Transportation and Referral for Maternal Health within the CHPS System in Ghana

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May 20, 2010

“No Woman Should Die Giving Life”

Background: Health Services in Ghana

- Independence 1957
  - Health services modeled on British system with focus on hospitals
  - Rural majority largely ignored
- Basic health service model adopted after independence
  - Expanding access to all Ghanaians through network of regional hospitals, district hospitals and health centres with large infusion of resources
- Results were disappointing by 1977

The Policy Direction

In 1977 MoH Policy stated…

- '.. Most disease problems that cause the high rates of illness and deaths among Ghanaians are preventable or curable…
- …if diagnosed promptly by simple basic and primary health care procedures'
- that a major objective (of the ministry) will be to extend coverage of basic and primary health services to the most people possible during the next ten years" MOH Policy Document: July, 1977

The Policy Direction

- " in order to provide this extent of coverage it will be necessary to engage the co-operation and authorization of the people themselves at the community level…
- .. it will involve virtual curtailment of the sophisticated hospital construction and renovation and…
- .. will require a re-orientation and re-deployment of at least some of the health personnel from hospital-based activities to community-oriented activities"

MoH Policy Document: July 1977

The Problem

- Majority of people in Ghana have no access to health care (Accessibility)
- Quality of care
- Community involvement
- Gender equity
- Efficiency in resource utilization
- *Infant, child & maternal mortality are very high.*

The CHPS Story

- The Ghana Community-based Health Planning and Services (CHPS) is "close-to-client' health delivery system based on evidence from the Community Health and Family Planning Project of NHRC that showed
  - Retraining and deploying health staff in communities
  - Community organisation and mobilization
  - Utilizing traditional institutions and support structures
  - → Improved impact of PHC
    - Services – FP, immunization, treatment of minor ailments and providing health education

What then is CHPS?

- CHPS is a PROCESS for changing health service delivery by increasing geographic & financial access to health care (a major strategic pillar in Ghana's HSR and currently the GPRS.

- CHPS is a coverage plan that seeks to address inequalities to access in Health Care especially in deprived regions, districts and communities.

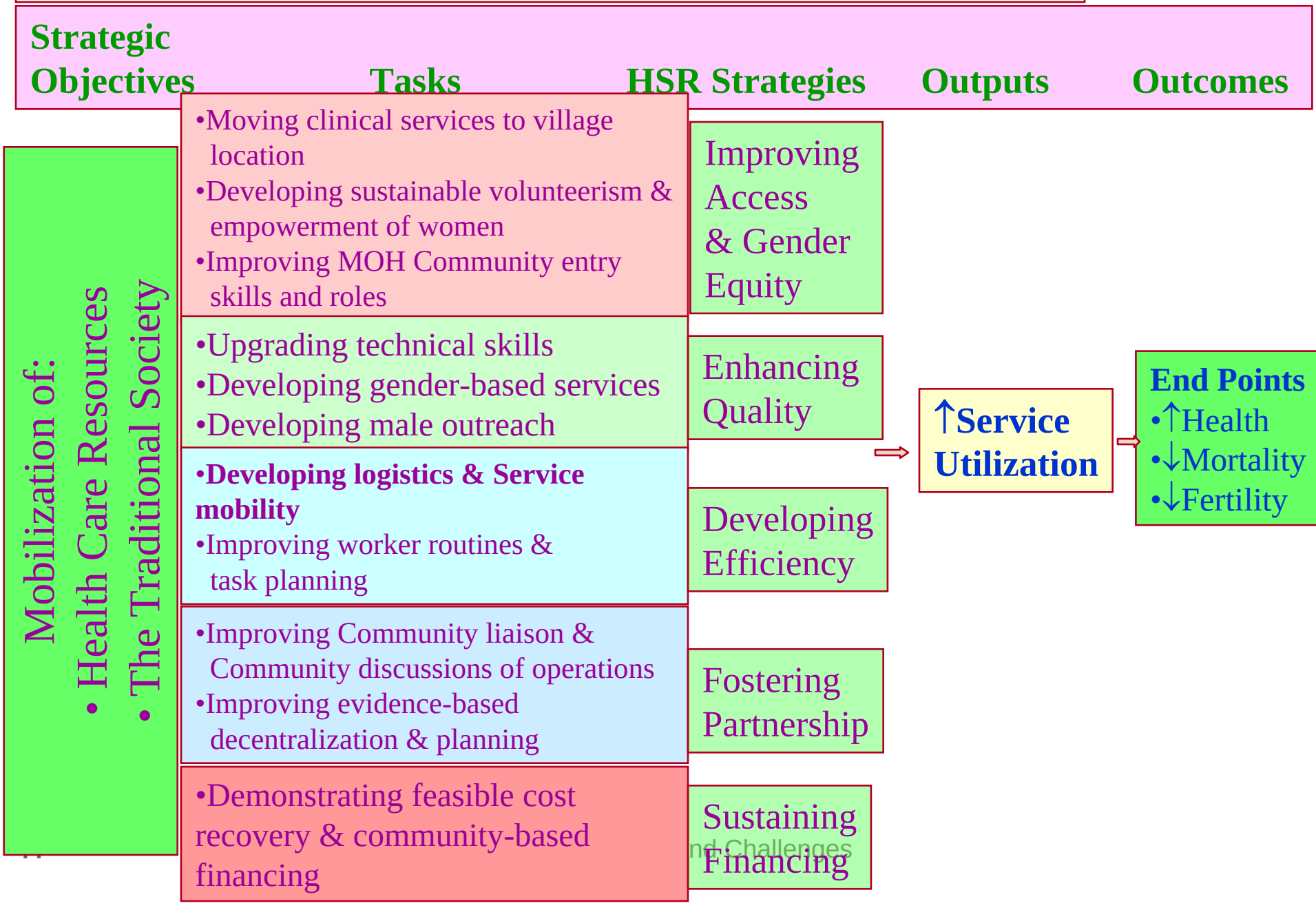
What then is CHPS?

