Ananya Baseline:
Early Findings from Household Surveys

9 October 2012

Presentation to the Government of Bihar
Integrated Package of Demand and Supply Activities

Health Operations Payment Engine (HOPE-IFC)

- Shaping Demand and Practice Grant (BBC WST)
  - Improved Demand
    - Strengthen Social Norms
    - Increase Priority
    - Social Behaviors

- Community Mobilization Grant (PCI)
  - Improved Supply
    - Strengthen Accountability of Service Providers

- Impacts
  - Decreased maternal, neonatal infant and under 5 mortality and morbidity
  - Reduced fertility rates
  - Reduced child stunting and wasting

- Family Health Initiative Grant (CARE)
- Engaging Private Providers Grant (WHP)
Ananya Districts and Scale-up Plan

Districts of Bihar

- Eight focus districts, scale-up targeted by 2012
- Remaining districts, scale-up targeted by 2015

Note: BBC-WST and CARE grants will scale up throughout the state of Bihar by 2016. WHP plans to scale up to 25 districts by 2012; these include the 8 focus districts and the 17 districts marked with diagonal lines.
## Main Evaluation Components

<table>
<thead>
<tr>
<th>Evaluation Component</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Assess program implementation and scale-up</strong></td>
<td>• Document and assess implementation progress, successes and failures&lt;br&gt;• Understand and assess process by which scale up occurred</td>
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<tr>
<td><strong>Measure the contribution of Ananya in improving health outcomes in Bihar</strong></td>
<td>• Assess the contribution of Ananya in the 8 focus districts at midline using a set of comparison districts (2013)&lt;br&gt;• Measure overall contribution of Ananya across the state at endline, by assessing whether targeted changes were achieved (2015)</td>
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<td><strong>Measure effectiveness of select, high-impact innovations</strong></td>
<td>• Rigorous evaluation of effectiveness of highly-innovative solutions in improving coverage</td>
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<tr>
<td><strong>Estimate cost and cost-effectiveness</strong></td>
<td>• Estimate overall costs and cost-effectiveness of Ananya and of innovative solutions to inform replication and scale up decisions</td>
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Focus of Today’s Presentation

- Goals and scope of the baseline data collection
  - Sample design and approach

- Preliminary descriptive findings from:
  - Household surveys
  - Frontline worker (ASHA, AWW and ANM) surveys
  - PHC facility and nurse/ANM surveys

- Seek input from Government officials and other stakeholders on areas of further interest for analysis
Sample Design and Approach for Household Surveys
Scope of Household Baseline Data Collection

- Baseline data used to update benchmarks and set targets

- Representative sample of women in the state who had a live birth in the last 12 months
  - Most interventions focus on the window between the last trimester of pregnancy and when the child is one year old

- Eligible women identified through a household listing in sampled communities

- Survey covers the continuum of care, including interactions with FLWs
  - ANC, delivery and newborn care, child nutrition and immunization, hygiene and sanitation, and contraception
Sampling Approach for Household Survey

**Primary sampling unit**
- 9 blocks sampled on average per district (Range 4 to 17)
- 342 PSUs selected, with variation by size of district

**Secondary sampling unit**
- Rural – Village (Census 2001)
- Urban – BL (NSSO 2007-10)
- Segmented large villages/combined small villages
- 772 rural SSUs and 245 urban SSUs

**Final stage**
- List all women in the selected segment
- Survey those who had a live birth in the last 12 months
- Target 13,000 completed interviews
Sample Size and Response Rates for Household Surveys

- **Household listing**
  - All residential households in 1,017 sampled SSUs eligible for listing
  - 116,784 eligible households (excluding 2,843 migrated)
  - 110,094 (94.3%) completed listing interview

- **Household survey**
  - Women who gave birth in the past 12 months were eligible
  - 14,706 eligible women identified from the listing
  - 13,069 (88.9%) completed interview
  - Overall response rate 83.8%; rural 86.8%, urban 75%
Household Characteristics Are Similar to Other Surveys in Bihar

- 11% of sampled women live in urban areas
- 82% are Hindu, and 18% are Muslim
- 26% are SC/ST, and 64% are from OBC
- The median age of respondent is 25 years
  - The average age at marriage was 18 years
  - 31% have one child
  - 41% have three or more children
- 61% have no formal education
  - 11% of sampled women are income earners, and 14% use a bank account
Mortality Rates
The State-Wide Neonatal Mortality Rate Is 32 per 1,000 Live Births

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Bihar</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neonatal Mortality (deaths within the first 28 days of life per 1,000 live births)</td>
<td>32.2</td>
<td>27.6 – 36.8</td>
</tr>
<tr>
<td>Stillbirths (dead births per 1,000 pregnancies of 7 months or longer)</td>
<td>20.0</td>
<td>15.6 – 24.5</td>
</tr>
<tr>
<td>Perinatal Mortality (dead births and deaths within the first 7 days of life per 1,000 pregnancies of 7 months or longer)</td>
<td>45.5</td>
<td>39.7 – 51.3</td>
</tr>
</tbody>
</table>
Antenatal Care, Delivery, and Immediate Newborn Care
Main Findings for Antenatal Care, Delivery, and Immediate Newborn Care

