



# MAMA“APONJON”

## Formative Research & Evaluation Design

**MAMA** | BANGLADESH  
Mobile Alliance for Maternal Action



# Aponjon partners

## MAMA Global Partners:



**USAID**  
FROM THE AMERICAN PEOPLE

*Johnson & Johnson*

UNITED NATIONS  
FOUNDATION

mHEALTH  
ALLIANCE

babycenter

## Bangladesh Partners:

BEXIMCO  
PHARMA



## Partners that Contributed to the Aponjon Pilot Initiative:

grameenphone

brac



MCHIP | Maternal and Child Health  
Integrated Program



# Mobile Alliance for Maternal Action (MAMA)

- Global public-private partnership
- Leverage rapidly expanding mobile networks
- Connect pregnant women, new mothers and their families to gestational-age appropriate health information
- Initially launched in Bangladesh, India and South Africa

# MAMA Bangladesh – “Aponjon”

- Implementation by Dnet
  - Not-for-profit social enterprise & market leader in digital content development for mobile apps and games
- Developed in partnership with:
  - The Bangladesh Ministry of Health and Family Welfare
  - Ministry of Information
  - Access to Information Program of the Prime Minister’s Office
- Features partnerships with social enterprises and NGOs to facilitate program enrollment via community agents
  - USAID’s NHSDP
  - MaMoni
  - BRAC
  - Infolady
  - UISC

# “Aponjon” formative research

- Sept 1, 2011 - May 31, 2012
- Five Divisions of Bangladesh
- Total of 1,403 subscribers
  - 349 pregnant women
  - 575 mothers of children under age 1 year
  - 479 ‘gatekeepers’ (e.g., husbands, mothers-in-law)
- Purpose: identify programmatic strategies to guide future implementation, and identify gaps in existing M&E system



# Key formative research tools



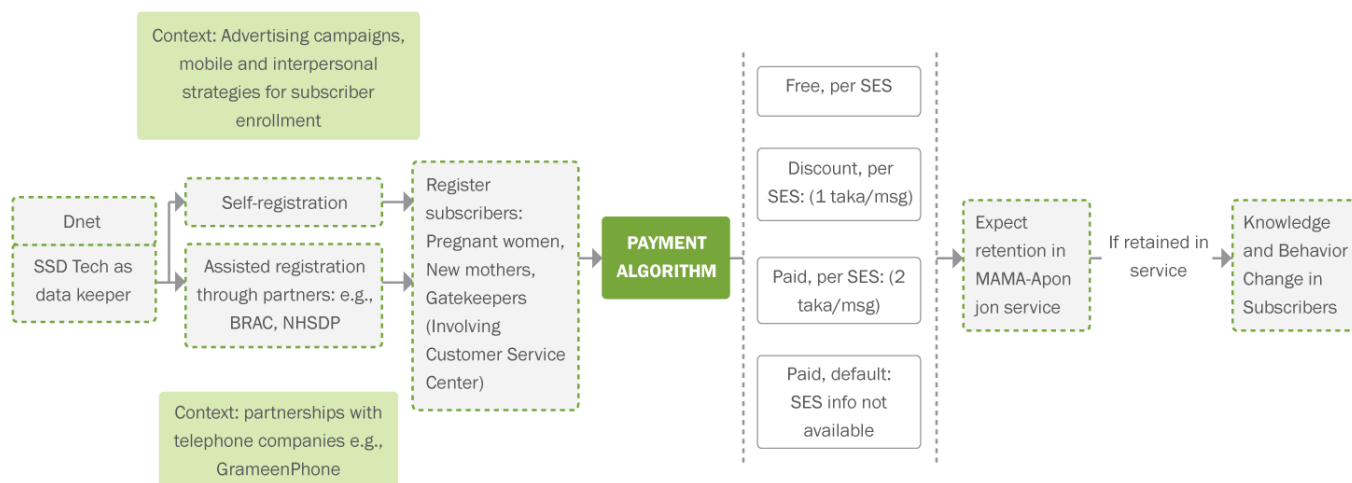
| Research tool         | Sample size                                         |
|-----------------------|-----------------------------------------------------|
| Pretest focus group   | 1 FGD w/ 12 participants                            |
| Registration forms    | 1,403                                               |
| Deregistration data   | 18                                                  |
| Payment status data   | 1,387                                               |
| Structured interviews | 89 women<br>46 'gatekeepers'<br>21 community agents |
| Phone surveys         | 54 women<br>107 'gatekeepers'                       |
| Field observations    | 5 field notes                                       |

# Exploration of programmatic strategies

- Effective strategies for Aponjon enrollment
  - Self-registration
  - Assisted registration
- Effective strategies for promoting awareness about Aponjon services
  - Popular campaign enrollment strategies
- Subscriber-accepted cost models
  - Tiered payment system
- User satisfaction
  - Message content
  - Technology platform
- Influence on subscriber knowledge about MCH behaviors



# Subscriber interaction & formative areas of inquiry



## TESTABLE HYPOTHESIS A:

How does enrollment vary by type of registration, and among assisted registration what is the partner-based variation in enrollment to the service?

