Practical Considerations for Setting Up Community Emergency Transport Systems Using Motorbike Ambulances (MBAs)

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The Americas:
- Belize
- Dominican Republic
- Guatemala
- Haiti
- Honduras
- Panama

Africa:
- Botswana
- Burkina Faso
- Cameroon
- DR Congo
- Ethiopia
- Eswatini
- Ghana
- Kenya
- Lesotho
- Liberia
- Malawi
- Mali
- Mozambique
- Namibia
- Nigeria
- Rwanda
- Senegal
- Sierra Leone
- South Africa
- Tanzania
- Uganda
- Zambia
- Zimbabwe

Asia:
- Cambodia
- India
- Indonesia
- Laos PDR
- Myanmar
- Papua New Guinea
- Vietnam
CHAI strengthens referral systems as part of broader integrated transformational programs

Sexual Reproductive Maternal Newborn Health/Primary Health Care Strengthening Programs

- SRH/AFS/FP
- Health Worker Capacity Building
- Referral Systems and Emergency Transport
- Supply Chain Systems
- Coordination, Information Systems

Strengthening referral networks, linkages and emergency transport from community to lower and higher level facilities
CHAI strengthens referral systems as part of broader integrated transformational programs

Working with Governments to Strengthen Referral Networks, Linkages and Emergency Transportation

<table>
<thead>
<tr>
<th>Mapped health facilities</th>
<th>Developed referral pathways and directories</th>
<th>Expanded the ETS program - public private partnership with NURTW</th>
<th>Deployed 345 Motorbike Ambulances in 4 Countries in Africa</th>
<th>Established Closed User Groups – 1,338 network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed referral protocols and guidelines</td>
<td>Trained HCWs, ambulance crew and volunteer drivers/riders</td>
<td>Supported State/National design/plan ambulance systems</td>
<td>Optimized ambulance deployments and management</td>
<td>Strengthened referral documentation and coordination</td>
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</table>
The absence of a functional referral and emergency transport system remains a barrier to accessing lifesaving health services

- Delays in reaching care is a major barrier to access care.\(^1\) This is critical during obstetric emergencies where prompt care is required.

- Ambulance services are often inadequate, poorly managed and unable to cover rural and hard to reach communities.

- Issues are compounded by absence of public transport, difficult terrains, long travel distances, inaccessible communities, and the inability of patients to pay for transport.

- Patients have to travel for several hours to obtain necessary care. Walk or use bicycles or carts to reach a health facility during emergency.

A functional, timely, affordable and sustainable community emergency transport system addresses some of these barriers

 ✓ **Identification** - Complications identified early to prevent them becoming life threatening

 ✓ **Transportation** - Cases are referred quickly to the appropriate health system level for proper treatment.

 ✓ **Life Saving Interventions** - Interventions provided at appropriate level

 ✓ **Stabilization** - Simple interventions are applied immediately to ensure survival

**Severe Cases**

Community 1st responders, providers MBA Riders

MBA/ETS (Private - Public Partnership with Unions)

Referral Network - Community leaders, 1st responders, and providers, MBA and volunteer riders, HCWs, ambulance drivers

Referral Pillars – Organization, Policy, Personnel, Protocols and Tools, Communication, Transportation, Documentation, Feedback, Monitoring and Supervision

Dependent on referral pathway, cost, distance, time of day, type, capacity, availability and quality of service
Overview of the Motorbike Ambulance (MBA)

Purposefully designed or modified motorcycle, tricycle, trailer or integrated vehicle with a side or back mounted or integrated attachment/side car used to safely and comfortably transport a patient and accompanying responder during emergencies.