- There are gaps in care and practices across the entire continuum of care:
  - Many women do not receive adequate antenatal checkups
  - Although 62% of women deliver at facilities, care at facilities is not fully adequate
  - There are gaps in appropriate newborn care practices

- Interactions with FLWs are insufficient:
  - Fewer than half of women receive a home visit in the final trimester
  - FLWs attend half of facility deliveries, but only 10% of home deliveries
  - Only 20% of women report any postpartum home visits
  - Discussion of relevant topics with FLWs may be limited
Many Women Do Not Receive Adequate Antenatal Care

Note: Key ANC procedures are weight taken, BP measured, and abdomen checked at least once.

N=13,069
Fewer Than Half the Households Report Receiving a Visit by a FLW in the Final Trimester

N=13,069
Over Half of Women Deliver at Facilities, Most of Which Are Public Facilities

All Women (N=13,069)

- Public facility: 46
- Private facility: 38
- Home: 16
Most Women Who Deliver at a Facility Have Short Stays and Are Discharged with Minimal Follow-up

Among Women Delivering at a Facility (N=8,150)
Most Women Are Aware of JSY Incentives, but Many Do Not Receive Them

Aware of Incentives (N=13,069)

- Yes: 80%
- No: 20%

Received Incentives (Among those with Public Facility Delivery, N=5,942)

- Yes: 61%
- No: 39%

Time to Payment (weeks)

- Immediate: 2
- <1: 20
- 1 to 4: 47
- 5 to 12: 15
- 13 to 24: 12
- 25+: 4
Households Report Low Rates of ASHA Attendance at Deliveries, Especially at Home Deliveries

Among home deliveries (N=4,919)

- ASHA Attended Delivery: 10%

Among institutional deliveries (N=8,150)

- ASHA Attended Delivery: 52%
Many Women Do Not Seek Treatment for Maternal Danger Signs

<table>
<thead>
<tr>
<th>Condition</th>
<th>Experienced (totals)</th>
<th>Experienced - sought treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolonged labor</td>
<td>22</td>
<td>8</td>
</tr>
<tr>
<td>Excessive bleeding</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Convulsions</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Swelling</td>
<td>19</td>
<td>6</td>
</tr>
<tr>
<td>Fever</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>Vaginal discharge</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

N=13,069
Postpartum Visits by FLWs Are Not Common; Most Get Little Newborn Care Advice from FLWs

- Any postpartum visit: 20%
- Postpartum visit within 1 week: 13%
- Exclusive breastfeeding: 12%
- Skin-to-skin care: 8%
- Danger signs - mother: 9%
- Danger signs - child: 8%
- Keeping baby warm: 8%
- Delay bath - 2 days: 7%

N=13,069
There Are Gaps in Appropriate Newborn Care Practices

N=13,069

- New blade and thread: 98% (All), 98% (Facility), 99% (Home)
- Cord left to dry naturally: 24% (All), 22% (Facility), 29% (Home)
- First bath delayed at least 2 days: 48% (All), 53% (Facility), 39% (Home)
Little Correlation Between Appropriate Newborn Practices and FLW Visits in Final Trimester

- Women visited by a FLW in their final trimester are:
  - Less likely to leave cord to dry naturally (more likely to apply gentian violet)
  - Just as likely to delay the first bath until at least 2 days
  - Slightly more likely to initiate breastfeeding within an hour of delivery

- Suggests that Ananya’s focus on improving the quality of FLW interactions may be appropriate
Child Nutrition and Immunization
Main Findings for Nutrition and Immunization

- There are gaps in appropriate feeding practices
  - Fewer than half of women report early and exclusive breastfeeding
  - Complementary feeding is often delayed beyond 6 months

- About one third of children aged 6-11 months are undernourished

- Early immunization rates for children in our sample are high, but drop off for later immunizations
Fewer Than Half of Mothers Report Early and Exclusive Breastfeeding

Breastfed within 1 Hour of Delivery
- Yes: 55
- No: 45

Gave Anything Besides Breast Milk on First Day
- Yes: 28
- No: 72

Exclusive Breastfeeding for 6 Months (Children 6-11 months, N=4,929)
- Yes, no water: 51
- Yes, plus water: 41
- No: 8
Feeding of Solid or Semi-Solid Foods for Children 6-11 Months Old Is Not Universal

Child Eats Solid or Semi-Solid Foods

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>6-11 month olds</td>
<td>65</td>
</tr>
<tr>
<td>6-8 month olds</td>
<td>57</td>
</tr>
<tr>
<td>9-11 month olds</td>
<td>78</td>
</tr>
</tbody>
</table>

(N=4,923) for 6-11 month olds, (N=2,985) for 6-8 month olds, (N=1,938) for 9-11 month olds.
Discussion on Appropriate Infant Feeding with FLWs Is Limited

Percentage

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusive breastfeeding for 6 months</td>
<td>55</td>
</tr>
<tr>
<td>Complementary feeding at 6 months</td>
<td>47</td>
</tr>
<tr>
<td>Types and quantity of food</td>
<td>44</td>
</tr>
<tr>
<td>On demand breastfeeding until 24 months</td>
<td>37</td>
</tr>
</tbody>
</table>

N=13,069
Two length and two weight measurements were recorded for each child, and the average taken.

