

2/16/2016

# AREA-BASED TEAMWORK FOR MNCH

Produced by: Maring Muni K, Kidane L, McClelland S

February 16, 2016



**START  
CENTER**

STRATEGIC ANALYSIS,  
RESEARCH & TRAINING CENTER

Department of Global Health | University of Washington

- **OBJECTIVE (from work order):** To identify and review existing evidence of “area-based teamwork for MNCH”. The objective is to review previously documented cases, and to identify areas of critical gaps in the literature to better understand potential for impact to help shape future investments in this area.

## Search strategies

### MNCH peer-reviewed literature

- (((("Maternal Newborn and Child Health" OR "MNCH" OR "prenatal care" OR "antenatal care" OR "intranatal care" OR "postnatal care")) AND ("primary level of care" OR "primary hospital" OR "primary care center" OR "community health center" OR "health center")) AND ("secondary hospital" OR "secondary care center" OR "District Hospital" OR "District Care Center" OR "referral hospital" OR "referral care center") AND ("mHealth" OR "mobile health"))
- Chain-referral strategy

### Other health area peer-reviewed literature

Multiple search term strategies, including:

- Facility collaboration AND HIV AND Africa
- Health facility visits
- Mentorship AND Health AND Providers AND Africa

### Grey literature

- Google search and relevant citation follow-ups
- Primarily government (USAID) and NGO sources

### CDC database

- 163 articles reviewed from spreadsheet provided by Alex Rowe
- 43 identified as useful for additional review

## Three-pronged approach

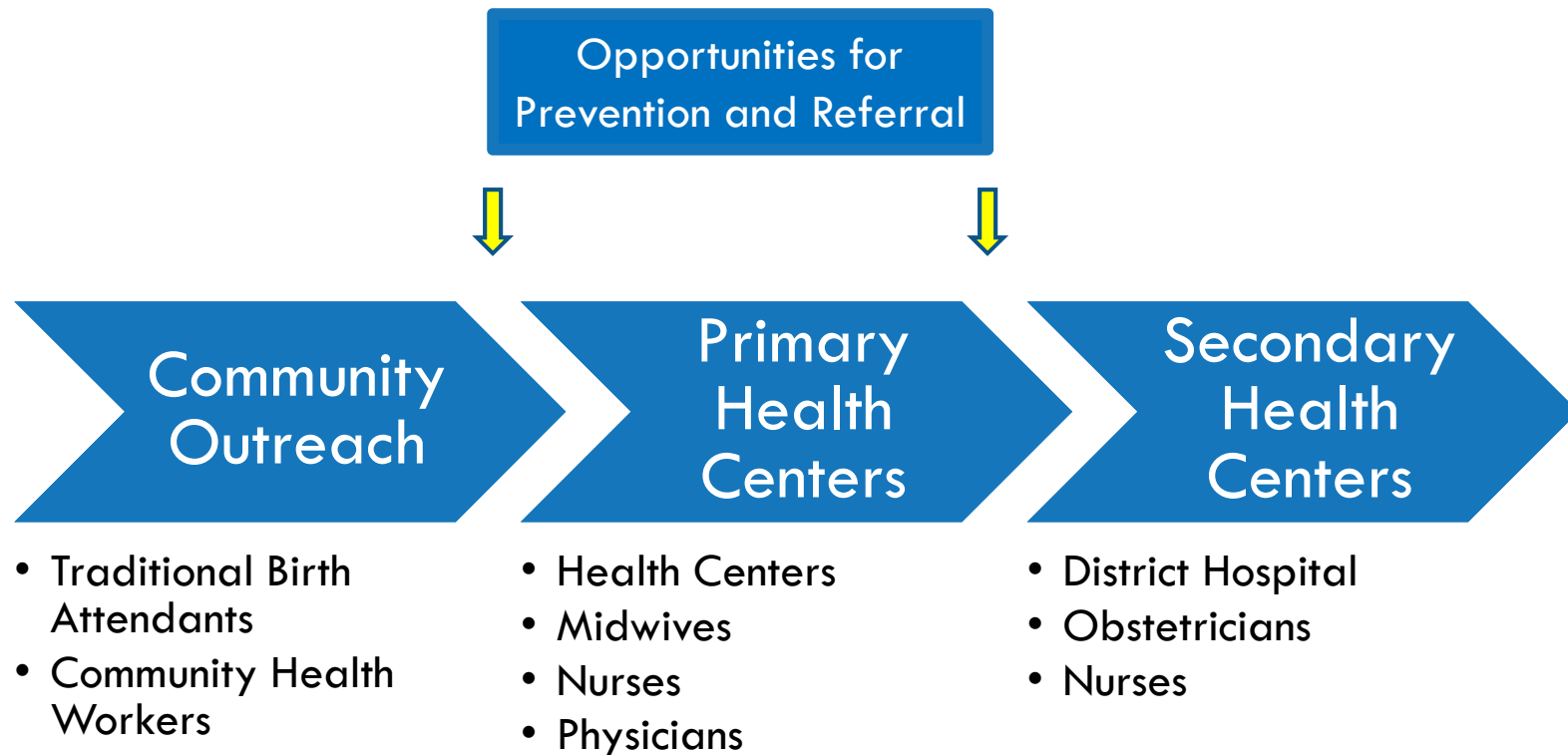
- Peer reviewed literature
  - ▣ Area-based teamwork in MNCH
    - Themes: mHealth, supportive supervision, integration of CHWs, TBAs, clinical mentoring
  - ▣ Area-based teamwork in other health areas
    - Primarily HIV
    - Themes: mHealth (hotline, SMS, etc.), supportive supervision, action planning
- Grey literature in MNCH
  - Quarterly MNCH Death Review meetings between primary and secondary level, micro-planning workshops, SMS and mHealth, team-building activities, P4P committees, referral incentives, supportive supervision, learning sessions