Varying cost and quality – $3,500- $6000. Depending on model, specifications and shipping fees. Standard models with a stretcher, off road tyres and clearance, standard power and suspension to take the weight of a rider, patient and accompanying 1st responder or caregiver.
Critical questions to be asked before proceeding

- Who are the players in the community and emergency transport space?
- Where are the emergency transport needs?
- Which community should be targeted and why?
- Is MBA the solution. Should we deploy conventional ambulances or have public private partnerships with unions instead?
- Are there existing community transport initiatives that can be scaled up or integrated?
- What type of system do we want to implement? – MBAs operated by community or facility or MBA with public private partnership. Volunteer or funded system?
- What scope should be covered – maternal or broader scope?
- What MBA model is suitable for the targeted terrain?
- How will the system operate? Who will be responsible for managing and operating?
- How will the MBAs be funded, managed and sustained?
Based on CHAI Experience, the phases of set up of community emergency transport system using MBAs include:

- **Design and Planning Phase:** Assessment, design, planning, procurement
- **Pre-Deployment Phase:** Activities in preparation for deployment
- **Deployment Phase:** Actual deployment of MBA at community level
- **Post-Deployment Phase:** Continuous monitoring of utilization and maintenance, addressing issues and ensuring sustainability
Implementation phases – considerations and key activities

**Design and Planning**

Engaging stakeholders - Government, ministries, partners - Identifying previous and existing initiatives. Develop MBA deployment plan.

Understanding the need - Epidemiological profile/assessment.

Mapping of target geography and ranking communities - Ensure strategically placed.

Engage communities and facilities - Ownership, scope, funding, oversight, operations and sustainability.

Guide communities to establish funding mechanisms - Community savings and pooled funds, food bank, private sector branding.

Selection and Procurement of MBA model and specifications - Terrain, cultural acceptance, safety, dignity, price, maintenance cost, spare parts availability, in-country vendor presence.

**Pre- Deployment**

Finalizing MBA management/oversight structure - Clear roles and responsibilities using an MOU.

Selection of 2-3 riders using standard criteria - Resides in community, licensed, trusted, available, literate.

Considerations for rider payment or incentives: Monetary and non-monetary incentives – awards, recognition, supervision, union incentives.

Considerations for rider attrition and burn out - Self-sustaining system to replace new riders.

Considerations for maintenance - Identify technicians, develop maintenance plan, stock parts.

Considerations for communication System - Closed user groups, share riders numbers, directories.

Develop reporting system - Simple paper-based, electronic reporting using phones to DHIS2.

Plan riders training and develop protocols - Local context, simple pictorials, language.
Example of Communication Flow during an Emergency

Closed User Group (CUG) within emergency referral network – linking 1st responders, MBA riders, health facilities, referral focal persons

Tools: Phones, referral pathway, protocols, phone directory, data collection tools
Some tools: simple tools for data capture

### Sample ETS Drivers/Riders Log Sheet (Nigeria CHAI MNH Program)

#### ETS DRIVER/RIDER LOGSHEET

<table>
<thead>
<tr>
<th>DRIVER/RIDER'S NAME</th>
<th>LGA</th>
<th>DATE</th>
<th>WOMAN'S NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>PATIENT'S PHONE NUMBER</th>
<th>NASG USED ON WOMAN</th>
<th>TIME NASG WAS USED</th>
<th>STATUS OF PATIENT ON ARRIVAL OF FACILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES ☐ NO ☐</td>
<td></td>
<td>ALIVE ☐ DEAD ☐</td>
</tr>
</tbody>
</table>

#### DRIVER/RIDER'S JOURNEY (PLEASE ENTER TEXT AS APPLICABLE)

<table>
<thead>
<tr>
<th>START LOCATION</th>
<th>TIME TRAVELLED</th>
<th>PICK UP POINT</th>
<th>TIME TRAVELLED</th>
<th>DROP-OFF POINT</th>
<th>HEALTH PROVIDER SIGNATURE</th>
<th>MOTOR PARK SIGNATURE</th>
</tr>
</thead>
</table>

#### MATERNAL DANGER SIGNS (PLEASE TICK THOSE THAT APPLY)

- **Severe Headache**
- **Swollen Feet, Hands or Face**
- **Fitting**
- **Severe Bleeding**
- **Fever/Chills in the Days After Childbirth**
- **Labour Lasts for More Than 12 Hours**
- **Hand, Foot or Cord Comes First**
- **Placenta Does Not Come Out Within 30 Minutes of Childbirth**
Some tools: providing clear protocols and job aids for riders