## TESTABLE HYPOTHESIS B:

How did various enrollment strategies/ ad campaigns affect enrollment in the service?

## TESTABLE HYPOTHESIS C:

What was the breakdown of subscribers by payment status (free, paid according to SES data, paid by default)? How did retention in the service vary by payment status?

## TESTABLE HYPOTHESIS D:

What are sources of variation in willingness to pay for the service? What did subscribers understand/ CHW discuss about the payment model for the service during the enrollment process?

## TESTABLE HYPOTHESIS E:

Were users satisfied with the service? What were other non-outcome findings related to usability and satisfaction with the service?

## TESTABLE HYPOTHESIS F:

What effect did the MAMA-Aponjon service have on knowledge and behavior of pregnant women, new mothers and gatekeepers?



# Data collection challenges

- Data management & completeness
- Validity of the payment status variable
- Mid-stream instrument adjustment
  - Sample size, question phrasing & order

**TABLE 4.3A** Proportion of subscribers by payment status.

| Payment status    | Number of subscribers with payment status assigned<br>(N=1,387) |
|-------------------|-----------------------------------------------------------------|
| Paid status+      | 57.1% (792)                                                     |
| Discounted status | 25.7% (357)                                                     |
| Free status~      | 17.2% (238)                                                     |

+D.Net defaulted subscribers to paid status if SES data was incomplete. Using the payment status algorithm, JHU research team estimates 276 paid status subscribers were defaulted into this status. While data shows some subscribers with partially incomplete SES data were provided discounted and free status, criteria for these decisions are unknown.

~BRAC and D.Net had an agreement that all BRAC-assisted subscribers receive the service for free.

# Evaluation design considerations

- Research design beyond the formative phase
  - Establishing causality & attribution
  - Demonstrating (sustained) impact
  - Understanding “rare” phenomena
  - Insight into subscriber experience
  - Sampling frame & sampling methods

# Programmatic & research recommendations

- Refresher trainings for community outreach partners, call center agents and Dnet staff
- Consideration of compensation package for outreach workers

*“During registration, I had to spend a lot for Aponjon work. I had to travel far distances and for that I had travel costs. Not every woman agreed to register because not everyone is same. In order to fulfill the target of 18 forms, I had to travel long distances. For this, I had both physical stress and also had to bear the conveyance bills.”*

-- CHW, Sylhet

- Unique identifiers to link data across datasets
- Pretest instruments and use multiple methods in research
- Develop proactive system for use of SSD Tech data on message delivery and receipt and to track service issues

# Wealth of areas for continued research

## INPUTS

### Technology and Support Infrastructure

- Technology platform by SSD Tech
- Mobile phone service by Grameen Phone
- Network coverage
- Electricity

### Health program

- Adequacy of resources
- Skilled human resources
- Collaboration and open communication between SSD Tech, Dnet, Customer call center and outreach partners
- Development of training materials and quality assurance plans
- Development of campaign materials to encourage self-subscription

### MAMA-Aponjon policies

- Subscriber selection criteria for assisted enrollment
- Payment status algorithm

### Contextual factors

- Technology capabilities in Bangladesh
- MoH support/policy environment

## PROCESSES

### Technology

- Capacity building for refinement, maintenance of technology platform
- Capacity building for data management (registration, deregistration, call center complaints, phone survey)

### National Support for MAMA

- MoH cooperation to develop and review MAMA message content
- Availability of outreach partner healthcare workers

### Dnet, SSD Tech processes

- Training of outreach partner healthcare workers
- Training of customer call center agents
- Training of field visit staff and structured interview researchers
- Ongoing supportive supervision of technology implementation

### Contextual factors

- Health systems capacity and flexibility
- Culture of 'gatekeepers' to women's health (e.g., husbands, mothers in law)

## OUTPUTS

### Technology

- Technical performance (functionality)
- User adoption of technology (satisfaction with technical platform)

### National/Health System Level

- Local use case for mobile phones to deliver MNCH health information
- Decreased burden for outreach partner healthcare workers

### Improved service utilization

- Increased ANC and postnatal care visits
- Increased birth planning, family planning
- Improved nutrition of pregnant women, newborns
- Increased vaccination coverage

## OUTCOMES

### Client Level

- Improved knowledge of appropriate and timely care seeking for pregnant women and new mothers
- Improved knowledge of recommended healthcare/nutrition practices for pregnant women, newborns
- Increased utilization of services by trained healthcare providers
- Increased social support from gatekeepers for pregnant women, new mothers to utilize trained healthcare providers/services

### Contextual factors

- Barriers to access to ANC care and quality of care

## IMPACT

### Population Health

- Reduced maternal morbidity and mortality in pregnancy and childbirth
- Reduced neonatal and child (up to 1 year) morbidity and mortality

### Contextual factors

- Feasibility of measurement & assignment of attribution

Formative research goal of MAMA-Aponjon: Improve maternal and neonatal health outcomes in 5 selected areas of Bangladesh