## Three-pronged approach

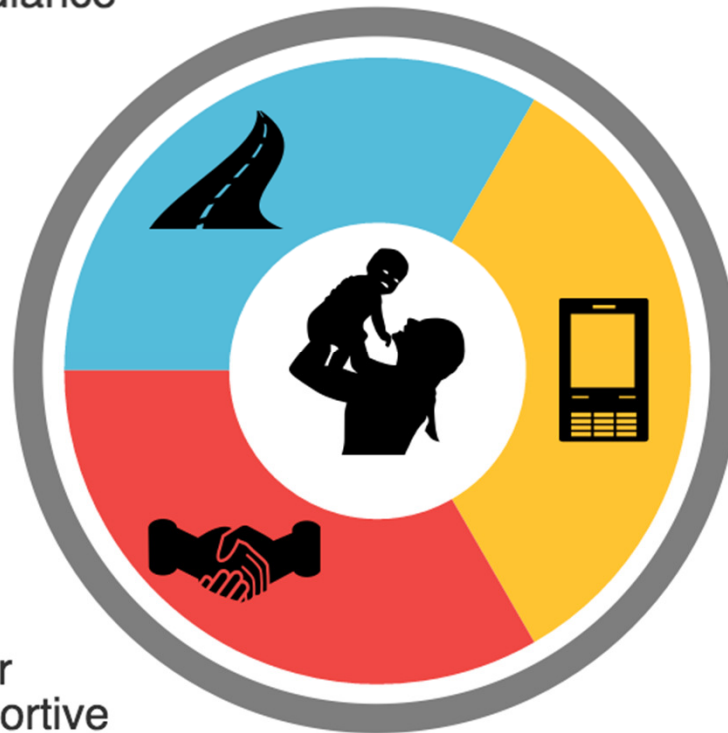
- CDC Database provided by Alex Rowe
  - ▣ Themes: Clinical rotations, interactive workshops, regular meetings, emergency transport, performance based payments, on-site training