Sample MBA Riders Protocol (Nigeria CHAI MNH Program)

REFERRAL PROTOCOL FROM COMMUNITY TO FACILITY

MBA RIDER

- Upon reception of call (phone or in person) regarding an emergency/labour, ask the following:
  - Name of the woman (newborn);
  - Exact location;
  - Contact details/Save the phone number on your mobile/CUG;
- Travel immediately to the Village Head house to collect the MBA;
- Collect vehicle, keys and complete the register;
- Safely pick up pregnant woman/newborn;

REFERRAL TO Nearest Health Facility/ PHC (DANGER SIGNS)

- Blurred Vision
- Foul Smelling Liquor
- Excessive Vomiting
- Swollen Feet
- Headache
- Looks Pale

REFERRAL TO GENERAL HOSPITAL (EMERGENCY COMPLICATIONS)

- Excessive bleeding
- Baby not breathing
- Baby not crying
- Premature baby

- At the facility, complete MBA logbook, get it signed by a health worker and drop one copy; keep the logbook safely in the MBA at all times.
- Travel back to the community; leave MBA and the keys with the Village Head; complete register.
Implementation phases – considerations and key activities

Deployment

**Receive and assembly of MBAs** - Transportation, space and tools - storage, assembly and training. Prior arrangements with sub national workshop.

**MBA registration and insurance** - As per Country regulations before operation. Think through ownership and liability.

**Riders trainings** - Provide training on operation and maintenance. Time for rider practice. TOT/Step down approach. Reduce gap between trainings and start of operations.

**Equip riders during training** - Job aids, tools, referral pathway and directories, phones, helmet, gloves, reflector jacket, raincoats and boots.

**Official handover of MBAs** - Accountability framework

**Creating demand** - Awareness and sensitization

**Linking riders with other community actors, facility health workers, police** – TWG Meetings, reviews

Post-Deployment

**Track MBA use and troubleshoot issues** - Track utilization - non use, under or over utilization, abuse, manage rider, test communication. Address faults and repairs on time.

**Monitor number transported and routine maintenance** - Facilities/MOH use data for action. Course correct where required.

**Closely monitor funding mechanism and contributions** - Track contribution progress. Determine when to intervene.

**Document and share learnings to guide other partner scale up** - Referral forums and TWGs Meetings and conferences
### Some challenges and mitigation strategies

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<th>Challenges</th>
<th>Mitigation</th>
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<tr>
<td>Under-utilization</td>
<td>Create demand - community awareness and sensitization.</td>
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<tr>
<td>Inappropriate model of MBAs</td>
<td>Model selection using standard criteria. Learn from previous partner deployments</td>
</tr>
<tr>
<td>Sustainability of funding for operations and maintenance by communities.</td>
<td>Strong community engagement. Consideration for ownership and sustainability from start.</td>
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<tr>
<td>Poor maintenance of MBA</td>
<td>Implement and monitor maintenance plan, train maintenance officers.</td>
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<tr>
<td>Poor communication/relations between riders and facility health care workers</td>
<td>Involve all parties throughout process. Continuous engagement/update meetings.</td>
</tr>
<tr>
<td>Rider burn out and attrition</td>
<td>Appropriate rider incentives. System for replacing riders. Use riders for supportive supervision.</td>
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<tr>
<td>Bad terrain for MBA</td>
<td>Explore integration with wider referral system – local, conventional ambulances, boats, private vehicles.</td>
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**Summary**

A functional, timely, affordable and sustainable community emergency transport system can address transportation barriers during emergencies

- Holistic approach considering all referral pillars, addressing demand and supply issues.
- Interventions should build on existing systems and interventions.
- Strong considerations for ownership and sustainability from the start.
- Not a one size fit all approach – different country peculiarities
- Continuous engagement and support for communities to address challenges
- Continuous monitoring and learning - refining and improving deployments processes
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