### Bridging the Referral Gap - the Emergency Transport Scheme in MORE MAMaZ

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## Background

# Physical barriers to accessing health facilities

- In rural Zambia, transport availability is often:
  - Expensive; cost can be a major barrier to use
  - Limited in availability
  - Terrain can be challenging
  - Currently many women in labour walk, use make-shift stretchers or are pushed on a bicycle
  - Sometimes women are discouraged from travelling at all due to lack of transport



## Background

#### **Context in Zambia**

- Many communities live far from health centres
- Such delays can worsen the clinical severity of cases, particularly where complications exist
- Global evidence suggests that implementing transport strategies alongside other interventions may contribute up to an 80% reduction in maternal deaths

(Murray and Pearson 2006)

## Strategy

#### Approach

- Close collaboration with District Health Management Teams (DHMTs)
- Comprehensive design work at the community level looked at:
  - distance
  - terrain
  - socio-cultural & economic context
  - local transport culture
  - accessibility of spare parts
- Findings informed the ETS design and ensured the programme built on what was already in place



### **Intermediate Modes of Transport**

- MORE MAMaZ used non-motorised Intermediate Modes of Transport (IMTs) to improve rural communities' physical access to health facilities.
- 102 bicycle ambulances were built during MORE MAMaZ
- 18 ox cart



### **Bicycle Ambulances**

#### The 'BA'

- BA trailer and stretcher system was produced by Disacare, a Zambian NGO (bicycles supplied through World Bicycle Relief)
- Stretcher can be detached from the frame
- BAs include a full canopy for protection and privacy
- Good ground clearance
- Bicycles and trailer are robust and durable
- Each BA was supplied with essential 'tools of the trade' – logbooks, rain suits, lights, and some basic tools





### **Ox-carts**

#### **Constructing ox-carts in Western Province**

- Design based on community preferences
- Constructed by local artisans
- High ground clearance
- Locally procured oxen
- Involvement of the Vet's office to support with oxen procurement, vetting and screening
- Provision of 'tools of the trade'

- 18 ox-carts and 36 oxen were procured locally
- Communities built shelters for the ox-carts



## Training

#### Working closely with DHMTs, communities were mobilised:

- ETS Riders and custodians of the vehicles nominated by the community
- Wider community engaged in discussions on how to access the vehicles, and on community stewardship of ETS
- Key message community entirely responsible for maintenance, safe-keeping and responsible usage
- Neighbourhood Health Committees (NHCs) conducted demonstration rides to introduce the ETS to the community
- DHMT's were involved in all aspects of the ETS, from the initial needs assessment work, to on-going monitoring, and review activities

## Training

#### **Rider training included:**

- role of an ETS volunteer
- safe lifting and handling of mothers
- patient confidentiality
- basic principles of ETS maintenance
- the practical dismantling and assembling
- ox cart maintenance
- oxen well-being and care (with support from vet's office)
- recording trips in logbooks
- Action plan (community meeting, demonstration ride

and building of shelters)



### Results

## Improving access and building community cohesion

- Communities can now access transport
- Feedback from communities and DHMTs suggests that ETS is highly valued
- ETS riders have increased social status in their communities
- The community-managed approach helped to strengthen community cohesion.

"Even if they come at 1am, they will find the bicycle ambulance here. We saw the maternal danger signs and know that the bicycle ambulances have reduced maternal deaths. What motivates me is that I can reduce maternal deaths in my community." ETS Rider

### Results

#### **Headlines**

- Between September 2014 and July 2016,
  4,105 pregnant women benefitted from the ETS
- 92% were normal deliveries and 8% had a maternal complication
- Highlights rural communities' considerable reliance on ETS for both emergencies and nonemergencies
- Women were able to rely on ETS '24/7'; 43% of the recorded transfers happened at night.
- Endline survey: all those who had a maternal complication survived, while 96% of babies survived
- The percentage of women delivering at a health facility increased from 64% at baseline to 89% at endline



### **Perspectives from the community**

Story from an ETS beneficiary

Story from an ETS Rider

### Value for Money

- MORE MAMaZ made the initial capital investment:
  - Bicycle ambulance (trailer + bicycle)
  - Ox carts (cart + 2 oxen)
- Ongoing running costs are low compared to motorised transport (savings schemes can help)
- The cost of community-based ETS training is modest
- The Riders work as volunteers
- The cost per trip goes down over time and the assets offer their communities value for money

Unit costs: BA K7,600 / £543 Ox cart K15,583 / £1,113 'I am very happy that we have the BA in our community. As the head rider, I am committed to transport women any time, any hour, any day. I am a rider for life and nothing will stop me from doing this work'.

> ETS Rider, Chama District

"Being an ETS rider brings me joy as I save not only mothers' but babies' lives. Once I had a sad experience in my family. A family member died due to lack of transport and I have never forgotten. Now we have transport and there are almost no home deliveries." ETS Rider, Serenje District

## Lessons Learned

- ETS needs to be suitable for the terrain, culturally appropriate and easy/affordable to maintain
- Ensure that spare parts are readily available
- Link to saving schemes or income generating activities help finance ETS repairs
- An ETS audit system that provides real time information to DHMTs about the state of ETS vehicles can be useful
- Working with oxen (or any animal-pulled carts) is challenging. Sourcing and transporting oxen to intervention sites, providing vaccinations and ongoing care of livestock need to be considered
- If the community management system is weak the chance of failure is high
- In some areas ETS riders may face challenges travelling at night due to human wildlife conflict

ETS works best when implemented as part of a broader community engagement and empowerment effort that addresses all demand-side barriers to use of MNH services simultaneously

## **Policy Implications**

#### Our key messages

- The referral gap between communities and the facility needs to be addressed specific, budgeted activities need to be implemented
- This needs to be acknowledged in health policy and strategy
- Replacement costs for ETS vehicles should to be considered in national or district health budgets.
- A focal point is needed within the MOH and in DHMTs for all activities that help strengthen the community health system, including community-based emergency transport systems
- To avoid procurement of inappropriate ETS vehicles, government departments and development partners should use locally appropriate and evidence-based ETS solutions