



## Community Health Worker Reactions to the Mobile Technology for Community Health (MoTeCH) Initiative in Ghana

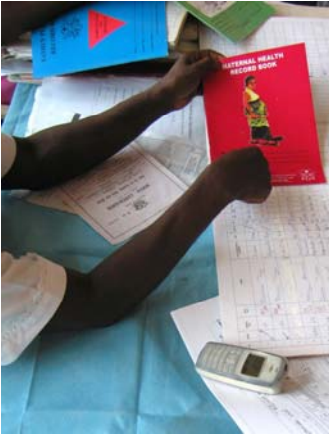
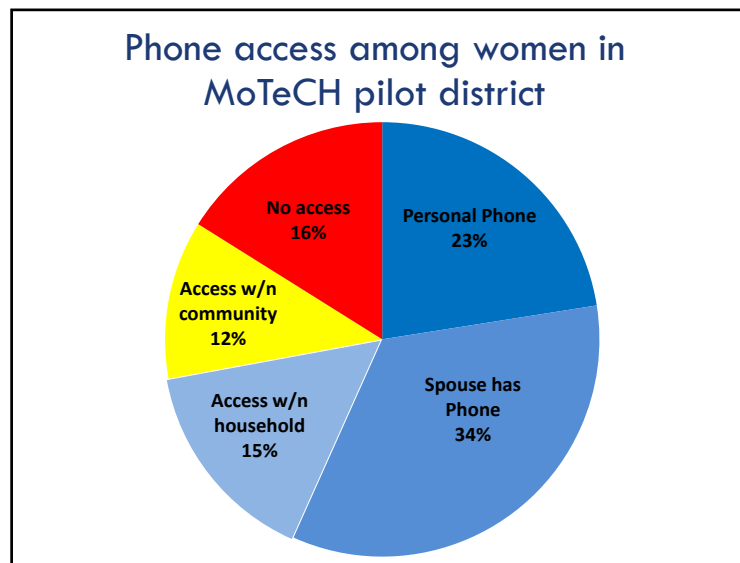
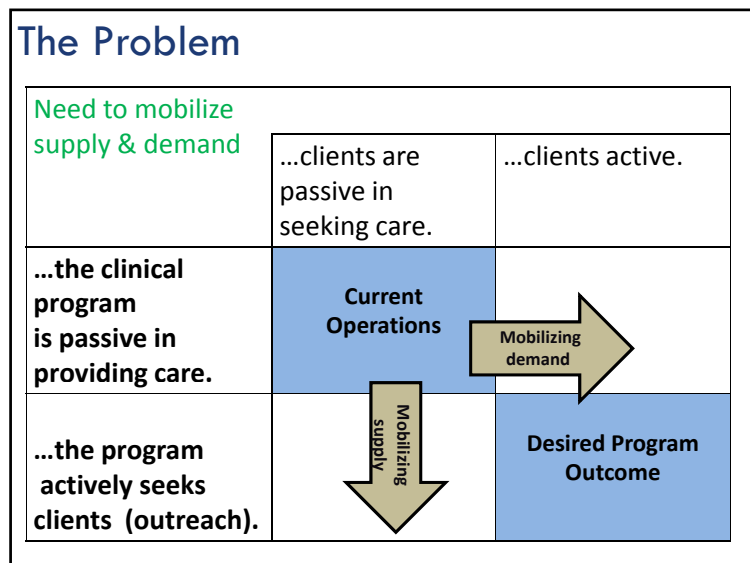
**Allison Stone, MHS**  
 Columbia University, Mailman School of Public Health  
 MoTeCH Project Manager

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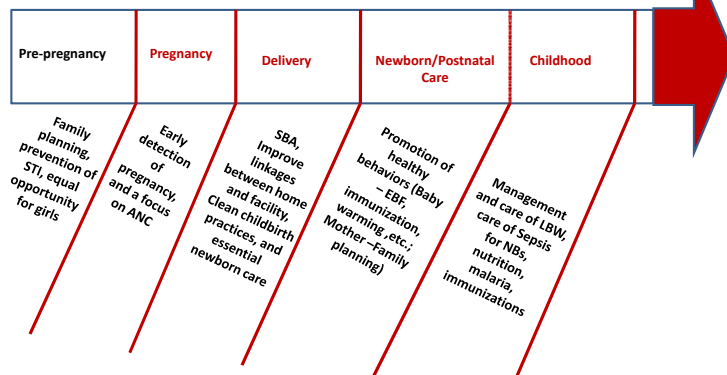
## MoTeCH Ghana Overview

- Objective: Develop mobile-phone-based health information technology and test the proposition that improved health information improves health outcomes.
- Seeking to increase the quantity and quality of antenatal and neonatal care while building a long-term software platform
- Focus: 1) Information delivered to "pregnant parents" and 2) Information relevant to the delivery of health services by "Community Health Officers" (CHOs) – part of the "Community-based Health Planning and Services" (CHPS) Initiative
- Location: Kassena-Nankana West district in the Upper East region of Ghana

## Focusing on mothers & infants

(The Continuum of Care)



## Project Components

### System for community health workers

- Develop simplified paper registers for clinical information
- Enter patient encounters using simple mobile phones
- Generate monthly reports
- Alerts and reminders for clients that need care