# THANKS!

## LOCATIONS OF THE PILOT/FORMATIVE STUDIES

- Chittagong
- Dhaka
- Khulna
- Rangpur
- Sylhet

# Formative subscribers – Descriptive statistics

Demographic and subscription statistics of subscribers by subscriber type

|                                                      | Pregnant women           | New mothers                | Gatekeepers          |
|------------------------------------------------------|--------------------------|----------------------------|----------------------|
| <b>N=</b>                                            | 349 (24.9%)              | 575 (41.0%)                | 479 (34.1%)          |
| <b>Age:</b><br>Column % (N)                          | Range:<br>13-40 years    | Range:<br>0-38 years       | -Data not collected- |
| • <18                                                | • 1.1% (4)               | • 0.5% (3)                 |                      |
| • 18-24                                              | • 38.7% (135)            | • 29.7% (171)              |                      |
| • 25-34                                              | • 36.1% (126)            | • 37.2% (214)              |                      |
| • 35-40                                              | • 2.6% (9)               | • 2.4% (14)                |                      |
| • Missing                                            | • 21.5% (75)             | • 30.1% (173)              |                      |
| <b>Total Family Income (taka) *:</b><br>Column % (N) | Range:<br>0-100,000 taka | Range:<br>0-200,000 taka # | -Data not collected- |
| • 4,000 or less                                      | • <b>26.1% (91)</b>      | • <b>26.6% (153)</b>       |                      |
| • 4001-10,000                                        | • 37.0% (129)            | • 35.8% (206)              |                      |
| • 10,001 +                                           | • 14.9% (52)             | • 8.0% (46)                |                      |
| • Missing                                            | • 21.8% (77)             | • 29.4% (169)              |                      |
| <b>Household status:</b><br>Column % (N)             |                          |                            |                      |
| • Head                                               | • 11.7% (41)             | • 15.5% (89)               | • 18.6% (89)         |
| • Non-Head                                           | • <b>68.5% (239)</b>     | • <b>64.2% (369)</b>       | • <b>73.3% (351)</b> |
| • Missing                                            | • 19.8% (69)             | • 20.3% (117)              | • 8.1% (39)          |
| <b>Education:</b><br>Column % (N)                    |                          |                            |                      |
| • Primary or less                                    | • <b>43.3% (151)</b>     | • <b>41.6% (239)</b>       | • <b>50.5% (242)</b> |
| • Secondary incomplete                               | • 29.8% (104)            | • 31.8% (183)              | • 34.2% (164)        |
| • Higher secondary or more                           | • 7.2% (25)              | • 5.9% (34)                | • 7.3% (35)          |
| • Missing                                            | • 19.8% (69)             | • 20.7% (119)              | • 7.9% (38)          |

# Formative subscribers – Descriptive statistics

Demographic and subscription statistics of subscribers by subscriber type (Continued)

|                                                         | Pregnant women       | New mothers               | Gatekeepers          |
|---------------------------------------------------------|----------------------|---------------------------|----------------------|
| <b>N=</b>                                               | 349 (24.9%)          | 575 (41.0%)               | 479 (34.1%)          |
| <b>Subscriber owns phone:</b>                           |                      |                           |                      |
| Column % (N)                                            |                      |                           |                      |
| • Yes                                                   | • 52.7% (184)        | • 54.6% (314)             | • 36.1% (173)        |
| • No                                                    | • 38.4% (134)        | • 38.1% (219)             | • <b>58.9% (282)</b> |
| • Missing                                               | • 8.9% (31)          | • 7.3% (42)               | • 5.0% (24)          |
| <b>Message type:</b>                                    |                      |                           |                      |
| Column % (N)                                            |                      |                           |                      |
| • SMS                                                   | • 10.6% (37)         | • 11.5% (66)              | • 13.6% (65)         |
| • IVR                                                   | • <b>89.4% (312)</b> | • <b>88.5% (509)</b>      | • <b>86.4% (414)</b> |
| <b>Contribution to formative research phase (days):</b> |                      |                           |                      |
| Range:                                                  | Range:               | Range:                    | Range:               |
| 1-266 days                                              | 1-266 days           | 1- 273 days               | 1-266 days           |
| Column % (N)                                            |                      |                           |                      |
| • 1-30                                                  | • 10.9% (38)         | • 4.7% (27)               | • 11.3% (54)         |
| • 31-120                                                | • 16.0% (56)         | • 4.3% (25)               | • 5.8% (28)          |
| • 121-180                                               | • 4.0% (14)          | • 3.0% (17)               | • 1.7% (8)           |
| • 181-273                                               | • <b>64.5% (225)</b> | • <b>86.3% (496) (10)</b> | • <b>78.7% (377)</b> |
| • Missing/und.                                          | • 4.6% (16)          |                           | • 2.5% (12)          |

\*As of October 2013 \$1 USD = 77.5 Bangladesh taka.

#One extreme outlier observation was dropped; the total family income was reported as 1.7 billion taka.