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SUPPLY CHAIN STUDY REVEALS OPPORTUNITIES TO IMPROVE ACCESS TO NEWBORN AND CHILD HEALTH COMMODITIES IN MALI

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In 2018, there were an estimated **4 million infant deaths globally**. Diarrhea, pneumonia and intrapartum complications such as birth asphyxia contribute significantly to this high level of mortality despite the existence of effective treatments and resuscitation equipment. Through health system and supply chain assessments, the global community is working together to increase access to commodities that can save the lives of children under the age of five.



Mali has a high rate of under-five child mortality at approximately 97.8 deaths per 1,000 live births.

Despite investments from USAID and others, availability of essential newborn and child health (NBCH) commodities is not yet at a sufficient level in Mali. As such, the **USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project** conducted a rapid study to assess where barriers were inhibiting the availability and access to these commodities.

The study helped identify ways to increase availability of newborn resuscitation equipment and essential medicines for NBCH in Mali's public sector by working with stakeholders to assess the study findings and develop a plan that addresses the most critical barriers.

To prevent newborn and child deaths, care must be made available where it is needed most; by skilled providers who have all the tools and supplies they need. Increasing availability of amoxicillin dispersible tablets (DT), co-packaged oral rehydration salts (ORS) and zinc, and appropriate newborn resuscitation equipment is recommended by WHO as an effective strategy to reduce child mortality.



Dispersible tablets of amoxicillin kill pneumonia infection in an easy-to-administer way



Oral rehydration salts co-packaged with zinc replenish fluids lost from diarrhea and decreases duration and risk of short-term recurrence of an episode



Newborn resuscitation equipment is used when newborns are unable to initiate and sustain breathing and can prevent up to 25% of newborn deaths

Upon receiving the results of GHSC-PSM's study on key newborn and child health commodities, the government of Mali swiftly adopted new public health protocols for pneumonia treatment that list amoxicillin in dispersible tablet formulation as preferred.

METHODS AND MATERIALS

The study included a desk review of supply chain operations information for Mali's public health supply chain, the stakeholders supporting the supply chain, the data accessible on product availability and consumption and the partners working to increase newborn and child health services in Mali. GHSC-PSM then assessed the factors impacting availability of the relevant commodities using an interview guide that cut across four key areas that drive stock availability—Enabling Environment; Forecasting, Supply Planning and Procurement; Inventory Management; Logistics and Use.

8 MEETINGS WITH MALIAN MINISTRY OF HEALTH AGENCIES

- **Direction Générale de la Santé et d'Hygiène Publique (DGSH)**: Oversees provision of health services in Mali
- **Direction de la Pharmacie et du Médicament (DPM)**: Provides governance of medical supplies
- **Pharmacie Populaire de Mali (PPM)**: Provides procurement, warehousing and distribution services

11 MEETINGS WITH INTERNATIONAL AND LOCAL DONORS AND IMPLEMENTING PARTNERS

supporting access to health services and products in Mali

POTENTIAL BARRIERS TO ACCESS

The most apparent obstacles for access to the NBCH commodities studied in Mali were in the policy domain. The study revealed that these products had not been listed as preferred in national treatment guidelines and were not moving through the national supply chain. Despite the fact that these commodities were not in the national system, the GHSC-PSM study evaluated general supply chain operations to provide insights into additional considerations to properly resolve barriers to their availability country-wide.

ENABLING ENVIRONMENT | *Policies, health programming, financing*

- No suppliers for amoxicillin DT or combined packs of ORS+zinc had been registered in Mali. Formally registered products facilitate procurement and continuous availability.
- Newborn resuscitation equipment in Mali is not managed by the national supply chain. The handling of these commodities outside the supply chain meant that all functions of quantification, procurement, data collection and logistics were not integrated with those for other commodities. This requires duplicative human resources in agencies that are not as experienced with the health supply chain.
- Services to treat pneumonia, diarrhea and birth asphyxia with the study commodities were available, but fragmented across various partners and programs without centralized leadership within the Malian government. Because of this fragmentation, services and commodities are only concentrated in areas of Mali where these partners are supporting services. This fragmented availability also resulted in a failure to capture data through the commodity reporting systems and a lack of visibility on consumption and stock status.
- Currently no government financial resources are dedicated to the procurement of these products and so they are only available sporadically, through partners.

FORECASTING, SUPPLY PLANNING AND PROCUREMENT

- Newborn resuscitation equipment had not been quantified since 2017.
- ORS and zinc were individually quantified for various related treatments but co-packaged ORS+zinc for treatment of diarrhea had not been quantified.
- Amoxicillin 250 mg had not been quantified in DT formulation, only in syrup formulation.
- Other challenges with the quantification process include limited data availability and low-quality data due to gaps in training on Mali's logistics system.
- Supply plans were not developed for any of the study commodities, even in different formulations. Once Mali begins quantification for these commodities, a procurement plan could be developed to enable advocacy for funding to meet the national need.

INVENTORY MANAGEMENT | *Warehousing and distribution*

As products are not currently within the national supply chain, there were no specific challenges identified with their handling. However, limitations related to warehousing and vehicle fleet for distribution of health commodities were identified. Redundant routes for different commodities put a strain on resources for distribution from PPM to regional stores and at the district and facility levels, where they must occasionally retrieve stocks as prescribed by the distribution system.

LOGISTICS AND USE | *Data collection and management*

As the study commodities are not available through the national supply chain, data on these products is also not available. The products are not included in the national logistics data collection tools and data on products from partners is not captured. Other challenges:

- Mali does not have a data management policy on newborn resuscitation equipment;
- Mali's electronic national health data system, OSPSANTE, has enabled data sharing and reporting but currently none of the products from this study are included;
- Generally, the data in the system is poor quality and requires time and scrutiny by supervisors to identify, resolve and complete reports and orders.

Enhancing the capacity of OSPSANTE will permit visibility into stock availability in Mali and add value to quantification processes and stock management for redistribution as needed.

CONCLUSIONS AND NEXT STEPS

The assessment identified significant opportunities to expand access to these key child health and newborn commodities in Mali's public health system. Adjustments can be made on the policy side as well as operational to enhance information on commodity availability, improve stock management and facilitate forecasting and quantification. Following the assessment, Mali's Ministry of Health immediately prioritized amoxicillin DT for pneumonia treatment and committed to doing the same for co-packaged ORS+zinc, to catalyze their use and management in the national public health system. Mali's *Comité Technique de Coordination et de Suivi de la Gestion des Médicaments Essentiels* will meet in the coming months to agree on a final plan that responds to the opportunities identified by the study.

GHSC-PSM recommends similar rapid assessments in other countries to identify the common themes and supply chain barriers across the domains. Generalized recommendations based on these common challenges can inform global policies with extensive life-saving impact for children and newborns in need.