Computed z-scores based on WHO growth standards:
- Compares length-for-age, weight-for-age, and weight-for-length to the distribution of a gender-specific reference population.

Categorized children as undernourished if z-score < -2 sd
- **Stunted**: length-for-age z-score <-2 sd
- **Underweight**: weight-for-age z-score <-2 sd
- **Wasted**: weight-for-length z-score <-2 sd

Children are **severely** undernourished if z-score < -3 sd.
Under-Nutrition Is Common in Children Age 6-11 Months

![Bar chart showing the percentage of children stunted, underweight, and wasted, with z-scores <-2 sd and <-3 sd.]

- Stunted: 27% z-score <-2 sd, 11% z-score <-3 sd
- Underweight: 35% z-score <-2 sd, 12% z-score <-3 sd
- Wasted: 32% z-score <-2 sd, 13% z-score <-3 sd

N=4,284
Over Half of Children Over 9 Months Old Received All Immunizations But Measles (All Reports)

<table>
<thead>
<tr>
<th>Immunization</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>92</td>
</tr>
<tr>
<td>Polio 0</td>
<td>82</td>
</tr>
<tr>
<td>Polio 1</td>
<td>87</td>
</tr>
<tr>
<td>Polio 2</td>
<td>79</td>
</tr>
<tr>
<td>Polio 3</td>
<td>69</td>
</tr>
<tr>
<td>DPT 1</td>
<td>86</td>
</tr>
<tr>
<td>DPT 2</td>
<td>81</td>
</tr>
<tr>
<td>DPT 3</td>
<td>72</td>
</tr>
<tr>
<td>Measles</td>
<td>45</td>
</tr>
<tr>
<td>All immunizations excl. measles</td>
<td>38</td>
</tr>
<tr>
<td>All immunizations</td>
<td>62</td>
</tr>
</tbody>
</table>

N=1,911
Hygiene and Sanitation
Hand Washing Rates Are High, But Disposal of Child Stools Is Not Hygienic and OD Is Common

- **Used Soap to Wash Hands Yesterday**
  - Yes: 92
  - No: 8

- **Health Worker Demonstrated Hand Washing**
  - Yes: 79
  - No: 21

- **Child Stool Disposal**
  - Latrine: 18
  - Buried: 5
  - Other disposal (drain, trash, open, other): 77

- **Anyone in Household Openly Defecated (OD) in Last Week**
  - Yes: 85
  - No: 15
Contraception
Main Findings for Contraception

- About one quarter of women with children over 6 months are using some form of contraception
  - Only 17% are using permanent or other modern methods
  - Despite the fact that knowledge of modern methods is high

- Discussions with FLWs around contraception are limited

- Positive correlations between discussions with FLWs and contraceptive use
  - Also positive correlations between media exposure to messages and contraceptive use
Sterilization and Pill Most Commonly Known Contraceptive Methods

N=13,069
Use of Modern Contraceptive Methods Is Low

Among Women Who Are Not Pregnant and Have a Child Over 6 Months (N=5,458)

- None: 73%
- Permanent: 10%
- Temporary - modern: 9%
- Temporary - traditional: 8%

39
Other Findings on Contraception

- Contraceptive use is higher for certain subgroups
  - Older women/women with more children
  - Women in higher SES households
  - Hindu women compared to Muslim women

- Almost half of non-users intend to use contraception in the next year
  - Female sterilization is the most common method planned (20% of nonusers)

- Only 12% of women discussed contraception with an FLW during pregnancy or after birth
  - Only 10% of women with a facility delivery had a family planning discussion at the facility after delivery
Association Between Media Exposure or FLW Discussions and Use of Contraception

### Current Use (N=13,069)
- Heard messages: 43%
- Did not hear messages: 17%

### Intention to Use Among Non-users (N=9,585)
- Heard messages: 59%
- Did not hear messages: 44%

### Current Use (N=13,069)
- Discussions with FLWs: 57%
- No discussions with FLWs: 22%

### Intention to Use Among Non-users (N=9,585)
- Discussions with FLWs: 71%
- No discussions with FLWs: 46%
Summary of Findings

- Certain behaviors/practices in the continuum of care are strong/show improvement, but there are still many gaps in coverage
  - One-third of young children under nourished

- Even though facility deliveries have increased, there remain quality gaps

- Home visits by FLWs are limited, particularly post-partum

- Some suggestive evidence that increased interactions with FLWs help improve contraceptive use

- Ananya’s focus on improving quality of FLW interactions and quality of facilities can help improve coverage