## Continuum of care



## Emerging themes in improving MNCH outcomes

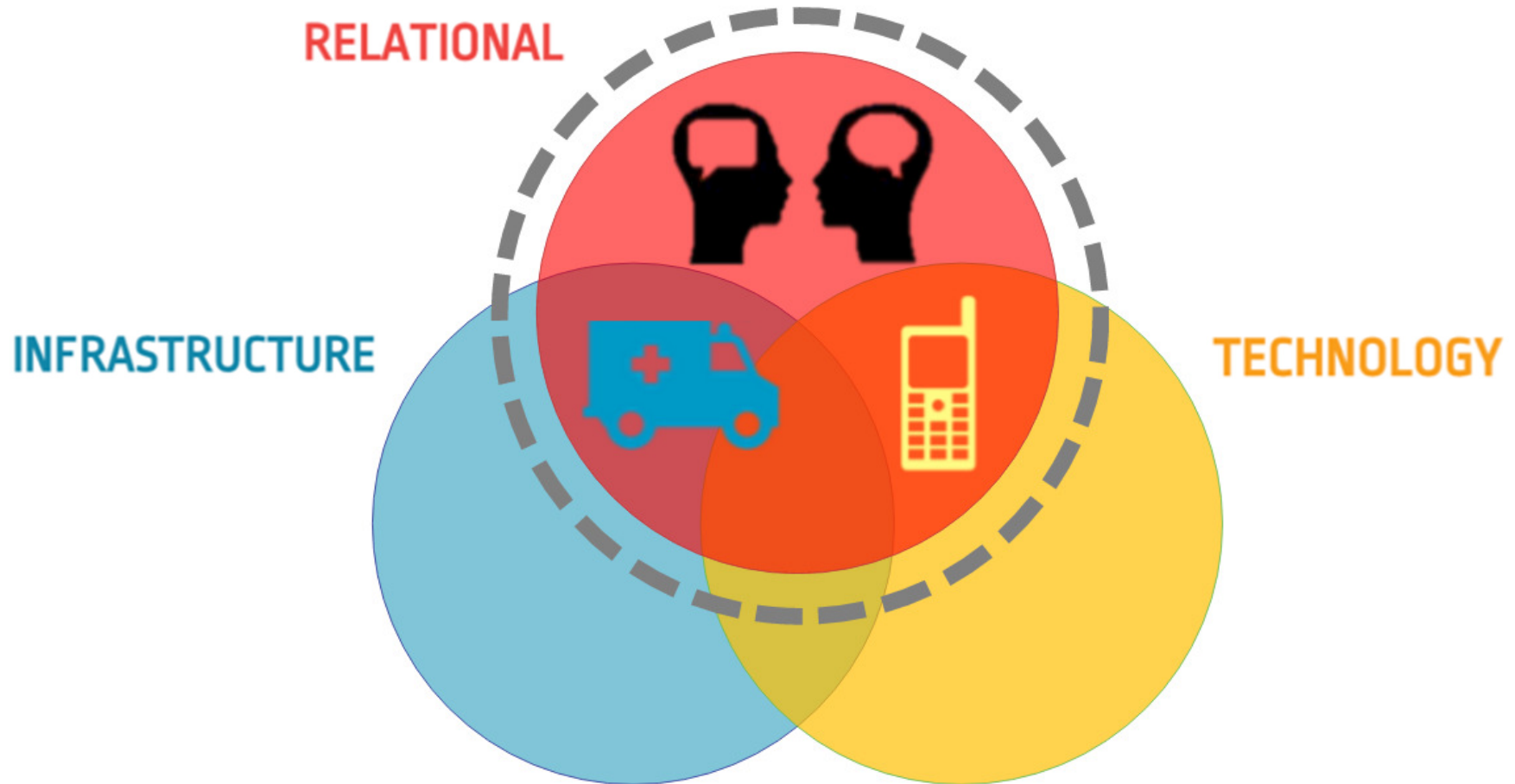
**INFRASTRUCTURE**  
Roads, ambulance  
services