- Community-based service delivery points
- Improved partnerships with community leadership and social groups in all districts
- To provide the **Community–based level**, or '**close-to-client**' doorstep health delivery with household and community involvement.
  - ***A Process that tries to engage communities to improve their own health (status)***

The CHPS Milestones

- health service work areas are delineated for primary health care outreach activities
- community leaders are oriented and involved in the health programme
- a “Community Health Compound” is established where a resident nurse provides health services, and
- Community Health Officers is selected, trained and relocated to community locations
- where equipment for transportation is mobilized and finally,
- where volunteer health organizers are trained and deployed to support the nurse (CHVs & CHCs).

CHPS and Health Policy Reform in Ghana



The Result

- The demographic impact of CHPS on fertility and child mortality rates has been well documented (Debpuur et al., 2002).

- "The primary producers of health are the individual households with mothers often taking the first key decision to seek health care" (Documented in CHPS Operational Policy).

- Some other studies have focused on the effect of CHPS on household decision-making processes, health behavior and care-seeking with very good results.

Role of CHO in Maternal Health

CHOs Provides Services/FP Counseling on Individual Household basis

Home Visits by CHO

Role of CHO in Maternal Health

CHO Provides Domiciliary ANC Service

Role of the CHO in Service Delivery

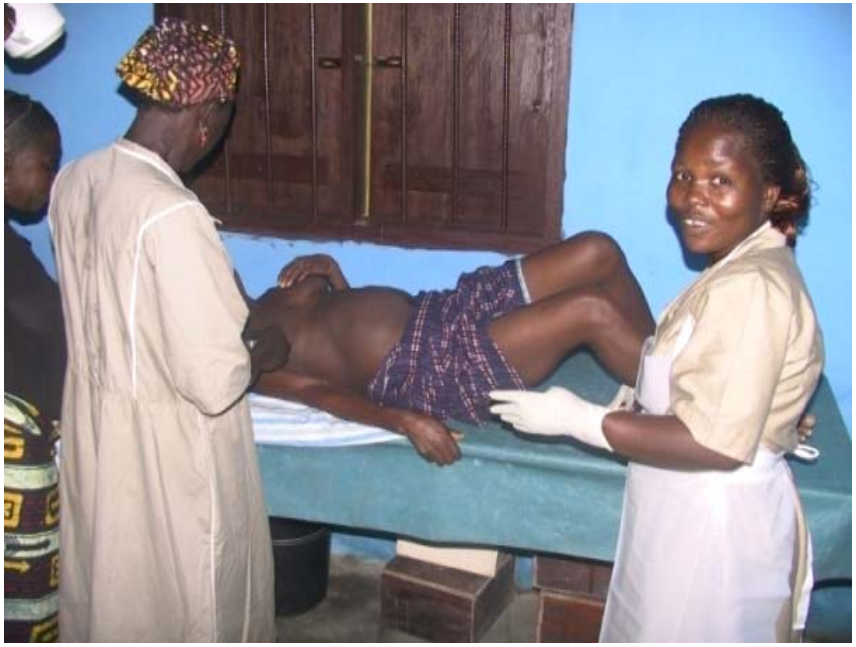
CHO Provides Curative Services

CHO Trains TBAs

Role of the CHO in MH Services

CHO Mobilizes Community for Health

Referrals from TBAs to CHO



Role of the CHO in Maternal Health

TBA & CHO Work Together

Domiciliary Delivery by CHO

Communication in Maternal Referral

A CHO's mate is the Motorola (Communication)

CHO Treating a Child

Examining Current Practices for Emergency Obstetric Care Referral within the CHPS system: A Case Study

Ghana: Maternal Mortality Ratio

- Ghana's estimated MMR: (2008 MHS)
  - 451 deaths/100,000 births (600-800/100,000)
