality of the ambulance fleet, and coordination so they can be dispatched to emergencies when available is important.
Challenges that contribute to delays in ambulance services will need to be managed.

This includes:

- The existing ambulances being put to other uses, other than transporting of emergency patients.
- Untimely and insufficient maintenance of ambulances.
- Lack of fuel for ambulances.
- Ambulance services are decentralized at mostly urban facilities and are often inefficient for serving populations outside of those catchment areas.

"It takes too long to get them, to the extent when the ambulance becomes available it is like they are not responding to an emergency at all."

"I talked to one ambulance driver from one of our districts sometime back and he told me, what we have here is not an ambulance…it is full of malfunctioning to the extent when we are told there is a patient, we first start to think, how are we going to get there."

- m-mama KII

Coordination and information systems strengthening from national to facility level, is needed to reduce competing information systems and duplication of effort. Development partners also mentioned the importance of coordination between the government, m-mama and their organizations ongoing maternal, neonatal and child health efforts to enable effective collaboration with the national program.

"I find that the issue of duplication of digital systems existing in Tanzania is huge so we can try our level best before putting in a new system to learn the existing systems and, if possible, we can stick on improving the existing ones to make sure that they are the only systems in place and we can ensure their sustainability…"

- m-mama KII

Payment of community drivers on-time. A critical factor for sustainability is ensuring that drivers are paid on time. Delayed payment to drivers and untimely arrangement of funds, have been consistent challenges. In part this is due to the manual system for processing payments. In the current phase, m-mama is working with the Government to design a digital payment system which is expected to expedite the approval and payment process.

"... if the community drivers are not paid [on time], they will automatically disengage; so this was the challenge from Shinyanga and the focus now is to digitalize the process."

- m-mama KII

NEXT STEPS AND POINTS OF ENTRY TO SUPPORT THE NATIONAL SCALE-UP

As the m-mama National Scale-up continues, development partners, local partners and private actors can support and collaborate with m-mama in the following ways to better address the three delays:

- Development of improved electronic payment system for community drivers to replace paper-based system
- Complimentary maternal and neonatal health efforts (particularly in line with delays 1 and 3) in the scale up regions, or that have plans to expand efforts in other underserved regions.
- Support community referral networks and awareness raising of m-mama.
- Clinical capacity strengthening including human resources for health and equipment for CEmONC and BEmONC in facilities including lower-level facilities with larger catchment areas.

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