**TECHNOLOGY**  
SMS platforms,  
hotlines

**RELATIONAL**  
Workshops,  
retreats, regular  
meetings, supportive  
supervision, mentoring

## Relational integration framework





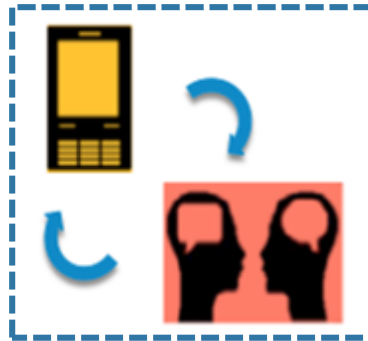
## Interventions supporting relational linkages

Relational  
n=24



- Training
- Supportive supervision
- Clinical mentoring
- Regular meetings
- Interactive workshops

Relational +  
Technological  
n=1



- Training
- mHealth
  - Warmline
  - Hotline
  - SMS

Relational +  
Infrastructural  
n=10



- Training
- Supportive supervision
- Ambulance
- Additional health workers

Relational +  
Technological +  
Infrastructural  
n=4



- Training
- Supportive supervision
- Telemedicine support
- Emergency transport services

# CASE STUDIES





## Case studies

### Midhet (2010)<sup>1</sup>

*“Impact of community-based interventions on maternal and neonatal health indicators: Results from a community randomized trial in rural Balochistan, Pakistan”*

<u>Intervention:</u>	Intervention arm received community based services and training on maternal and neonatal health indicators.
<u>Strategies for Framework:</u>	Support group and workshops, training, telecommunication, improving vertical communication.
<u>Hypothesis/Rationale:</u>	Will providing safe motherhood education and emergency transportation increase utilization of health services for obstetric complications and reduce delay in decision making to seek medical care during obstetric emergencies?
<u>Trial Design:</u>	Cluster-Randomized Controlled Trial
<u>Primary/Secondary Outcomes:</u>	Intervention clusters demonstrated lower perinatal and early neonatal mortality; increased utilization of district hospital services from complications arising pre-, intra-, and post-partum; increased tetanus immunization and iron therapy; slight increase in % of hospital deliveries.





## Case studies

### Ngabo (2012)<sup>2</sup>

*“Designing and Implementing an Innovative SMS-based alert system (RapidSMS-MCH) to monitor pregnancy and reduce maternal and child deaths in Rwanda”*

<u>Intervention:</u>	mHealth intervention along with training of CHWs and availability of an ambulance service
<u>Strategies for Framework:</u>	Training, supportive supervision, mentoring, mHealth
<u>Hypothesis/Rationale:</u>	Evaluate mobile phone-based communication system aimed at monitoring pregnancy and reducing bottlenecks in communication associated with maternal and newborn deaths
<u>Trial Design:</u>	Pretest-posttest evaluation study
<u>Primary/Secondary Outcomes:</u>	Facility-based deliveries increased from 72% at baseline to 92% at the conclusion of the 12 month pilot phase.





## Case studies

### Jokhio (2005)<sup>3</sup>

*“Evaluate the efficacy of an intervention training and integrating TBAs in rural health systems to improve perinatal mortality”*

<u>Intervention:</u>	Integrating TBAs in rural health systems
<u>Strategies for Framework:</u>	Training TBAs, Lady Health Workers, and PHCs and secondary health facility staff; rotating clinical outreach sessions
<u>Hypothesis/Rationale:</u>	Evaluate the efficacy of an intervention training and deploying TBAs in rural health systems to improve perinatal mortality
<u>Trial Design:</u>	Cluster-Randomized Controlled Trial
<u>Primary/Secondary Outcomes:</u>	Cluster odds ratios of intervention vs. control groups were 0.70 for perinatal death (95% CI [0.59, 0.82]) and 0.74 for maternal mortality (95% CI [0.45, 1.23])





## Case studies

### **Bailey (2002)<sup>4</sup>**

*“Obstetric complications: does training traditional birth attendants make a difference?”*

Intervention:

Training TBAs to detect and refer complicated EmONC cases to interventional hospitals

Strategies for Framework:

Training of TBAs

Hypothesis/Rationale:

Assess the effect of training TBAs on detection of obstetric complications, the referral of patients with complications to the formal health care system, and patients' utilization of essential obstetric care services

Trial Design:

Quasi-experimental design

Primary/Secondary Outcomes:

Incidence of postpartum complications decreased from 7.4% to 2.5% in intervention communities ( $p = .02$ ). Regression models indicate 58% decrease (odds ratio 0.42) in postpartum complications in pre and post intervention analysis of intervention hospitals.