- GHS 2006 Goal:
  - reduce MMR to 150 deaths/100,000 births
- Ghana's MDG 2015 Goal:
  - maximum of 54 deaths/100,000 births

Main Causes of Maternal Mortality in Ghana

- Direct causes:
  - hemorrhage
  - sepsis
  - unsafe abortion
  - prolonged/obstructed labor
  - hypertensive disorders
- Indirect causes:
  - anemia, malaria
  - malnutrition
  - violence
  - high risk pregnancy
  - infectious diseases
  - many others

The Role of the Referral System

The "Three Delays"

1. Delay in seeking qualified medical care in the event of an obstetric emergency.
2. **Delays due to lack of transportation and time spend in transit.**
3. Delay in receiving the appropriate interventions and level of care after reaching the health facility.

Reasons for Delays

- Traditions that support home births.
- **Lack of affordable and appropriate transport vehicles.**
- **Long distances to facility/ inadequate infrastructure.**
- Lack of funding for services.
- **Absence of strong referral network.**
- Lack of reliable means of communication.

Ambulance Services in Ghana

- Lack of effective and efficient coordination (Fragmentation)
  - National Ambulance Service (NAS)
  - Facility (Hospital) Ambulance Service (GHS)
  - Fire Service Ambulance Service (FS)
  - Private/NGO Ambulance Services
  - Others: mainly community based (innovations): Tractor, Tricycle, Motorbike etc

Addressing Referral Challenges for MH in Rural Ghana

The Road Network has always been a major challenge

The Community & CHO Ready to participate in Referral

Addressing Referral Challenges for MH in Rural Ghana

‘Palanquin’ Ambulance

The Innovation: Tractor Ambulance

Addressing Referral Challenges for MH in Rural Ghana

…..Road to Health

The Road Network

Addressing Referral Challenges for MH

Its either the Donkey Cart

Or Bicycle

Addressing Referral Challenges for MH

CHO Referral

Motorbike Referral

Addressing Referral Challenges for MH in Rural Ghana

Facility Tricycle Ambulance

Tricycle Ambulance in a Clinic

Referral: Taxi becomes the 'Delivery Room'

Tractor Ambulance in Alokpatsa CHPS zone

Innovative ways of providing referral maternal services in remote and deprived Communities

