Tanzania Child Health Market Description

Co-hosted by the Private Sector Engagement subgroup of the Child Health Task Force
IMCI Analysis of Seven Countries Presentation (SHOPS Plus, Abt Associates, USAID) - February 2, 2021

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Presentation shared during the webinar titled "Quality of Care for IMCI in Private and Public Health Facilities: Results from a SHOPS Plus analysis in seven countries," co-hosted by the Quality of Care and Private Sector Engagement subgroups on February 2, 2021. The slides were presented by Sarah Bradley, SHOPS Plus Global Research Director, and developed jointly with Tess Shiras and Ben Johns from Abt Associates.
Care-seeking destination: 51% seek treatment/advice from the private sector; 45% of caregivers seek treatment/advice from public sector.

Most private sector care seeking occurs in non-clinical settings.

Care seeking destination patterns are relatively similar across wealth quintiles.

Caregivers may differentiate where they go based on perceived severity or previous experience with illness (Haroun et al, 2022), and so may not expect or seek screening in non-clinical settings.

Source: SHOPS Plus, Sources of Sick Child Care in Tanzania, 2018.
• Adherence to IMCI protocols in Tanzania is poor, including in the private sector.

• Cough: 67% of children were correctly assessed and treated

• Fever: 34% of children were correctly assessed and treated

• Diarrhea: 25% of children were correctly assessed and treated

• Acute Malnutrition: 3% of children were correctly assessed

• Immunization Status: 39% of children were correctly assessed
Approach to Child Health Market Description

Market development four-step process to develop Child Health (CH) markets

A market description is a part of the DIAGNOSE

- Aligns understanding of the CH situation and the role of the private sector
- Identifies potential market challenges and opportunities
- May reveal areas for further data gathering/analysis for DIAGNOSIS
Tanzania is showing mixed progress towards achieving key sustainable development goals related to child health.

### INDICATORS | SDG TARGET | PROGRESS | STATUS |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SDG 3.2</strong></td>
<td><strong>MORTALITY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neonatal mortality</td>
<td>&lt;12 deaths per 1,000 live births</td>
<td>24¹</td>
<td>Major challenges remain</td>
</tr>
<tr>
<td>Under 5 (U5) mortality</td>
<td>&lt;25 deaths per 1,000 live births</td>
<td>43¹</td>
<td>Significant challenges remain</td>
</tr>
<tr>
<td><strong>SDG 3.B</strong></td>
<td>Surviving infants who received 2 WHO-recommended vaccines</td>
<td>100%</td>
<td>84%²</td>
</tr>
<tr>
<td><strong>SDG 2.2</strong></td>
<td>Stunting</td>
<td>10.4%</td>
<td>30%¹</td>
</tr>
<tr>
<td>Wasting</td>
<td>&lt;5%</td>
<td>4%¹</td>
<td>Achieved</td>
</tr>
</tbody>
</table>


- Tanzania is off track for achieving Sustainable Development Goals (SDGs) related to neonatal and under 5 mortality.
- The Government is committed to addressing deaths and has prioritized the below activities to accelerate progress³:
  - Improving NICU premises
  - Ensuring availability of functioning NICU equipment
  - Improving skills/competencies of HRH in neonatal care
  - Ensuring availability of relevant Guidelines/SOPs
  - Maintenance of cost-effective interventions (i.e., immunizations, integrated management of childhood illnesses, etc.)
Use/Need and Demand for Child Health Services
Under five mortality has decreased significantly over the last two decades, while the rate of decline in infant and neonatal mortality has been slower.

- **Tanzania has made significant improvements in child health over the last two decades**
  - U5 mortality decreased from 147 (in 1999) to 43 deaths per 1,000 live births (in 2022)
  - Infant mortality decreased from 99 (in 1999) to 33 deaths per 1,000 live births (in 2022)
  - Neonatal mortality rate has decreased at a slower rate, and currently stands at 24 deaths per 1,000 live births.

- **The notable decreases in under five mortality are attributed to a number of high impact interventions and improvements to quality of care** including:
  - Increased antenatal care (ANC), skilled delivery care and postnatal care (PNC), early initiation of breastfeeding and exclusive breastfeeding practices
  - Accelerated introduction of new life saving vaccines and availability of services and commodities to diagnose and treat malaria, pneumonia and diarrhea

1. Tanzania One Plan III
Neonatal deaths account for approximately 40% of under five deaths in Tanzania.

- 40% of U5 deaths in Tanzania occur in the first 28 days of life.
- Preterm birth complications (33%), Birth asphyxia and birth trauma (27%), acute respiratory infections (13%) and neonatal sepsis (6%) are among the leading causes of neonatal death.
- Interventions directed at the mother to ensure a health pregnancy can impact the leading causes of neonatal deaths in Tanzania.