## Case studies

### McCaw-Binns (2004)<sup>5</sup>

*“Strategies to prevent eclampsia in a developing country: I. Reorganization of maternity services”*

Intervention:

Primary antenatal clinics in the intervention area received clear instructions for referring patients to a high-risk antenatal clinic or to a hospital. Antenatal ward and high risk clinics were provided guidelines for treatment of hypertension and preeclampsia.

Strategies for Framework:

Supportive supervision, clinical mentoring, regular meetings, provision of guidelines and job aids, partnership with private health providers

Hypothesis/Rationale:

Do changes in primary and secondary care service delivery prevent antenatal eclampsia

Trial Design:

Quasi-Experimental, 1 intervention area 2 control areas

Primary/Secondary Outcomes:

Intervention areas demonstrated a significant decline in incidence of antenatal eclampsia over a 3 year period (OR 0.19;  $p < 0.001$  trend), admissions for hypertensive disorders fell from 252 to 150, 50% reduction in length of hospital stay for mild preeclampsia cases



## Strengths

- Comprehensive literature review identified similar gaps across search strategies
- Wide range of literature expanded the scope of evidence
- Relational Integration Framework recognizes the importance of the different intervention strategies





## Limitations

- Generalizability
- Incomplete documentation
- Grey literature expanded scope of evidence but not depth
  - ▣ greater bias in program reports to document success

## Critical gaps

- Lack of studies highlighting relational linkages between primary health centers and district hospitals
- Soft data from grey literature
  - ▣ Evidence from cluster RCTs vs. descriptive reports
- Majority of inter-facility collaborations are vertical but do not facilitate bidirectional communication of patient care and outcomes
- Resources and regional features vary considerably between and within LMICs

## Conclusions and Recommendations

- ❑ Relational strategies, whether alone or in combination with Infrastructural or Technological improvement strategies, led to improved MNCH outcomes
- ❑ Opportunities to formally investigate what can be achieved exclusively through inter-facility collaboration between primary and secondary health facilities
  - ❑ Delphi and stakeholder interviews
  - ❑ RFAs
    - Settings where a minimum set of infrastructure and communication in place
    - Settings where there might be deficits in both to observe how developments in tandem impact MNCH outcomes

## Deliverables

- Final Report
- Annotated Bibliography
- Slide Deck



## References

- 1. Midhet F, Becker S. Impact of community-based interventions on maternal and neonatal health indicators: Results from a community randomized trial in rural Balochistan, Pakistan. *Reproductive Health*. 2010;7(1):30
- 2. Fidele Ngabo A. Designing and Implementing an Innovative SMS-based alert system (RapidSMS-MCH) to monitor pregnancy and reduce maternal and child deaths in Rwanda. *The Pan African Medical Journal* [Internet]. 2012;13. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3542808/>
- 3. Jokhio AH, Winter HR, Cheng KK. An intervention involving traditional birth attendants and perinatal and maternal mortality in Pakistan. *N Engl J Med*. 2005;352(20):2091-9.
- 4. Bailey PE, Szaszdi JA, Glover L. Obstetric complications: does training traditional birth attendants make a difference? *Rev Panam Salud Publica*. 2002;11(1):15-23.
- 5. McCaw-Binns A, Ashley D, Knight L, MacGillivray I, Golding J. Strategies to prevent eclampsia in a developing country: I. Reorganization of maternity services. *International Journal of Gynecology & Obstetrics*. 2004;87(3):286-294.