The Innovation: Addressing Referral Challenges for MH

Networked Nkwanta District Ambulance

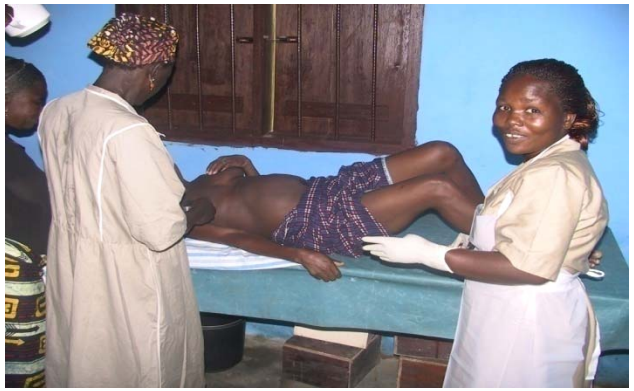
Nkwanta Initiative: The Alokpatsa Story

- **Reducing Maternal Mortality through CHPS:**
  - District-wide community engagement & mobilisation
  - Series of community durbars and accountability
  - From 'Palanquin' to Tractor Ambulances
  - Nurses communicating with referral centres with 'Motorola' & now cell phones
  - Established fully equipped district ambulance
  - Community volunteers using cell phones for info.
  - Pregnant women provided with CHOs Cell Nos.
  - TBA/CHO working together

The Alokpatsa Story: Securing Resources

- **Securing Resources was mainly a local initiative:**
  - Presenting the state of Maternal Health and Mortality in the district to 'ALL' at every opportunity.
  - General acceptance by 'ALL' that this is a problem
  - Contribution from Individuals (Proposals, Appeals)
  - Engagement of donor organisations (The Mascotte Family, The Population Council, Internally Generated Funds, The MPs Common Fund)
  - Community contribution to fuel tractor and through income generated from 'hiring' tractor for local farming

Maternal Mortality in Nkwanta District



- significant reduction in reported maternal mortality
- 1995 – average of 8 maternal deaths reported/month
- 2000 – 21 maternal death reported/year
- 2006 – 5 maternal deaths reported/year; this translates into a MMR of 250/100,000 live births

Saving Lives through the Ambulance System

- What proportion of tractor ambulance trips are maternal and childbirth related?
  - Almost two third of the ambulance use is related to maternal and child birth emergencies
  - Again while almost two third of the ambulance use are maternal health related, the other common use of the ambulance are related to child health (convulsion, cerebral malaria and anemia as well as snakebite and injuries

Implementation Research for Maternal Health and EmOC Referral in the Upper East region

- In 2009: the region conducted
  - Rapid Assessment in 25 CHPS Zones
  - Case Studies in 3 districts
- This is being followed by an EmOC Needs Assessment (April - May 2010)
- Next will be a Qualitative Assessment of community members and health service providers (June 2010) following which funds will be sought to assist DMHTs develop Locally Appropriate Referral Strategies

Upper East Region: Implementation Research for EmOC Referral (Key Findings)

- Background: Rapid Assessment in 25 CHPS Zones
  - Only 15 of 25 CHPS zones had a referral register
  - In most zones, CHOs report that women referred to a higher level facility for EmOC are unable to depart immediately.
    - Most of these delays were due to problems locating and paying for transport
  - In 20 of 25 zones, relatives usually paid for EmOC transport.
  - In 18 of 24 zones, CHOs or midwives requested EmOC transport with their personal cell phones.
  - However, one third of CHOs had a zero credit balance to make calls at the time of the assessment.
  - Common transportation options included ambulances(20 zones), taxis/cars (9 zones), and motorbikes (9 zones); Bicycles, walking and donkey carts were less common.