Acute respiratory infections, diarrhea and malaria account for nearly 50% of post-neonatal under 5 deaths in Tanzania.

- 60% of U5 deaths occur after 28 days of life
- Leading causes of death after the neonatal period include: acute respiratory infection (17%), diarrhea (15%), malaria (14%), injuries (12%)
- Adherence to integrated management of childhood illness (IMCI) protocols and ensuring the availability of and access to key commodities including: amoxicillin dispersible tablet (pneumonia); ACTs, ITNs and mRDTs (malaria); and ORS/Zinc (diarrhea) could impact the leading causes of post-neonatal, under five deaths in Tanzania
Leading causes of under 5 death are common, treatable illnesses

- **ARI (Acute Respiratory Infections)**
  - 79.3% of children with symptoms of ARI for whom treatment was sought.
  - ~15,850 children die each year from ARI.
  - Child lives in a rural area.
  - Mother is less educated.

- **Fever**
  - 77.7% of children with fever for whom treatment was sought.
  - ~6,900 children die each year from malaria.
  - Child lives in a rural area.
  - Mother is less educated.

- **Diarrhea**
  - 63.9% of children with symptoms of diarrhea for whom treatment was sought.
  - ~7,400 children die each year from diarrhea.
  - Child lives in both urban and rural areas.
  - Mothers with more education are less likely to seek treatment for their children.
  - Children from wealthier households are less likely to seek care for their children.

Source: TDHS Key Indicator Survey 2022; WHO Global Health Observatory. Estimated deaths by cause, sex, and WHO member state. 2019
Vaccination is one of the most cost-effective interventions implemented to prevent diseases, especially among children.

- 75% of children age 12–23 months are fully vaccinated with the basic antigens.
- 2% of children age 12–23 months have received no vaccinations.
- Vaccine coverage varies across zones, with higher coverage in Central, Southern Highlands and Eastern zones and lower coverage in Western zones.
- Most unvaccinated children come from households in the lowest wealth quintiles with mothers who have lower educational attainment.

Tanzania Immunization Schedule (basic antigens)

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG (bacillus Calmette-Guérin) for tuberculosis</td>
<td>At birth</td>
</tr>
<tr>
<td>Rotavirus 1-valent</td>
<td>At weeks 6 and 10</td>
</tr>
<tr>
<td>DTwp-Hib-HepB</td>
<td>At weeks 6, 10, and 14</td>
</tr>
<tr>
<td>Pneumococcal vaccine (PCV 13) and oral polio vaccine</td>
<td>At weeks 6, 10, and 14</td>
</tr>
<tr>
<td>Inactivated polio vaccine (IPV) with OPV 3</td>
<td>At 14 weeks</td>
</tr>
<tr>
<td>Measles and rubella vaccine (MR 1 and 2)</td>
<td>At 9 and 18 months</td>
</tr>
</tbody>
</table>

Source: DHS Stat Compiler; WHO. Vaccination Schedule for Tanzania; TDHS 2015-16.
1.5% of U5 children showed symptoms of acute respiratory infection (ARI) in the two weeks before the TDHS 2022.

79% of children with ARI symptoms were taken to a health facility or provider for advice or treatment.

The percentage of children with ARI symptoms for whom advice or treatment was sought is higher in urban areas (83%) compared to rural areas (77%).

- 1.5% of U5 children showed symptoms of acute respiratory infection in the two weeks before the TDHS 2022.
- 79% of children with ARI symptoms were taken to a health facility or provider for advice or treatment.

Source: TDHS 2022 Key Indicator Survey
Approximately 22% of all children with fever are not taken to a health facility or provider for advice or treatment.

- 11% of U5 children exhibited fever in the two weeks before the TDHS 2022.

- 78% of children with fever were taken to a health facility or provider for advice or treatment and 50% had blood taken.

Differences in care seeking for children by residence mirror care seeking for pneumonia. The percentage of under 5 children with fever symptoms for whom advice or treatment was sought is higher in urban areas (83%) compared to rural areas (76%).

