Improving Early Childhood Development in Zanzibar through a national, digitally-supported Community Health Program
D-tree International
Technology to Transform Health Care
Government Partner
Whole Systems Approach
The Challenge

- Fragmented delivery of community health services
- Lack of governance from MOH
- Low access to quality information at the household level
- Community health volunteers with very limited education and skills
- Demand for facility-based health services insufficient to meet health outcome goals

The Mandate

- Coordination and cohesion of all community health services
  - Single cadre of CHVs
  - Integrated service delivery: RMNCH, Nutrition, Child Development
- Delivery of high quality, accountable services via support from a comprehensive digital platform
- Data availability for decision-making
- Addressing urban areas and health needs
Understanding the need: ECD in Zanzibar

1 in 10 children aged 2 have a significant developmental delay, measured by CREDI Tool (2019); 4x greater than global reference population

1 in 5 children stunted¹ (2018)

20% of children meet Minimum Acceptable Diet standard

1 hour: median time children engage in play daily

86% of caregivers use harsh physical punishment as discipline

The Opportunity

• Small and defined geographic context
• Decent accessibility to health facilities
• 2,000 volunteers already providing some community-based services
• Government seeing value and opportunity of digital tools
• Coordination and agreement between all health system partners

¹ Tanzania DHS 2015-16.
National Digital Community Health Platform

Digital Coordination
Case management • Decision support • Referral coordination • Work planning • Performance monitoring

Community health volunteer
Maternal health
Newborn health
Child health
Nutrition
Early childhood development

Supervisory systems
Actionable alerts around CHV performance
Decision support for supervisory visits & monthly meetings
Bi-directional feedback

Health systems management
Real-time data analytics
Aggregate & individual data
Quarterly review meetings
Continuous quality improvement cycles
Aggregate government reports
First home visit for a newborn baby. The CHV is checking vaccinations and coaching on early stimulation, attachment, and breast-feeding.
CHV Role: Holistic care for households and families

- Health promotion and education
- Screening and recognition for danger signs, health risks, missed routine visits/services, unhealthy behaviors, concerns in the home
- Individual and group coaching
- Referral to facility
- Follow up monitoring of concerns, referrals, facility discharge/counter referral to community
Digitizing ECD: Considerations

- Access to health facilities and information
- Cultural, social and gender norms
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- Cultural, social and gender norms
- Role and agency of CHV
- Time and agency of caregivers
- Nutritional and food security
- Accessibility of toys, books, play thing
- Home environment
- Time and agency of caregivers
Care for Child Development component

Assessment
- UNICEF Care for Child Development Checklist and Guide
- Child development, parental behaviors and interactions
- Nutritional status and breastfeeding practices

Intervention
- Play and communication activity demonstration, practice and coaching with all caregivers

Counseling and Problem Solving
- Based on findings from assessment and observation
- Identifying and problem solving concerns in home environment
- Further screening for significant disability as necessary

Routine Monitoring
- MICS Home Environment questions (routinely)
- Additional data gathered through work flow above
Play and Communication Activity Guide

- Originally developed by Aga Khan Foundation & UNICEF in Rwanda
- Updated with additional activities and guidance by Harvard (Aisha Yousofsai’s team) for EFFECTS study
- Translated into Swahili and activities adapted to Zanzibar context by D-tree
## ECD Outcome Measures

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cognitive</strong></td>
<td>Thinking, Reasoning</td>
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<tr>
<td></td>
<td>Problem Solving</td>
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<tr>
<td></td>
<td>Putting things together</td>
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<tr>
<td><strong>Language</strong></td>
<td>Expressing words and short sentences</td>
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<td></td>
<td>Understanding what others say to them, following instructions</td>
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<tr>
<td><strong>Motor</strong></td>
<td>How children move their body, sit walk, run, jump</td>
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<td></td>
<td>Movements of fingers and hands, feeding oneself, getting undressed</td>
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<tr>
<td><strong>Social Emotional</strong></td>
<td>Relating to people with eye contact or closeness</td>
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<tr>
<td></td>
<td>How child responds when upset or scared</td>
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2,200 CHVs
200 Supervisors
100% of Zanzibar
by end of 2020
How can CHVs use technology to provide high quality child development care and counseling?

What type of interventions, interactions, and messages are most effective in improving child engagement and home environments, and ultimately child development outcomes in Zanzibar?

What are CHVs’ and families’ perceptions and beliefs about child development ideas and practices?
  - How does this affect the ways CHVs provide early childhood development services?
  - How does this impact child development outcomes?

How can we use technology to create a continuum of care and services for care for child development between households, communities, and health facilities?
Contact: Allyson Nelson
anelson@d-tree.org