What are the Referral Challenges

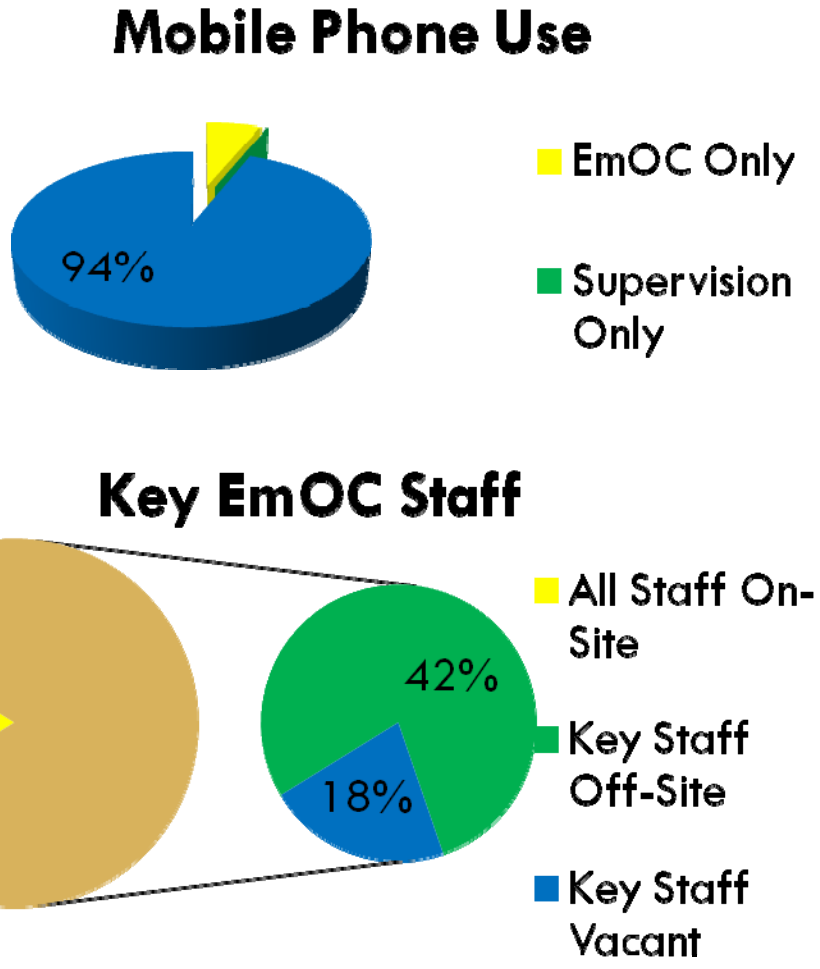
- Challenges to Transportation for EmOC Referral:
  - Vehicle maintenance
    - Sustainability: Failure of past programs without a budget for spare parts and regular maintenance by appropriately trained mechanics
  - Appropriate technology (Too much Generalisation)
    - Failure of past programs to address the local (Upper East) infrastructure: Major highway + Poor quality secondary roads + Communities without road access
      - Modes of transport that work in off-road conditions are incompatible with highway use (i.e. tents on the back of tractor ambulances blown off highway by large trucks)
      - Ideal: off-road transport rendezvous with ambulance at main road

Upper East Region: Implementation Research for EmOC Referral (*Case Studies in 3 districts*)

1. Qualitatively assess the availability of EmOC services and emergency transportation at the regional, district, and sub-district levels.
2. Seek out the opinions and experiences of health workers involved in the provision of emergency obstetric care services.
3. Formulate a set of recommendations that:
    1. identify weak areas of EmOC services and emergency transportation.
    2. prioritize necessary interventions.
    3. create a foundation for an emergency referral section of the upcoming EmOC *needs assessment*.

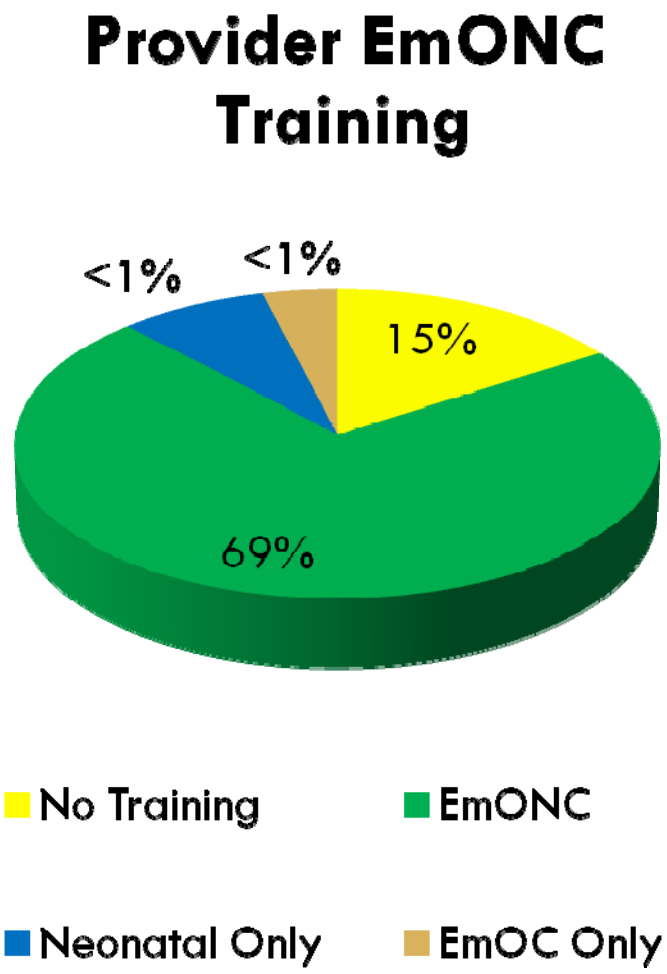
Findings:

- Total # interviews = 50
- Total # sites visited = 20
- Health facilities w/all key EmOC staff present = 40%
- Vital statistics:
  - 31 female, 19 male
  - 26 providers, 24 support staff
  - Average age = 42 years old
- Communications
  - **Has mobile phone = 98%**
    - **EmOC use = 100%**
    - Supervision use = 4%
    - Has credit on phone = 73%
    - Received credit (work) = < 1%



Data: Training & Experience:

- Work history:
  - Ave. years since qualified for present position: 11
  - Ave. years at facility: 5
    - Median: 3
  - Ave. years in present position at facility: 1.5
- **EmONC training = 69% providers**
  - *Ave.* = 4.4 years since training
- **Emergency neonatal training = 46% providers**
  - *Ave.* = 3 years since training



Communication:

Pros

- **Mobile phone networks cover all sites visited.**
- **Evidence of Use mobile phones for:**
  - **emergency cases**
  - **referrals**
  - **supervision, telemedicine**
  - **follow-up**
- Mobile Phone preferred over radio:
  - **reliability**
  - **patient privacy**

Cons

- No comprehensive list of staff tel. #s.
- Networks frequently down:
  - multiple SIM cards
- Unable to charge phone due to no electricity.
- Cost burden incurred by use of personal mobile for work purposes.
- Multiple people must be called to reach/locate key HW.

EmOC/Safe Motherhood:

Pros

- **Most sites have at least one person w/EmOC training.**
- Cases of unsafe abortion decreasing since Pathfinder program initiated.
- **Midwives, Medical Assistants, and CHNs showed interest in EmOC training/refresher classes.**
- MVA training increased midwife scope of practice.

Cons

- **Gap in EmOC services more often due to lack of supplies rather than training.**
- **Referral system for EmOC cases weak**
  - **No referral-specific training.**
  - Variable care pathways
- Lack of trained HW on site to provide signal functions.
- Safe Motherhood audits occurring less frequently.

Protocols vs. Practice:

Pros

- Partographs for EmOC used were available.
- Protocols exist at DHMT offices.
- Treatment algorithms and protocols often available through training/workshops.
- Supervision protocols practiced.
  - often **use mobile phone if site inaccessible (rainy season**)

Cons

- **Weak element of system.**
- **No formal training on:**
  - **referral protocols**
  - **re-supply protocols**
  - **logistics/supplies protocols**
- Lack of supplies to produce and distribute protocols.
- Minimal knowledge of insurance protocols at sub-district/CHPS levels.
- Not standardized between districts.

Transport:

Pros

- Multiple methods available to reach driver.
- HW often accompanies patient during transfer.
  - excl. CHPS Zones
- Donor interest in funding fuel costs for EmOC transport.
- ***Innovation:*** **DHMT office re-allocated funding to pay fuel costs of EmOC transport. (DA too)**

Cons

- **Lack of vehicles at Health Centres & CHPS Zones, or lack of availability due to:**
  - **maintenance issues.**
  - **vehicle in use.**
- **Burden of fuel costs:**
  - **DHMT, patients, CHNs**
- **Bad roads, long distances.**
- **Pick-up trucks, motorbikes & donkey cats inappropriate of EmOC.**
- **Communities far from health facilities/roads.**

Patient Care:

Pros

- HWs willing to integrate counter-referral into system.
- Counseling used to discourage patients who wish to delay after referral.
- CHNs routinely follow-up w/ referred patients in homes.
- **Ideal treatment practices for EmOC patients known by staff at all levels.**
- **Staff willing to seek advice if necessary.**
  - **esp. in EmOC cases**

Cons

- **Notification of receiving facility rare in EmOC cases.**
- Lack of technical supervision at CHPS Zones.
- **Referral system for high risk cases weak.**
- Most cases lost to follow-up.
- ANC clinics closed due to lack of supplies/privacy.
- CHPS Zones not notified of high risk cases/delinquent obstetric follow-up patients.