### System for "Pregnant Parents"

- Regular educational messages sent based on estimated due date
- Choose to receive SMS (text) or voice messages, in Kassem, Nankam, or English
- Frequency and time of day chosen when registering
- Informative and actionable

## MoTeCH Components: Simplified Registers



- Capture child health, maternal health, illness/injury, family planning, and community outreach health service encounter data
- Previously nurses' registers were ad hoc, with content varying between facilities
- Provide standardized platform for recording health data
- Minor revisions to size and content of the registers were made after the first year of implementation

## Mobile Phone System

### Data Entry using mobile phones



- Health workers enter health service data into simple forms on inexpensive (\$40) mobile phones by health workers
- Using this data, MoTeCH can generate a majority of nurses' monthly reports
- Aim: to reduce the amount of time nurses spend on reporting, to allow them more time to provide health services
- Presently, MoTeCH reports are compared to manually-aggregated reports for accuracy

## Mobile Phone System

- MoTeCH generates alerts and reminders for health workers and clients according to care schedules set by the Ghana Health Service
- Clients receive reminders when they or their child are due for specific types of care (prenatal care, child immunizations)
- Nurses will receive reminders of their clients that have defaulted for particular types of care, so they can follow-up during home visiting
- Clients and nurses also receive alerts for crucial postnatal visits

### Automatic Reminders and Reports

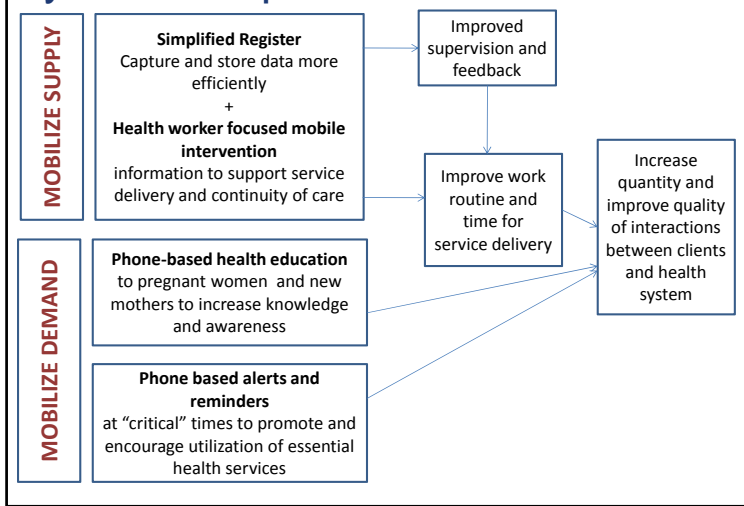


## Mobile Midwife

- Health information messaging service for pregnant parents
- Messages delivered once a week; day and time, language, and SMS/voice selected by the client
- Messages specific to the client's gestational age
- Clients can also flash MoTeCH, and will be called back with their message
- Recently extended to include the first year of the child's life



## Systemic Impact



## Measuring Impact

- Evaluation research conducted in collaboration with the Navrongo Health Research Centre
- Assess changes in health seeking behavior and coverage of essential maternal and child health indicators
- Qualitative research with MoTeCH clients, health workers, and sub-district/district supervisors
- Operations research studies to assess the impact of MoTeCH on health worker routines and information quality
- Future: randomized control trial (RCT) to determine the effect of MoTeCH on client health service utilization

### Qualitative Studies with Community Health Workers

- 20 in-depth interviews with community health workers (Community Health Officers and midwives), purposefully selected in accordance with to their participation in MoTeCH activities
- Interview topics include: perceived benefits, challenges encountered, changes in their work routine and client interactions, training for and supervision of the simplified registers and mobile phone intervention



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### Preliminary Results: Simplified Registers (SRs)

- Extremely positive feedback from CHWs on the SRs
- SRs organize the information they need to collect very clearly and efficiently, make documentation easier, and save them time when it comes to writing their required monthly reports
- Some said that condensing multiple previous registers into one SR has produced some challenges:  
For example, only one CHW can write in the SR at a given time; SR can only be in one place at one time



### Preliminary Results: Mobile Phone Intervention

- Health workers complain about double entry of data into both SRs and mobile phones
- Constraints to uploading health service data include: lack of adequate staff, workload too heavy and not enough time, lack of motivation
- Health workers have very positive impressions of MoTeCH automated reporting, if it can be fully implemented
- Health workers find the alerts and reminders helpful, although they are not always accurate (primarily due to gaps in data uploaded to MoTeCH server)
- Network problems sighted by several health workers; must travel to nearby towns to upload data
- Health workers note challenges experienced by clients in accessing MoTeCH messages, due to lack of phone ownership and ability to use mobile phones

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### Preliminary Results: Mobile Phone Intervention

- Overall, CHWs feel that MoTeCH both saves them time and takes additional time: the SRs save time, while the phone component currently requires more time than it saves
- The SRs, intended to be an interim step towards mobile phone-based data capture, have thus far been the greatest success in health workers' opinions
- Next steps: identify and test solutions for the challenges experienced by CHWs in uploading all their data and for automatically generated reports