- Of the children who exhibited fever, 35% received an antimalarial/ACT in 2022 which is a decline from 50% in 2015. Improved differential diagnosis of fever may account for decreasing use of antimalarial/ACTs over time. (Not every fever is malaria.)
Among children with diarrhea who were taken to a health facility or provider for advice or treatment, approximately 61% did not receive oral rehydration salts.

- 9% of U5 children had diarrhea in the two weeks before the TDHS 2022.
- Care and treatment seeking for U5 children with diarrhea has increased over time, with 64% of children taken to a health facility or provider for advice or treatment in 2022 compared to 47% in 2005.
- Care and treatment seeking for children with diarrhea is significantly lower than care and treatment seeking for children with ARI (pneumonia) and fever.
- Only 39.1% of U5 children with diarrhea received oral rehydration salts (ORS). There was no difference in urban vs. rural residence in receiving ORS, but children with mother’s with less education and from poorer households were more likely to receive ORS than children in wealthier households.

Source: TDHS 2022 Key Indicator Survey
Children who suffer from stunting and wasting are at higher risk for illness, health complications and death. Approximately 30% of U5 children in Tanzania are stunted while 4% are wasted.

- The percentage of children under age 5 who are stunted has decreased from 44% in 2005 to 30% in the TDHS 2022. The percentage of children who are wasted or overweight has remained largely unchanged over the last two decades.

- While Mainland Tanzania has higher rates of stunting (30%) compared to Zanzibar (18%), the rates of wasting in U5s is higher in Zanzibar (8.2% compared to 3.2% in Mainland).

- The regions in Zanzibar with the highest rates of wasting include: Mjini Magharibi (10.5%), Kaskazini Unguja (10%), Kaskazini Pemba (7.7%), followed by regions on Mainland: Rukwa (8.3%), Pwani (6.2%), and Tanga (5.6%).

- Higher rates of stunting and wasting are found in males (stunting: 33.3%, wasting: 4.2%) compared to females (stunting: 26.6%, wasting: 2.4%); Wasting rates are also higher among children with mothers with no education (4.7%) or living in households in the lowest wealth quintile (4.3%).

Source: TDHS 2022 Key Indicator Survey
Early infant feeding practices can have life-long impact on the health and well-being of both mother and child. In Tanzania, the majority of infants are breastfed within 1 hour of birth and exclusively breastfed for the first 6 months of their lives.

- Early initiation of breastfeeding, within 1 hour of birth, protects the newborn from acquiring infections and reduces the risk of diarrhea and newborn death.
- 70% of children born in the 2 years before the TDHS 2022 engaged in early initiation of breastfeeding.
- The percentage of infants who are exclusively breastfed has increased over time, from 32% in 1999 to 64% in the 2022 DHS.

Source: TDHS 2022 Key Indicator Survey
<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>ANTIBIOTIC</th>
<th>ANTIDIARRHEAL</th>
<th>ANTIMALARIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODUCT</td>
<td>AMOX DT 250mg dispersible, scored</td>
<td>ORS</td>
<td>ZINC 20mg Tablet</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ON TANZANIA ESSENTIAL MEDICINES LIST? (Y/N)</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>LOWEST LEVEL OF HF USE</td>
<td>DISPENSARY</td>
<td>DISPENSARY</td>
<td>DISPENSARY</td>
</tr>
<tr>
<td>ON ADDO MEDICINE LIST? (Y/N)</td>
<td>NO</td>
<td>YES (GENERAL SALES)</td>
<td>YES (GENERAL SALES)</td>
</tr>
<tr>
<td>GHSC CATALOG (April 2023)</td>
<td>$0.033 per tab</td>
<td>$0.77 per sachet</td>
<td>$0.0144 per tab</td>
</tr>
<tr>
<td>MSD CATALOG (2022/2023)</td>
<td>n/a</td>
<td>$0.08 per sachet</td>
<td>$0.18 per tab (error in catalog?)</td>
</tr>
<tr>
<td># REGISTERED PRODUCTS</td>
<td>8</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td># LOCAL MANUFACTURER</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

- There are at least 5 registered suppliers for key child health medicines in Tanzania
- Local manufacturing capacity exists in Tanzania for ORS (diarrhea), Zinc (diarrhea) and Artemether + Lumefantrine (malaria)
The availability of key preventative and curative child health services is lowest among private-for-profit health facilities compared to public or FBO/NGO facilities, and less than 50% of all surveyed health facilities had staff trained in IMCI or growth monitoring.