Socio-Cultural:

Pros

- Strong family ties support patient.
- Increasing number of women attending ANC.
- Networking of health facility with community leaders aids education efforts and communication in EmOC.
- TBAs being integrated into health care system → more cases brought to health facility.
- *Innovation:* Father-to-Father support groups at community level.

Cons

- Common fear that delivery in health facility indicates adultery.
- Delay in seeking care to:
  - consult soothsayer
  - obtain permission of landlord or husband
  - obtain confession from woman
- **Role of mother-in-law → pressure to give birth at home.**
- **Lack of funds for transport:**
  - **ANC. EmOC, High Risk Referral**

Summary & Participant Comments

Pros

- Familiarity with community at CHPS Zone level helped in education.
  - Education programs showing decrease in morbidities.
- **Mobile phone network increasing communication with supervisors, telemedicine.**
- **Midwives/Medical Assistants interested in emergency obstetric training.**
- Support for CHN EmOC training at all levels.

Cons

- **Lack of vehicles for patient transport.**
- **High cost of transport not included in insurance coverage.**
- HW burn-out/exhaustion.
- Missing supplies for EmOC.
- Adultery linked w/health facility delivery.
- **Physical infrastructure causing problems in:**
  - **transport**
  - **supervision**
  - **communication**

Case Study Recommendations

- Match EmOC supply triage with skill level of providers on site.
- Ambulances at health centres and distant communities is necessary.
- Plan at DHMT level for re-distribution of funds to cover EmOC transport fuel costs.
- Standardize protocols and distribute to all health facilities in the Upper-East Region.

Implementation Research for Referral to Reduce Maternal Mortality (EmOC NA in UER)

- EmOC Needs Assessment at Health Centres, Hospitals and CHPS Zones (On-going)
  - Assessment developed by Averting Maternal Death and Disability (AMDD) in collaboration with GHS
  - Classifies facilities providing emergency obstetric care as functionally Basic, functionally Comprehensive, or not functional
  - Provides up to date information to allocate resources and support human resource development

Further Implementation Research

- Qualitative Assessment of community members and health service providers to:
  - Assess delays that lead to pregnancy-related mortality:
    - Delay in deciding to seek appropriate medical help for an obstetric emergency
    - Delay in reaching appropriate obstetric facility
    - Delay in receiving adequate care when a facility is reached

In the Community

From the view of health service providers

Three Delays Model, Thaddeus and Maine 1994

Further Implementation Research

- Qualitative Assessment of health service providers designed to:
  - Assess the Referral System in terms of selected requisites from The Murray & Pearson Framework (2006):
    - Active collaboration between referral levels and across sectors
    - Formalized communication and transport arrangements
    - Agreed setting-specific protocols for referrer and receiver
    - Supervision and accountability for provider's performance
    - Affordable service costs
    - Capacity to monitor effectiveness
    - Policy support

From the view of health service providers

Conclusion

- There are many challenges
- More work need to be do to address the challenges and find appropriate solutions
- In Ghana, CHPS is contributing a lot to the uptake of safe deliveries and referral needs of the rural population
  - Need to strengthen functional emergency referral system and communication system

- CHOs in CHPS zones are offering delivery services and supporting community referrals:
- In one instance, the CHO at Kadorogo community narrated an incident the previous night when she was called to deliver a woman at 1.00am (no ambulance service):

- "***What could I have done? Do I have to turn them away because it's illegal for me to do deliveries***" (Source: Zorkor Sub-district, Bongo District)

CHO at Zorkor Sub-district, Bongo District demonstrating where women deliver in the CHPS compound

Thank you