<table>
<thead>
<tr>
<th>MANAGING AUTHORITY</th>
<th>OFFERS PREVENTATIVE/CURATIVE CARE FOR U5s</th>
<th>DIAGNOSIS/TX MALNUTRITION</th>
<th>VITAMIN A SUPPLEMENTATION</th>
<th>IRON SUPPLEMENTATION</th>
<th>ORS AND ZINC FOR DIARRHEA</th>
<th>CHILD GROWTH MONITORING</th>
<th>TX O PNEUMONIA</th>
<th>ADMINISTRATION OF AMOXICILLIN FOR PNEUMONIA</th>
<th>TX OF MALARIA IN CHILDREN</th>
<th>OFFERS CHILD IMMUNIZATION SERVICES</th>
<th>STAFF TRAINED IN IMCI</th>
<th>STAFF TRAINED IN GROWTH MONITORING</th>
</tr>
</thead>
<tbody>
<tr>
<td>PUBLIC</td>
<td>93%</td>
<td>89%</td>
<td>92%</td>
<td>82%</td>
<td>79%</td>
<td>93%</td>
<td>91%</td>
<td>78%</td>
<td>92%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NGO/NFP</td>
<td>73%</td>
<td>67%</td>
<td>73%</td>
<td>63%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
<td>73%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRIVATE FOR-PROFIT</td>
<td>56%</td>
<td>47%</td>
<td>50%</td>
<td>42%</td>
<td>53%</td>
<td>43%</td>
<td>51%</td>
<td>51%</td>
<td>56%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FBO</td>
<td>85%</td>
<td>80%</td>
<td>83%</td>
<td>64%</td>
<td>73%</td>
<td>63%</td>
<td>83%</td>
<td>79%</td>
<td>80%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>87%</td>
<td>82%</td>
<td>85%</td>
<td>74%</td>
<td>75%</td>
<td>86%</td>
<td>81%</td>
<td>74%</td>
<td>85%</td>
<td>84%</td>
<td>42%</td>
<td>47%</td>
</tr>
</tbody>
</table>

Source: Tanzania SARA Report 2020
Emerging Market Constraints
**Emerging areas of Child Health Market Underperformance in Tanzania**

**SKILLS:**
- Lack of appropriately skilled HRH to diagnosis and treat common childhood illnesses;
- Lack of training opportunities and on-job mentorship in the private sector;
- Shortage of key HRH to deliver child health services

**BUSINESS FINANCING:**
- Insufficient working capital prohibits private health sector from seeking opportunities to deliver higher quality of care and services (e.g., investing in new equipment and technology; investing in HRH; ensuring reliable availability of medicines, etc.)
- Poor financial literacy also inhibits private sector from seeking financing from private sources.
- Commercial banks lack of knowledge of the opportunities in the health sector, and therefore do not have attractive loan products targeted at this sector.

**SUPPLY:**
- Poor availability of key child health services in the private sector
- Some private health facilities lack critical infrastructure to deliver quality services
- ADDOs serve on the front lines of service delivery particularly to rural communities, but availability of key products may be a challenge due to working capital constraints and poor inventory management;
- Highly fragmented market for key products with many registered products/suppliers (e.g., Alu)

**FINANCING (S):**
- A large percentage of child health financing in private sector is through out-of-pocket expenditure, Government insurance (NHIF), with limited financing by private insurance companies.

**INFORMATION (D):**
- Fragmentation of private sector data leads to limited visibility of the performance of the total market and makes it challenging to understand some of the root causes of inaccessible key products and services

**RULES & REGULATIONS:** Dissemination and implementation of policies and guidelines in the private sector is a challenge; Poor regulation and oversight of the private sector can lead to substandard quality of care (e.g., inappropriate use of medicines, etc.); Lack of clarity in policy (e.g., what products are allowed in ADDOs) leads to confusion among service providers

**DEMAND:**
- Lack of awareness about danger signs and how to appropriately treat common childhood illnesses at both community and provider levels leads to delayed care seeking and inappropriate care/decision-making.
<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>PRELIMINARY INSIGHTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PNEUMONIA</strong></td>
<td></td>
</tr>
</tbody>
</table>
| **AMOXICILLIN DISPERSIBLE TABLET (AMOX DT)** | • Limited availability of Amox DT in private health facilities, pharmacies and ADDOs.  
• Lack of clarity among service providers if Amox DT is allowed in ADDOs (not on the currently enforced ADDO Medicines List)  
• Despite that the Tanzania Standard Treatment Guidelines state the first line drug for childhood pneumonia is Amox DT, private providers prefer to prescribe combination therapy (e.g. amox +clav) vs. single drug therapies  
• The Government is interested in the local manufacture of Amox DT. Market entry barriers such as cost for tech transfer, access to financing, need for a guaranteed market (e.g., public sector procurement) prevent local manufacturers like Zenufa (who produce Amoxicillin tablets) from venturing into this market. |
| **DIARRHEA** |  |
| **ORS and ZINC** | • Although there are 11 registered suppliers of ORS and Zinc, there is little variety at service delivery points (1-2 products max)  
• Availability of ORS was relatively high at health facilities but use among children with diarrhea is low  
  • Community sensitization could be a challenge  
  • Health care workers in health facilities are not aware on the management of diarrhea and adherence to standard treatment guidelines  
• Availability of low osmolarity ORS/Zinc co-pack in ADDOs/pharmacies a challenge (low demand due to low palatability) |
| **MALARIA** |  |
| **ARTEMETHER + LUMEFANTRINE (ALu)** | • Many registered suppliers leads to a fragmented market which makes it more challenging for quality manufacturers to compete  
• Rational drug use and adherence to full course of treatment is important to delay drug resistance (with limited new drugs on the horizon)  
• Mosquito that can transmit two malaria parasite species (p. falaciparum and p. vivax) has been documented in Kenya. Need to ensure the availability of medicines to treat malaria caused by p. vivax. |
| **Insecticide Treated Nets (ITN)** | • ITN availability is low in certain regions of the country; Regions that have the lowest percentage of households with at least one ITN include: Arusha (49%), Simiyu (52.1%), Njombe (54.8%), Manyara (55.3%), Kilimanjaro (57.3%), and Shinyanga (59.8%).  
| **MARKET INTEL** |  |
|  | • Data visibility into the total market for these products is limited  
• Lack of forecasting/quantification makes it challenging for private sector to anticipate demand (beyond using past sales data to inform decisions) |
Emerging areas of IMCI underperformance in Tanzania

**SKILLS:**
- Few providers with IMCI training
- Limited access to training
- High staff turnover
- Episodic, inconsistent oversight and supportive supervision from R/CHMTs

**SUPPLY:**
- Relatively few private providers have had access to IMCI training or oversight
- Training is largely project-dependent, fragmented
- Training capacity may also be an issue
- In-service versus pre-service emphasis on IMCI training

**FINANCING (S):**
- Tanzania’s health system remains under-resourced and donor dependent
- IMCI can lose out to vertical programs since donor funding is still very focused on specific child health areas (e.g., immunization, malaria, newborn health, nutrition, etc.)
- Current MOH IMCI strategy emphasizes resource-heavy and expensive interventions

**RULES & REGULATIONS:**
- Dissemination and implementation of IMCI guidelines in the private sector is a challenge
- Poor regulation and oversight of the private sector can lead to substandard quality of care (e.g., inappropriate use of medicines, etc.);
- Regulations restrict ADDOs from being too “clinical”;
- ADDOs face some restrictions on stocking essential products to treat or diagnose common childhood illnesses (e.g., mRDTs, ACTs, amox DT)
- Private providers face few consequences for not implementing IMCI

**INFORMATION (D):**
- Data on IMCI are relatively old and/or non-existent
- Data produced by IPs is fragmented and not widely shared (and also, includes little to no private sector data)

**DEMAND:**
- IMCI is not a service that is separately demanded by caregivers
- Existing evidence is that clients’ level of satisfaction with quality of care in the private sector clinical settings is already high
- Many caregivers initially seek out care and treatment from ADDOs, pharmacies, or shops
### SERVICE PRELIMINARY INSIGHTS

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>PRELIMINARY INSIGHTS</th>
</tr>
</thead>
</table>
| INTEGRATED MANAGEMENT OF CHILDHOOD ILLNESS | A key barrier to IMCI adherence: limited active implementation of IMCI in the private sector, due to several factors:  
  - Few providers with training → no knowledge base  
  - Limited access to training → prioritization of public sector over private sector  
  - High staff turnover → new knowledge (however its built) decays quickly and/or is hard to retain in facilities  
  Challenges suggest a few potential intervention areas for further consideration:  
    - Diffusion of IMCI skills  
    - Retention of IMCI skills  
    - Digital applications  
    - Focus on referrals at lower levels (i.e., pharmacies, ADDOs, etc.)  
    - Expanding private sector access to training |