Bihar Technical Support Program (BTSP)
Geographic and Demographic snapshot of Bihar

<table>
<thead>
<tr>
<th>Division</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Districts</td>
<td>38</td>
</tr>
<tr>
<td>Sub Divisions</td>
<td>101</td>
</tr>
<tr>
<td>Blocks</td>
<td>534</td>
</tr>
<tr>
<td>Panchayats</td>
<td>8408</td>
</tr>
<tr>
<td>Revenue Village</td>
<td>45,103</td>
</tr>
<tr>
<td>Population (2011)</td>
<td>104 million</td>
</tr>
<tr>
<td>Rural Population</td>
<td>89% (India avg: 61%)</td>
</tr>
<tr>
<td>Per Capita Income</td>
<td>$335 p.a (India: $914)</td>
</tr>
<tr>
<td>Population Density</td>
<td>1,106 /sq Km</td>
</tr>
<tr>
<td>Sex Ratio</td>
<td>921/1000 males (India: 943)</td>
</tr>
<tr>
<td>Literacy Rate</td>
<td>63.8% (India: 73%)</td>
</tr>
<tr>
<td>Female Literacy Rate</td>
<td>53% (India: 65%)</td>
</tr>
<tr>
<td>Decadal Growth Rate (Percentage)</td>
<td>25.1% (India: 17.6%)</td>
</tr>
</tbody>
</table>

**Left Wing Extremist affected Districts**
- East Champaran
- Rohtas
- Aurangabad
- Jehanabad
- Arwal
- Gaya
- Jamui
Snapshot of key RMNCH+A indicators in Bihar (1/4)

<table>
<thead>
<tr>
<th>Maternal Mortality Ratio (MMR)</th>
<th>Total Fertility Rate (TFR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: SRS, NFHS</td>
<td></td>
</tr>
</tbody>
</table>

Maternal Mortality Ratio (MMR):
- India: 531, 371, 312, 261, 219, 208
- Bihar: 398, 301, 254, 212, 178, 167

Total Fertility Rate (TFR):
- NFHS 05-06: 4, 3.7, 3.6, 3.5, 3.4, 3.2
- SRS 2010: 2.68, 2.5, 2.4, 2.4, 2.3, 2.3

Neo Natal Mortality Rate (NMR):
- NFHS 98-99: 49.1, 39.8, 31, 29, 28, 27
- NFHS 05-06: 43, 39, 33, 31, 29, 28

Infant Mortality Rate (IMR):
- NFHS 98-99: 48, 47, 44, 42, 40, 39
- NFHS 05-06: 48, 44, 43, 42, 42, 42

Source: SRS, NFHS
Snapshot of key RMNCH+A indicators in Bihar (2/4)

% 0-5 yrs children underweight (weight for age)

- NFHS 05-06: 55.9%
- NFHS 15-16: 43.9%

Children aged 12-23 months Fully Immunized (%)

- AHS 10-11: 64.5%
- AHS 11-12: 65.6%
- AHS 12-13: 69.9%

Kala-Azar cases in Bihar

- 2012: 16036
- 2013: 10730
- 2014: 7615
- 2015: 6280

Source: SRS, NFHS, DLHS, AHS
# Health and nutritional goals and status

<table>
<thead>
<tr>
<th>Indicator</th>
<th>India</th>
<th>Bihar</th>
<th>Bihar Vikash Mission- Goal (2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal Mortality Ratio (MMR) (Per 1 lakh live births)</td>
<td>167 (SRS 11-13) *</td>
<td>312 (SRS 04-06)</td>
<td>261 (SRS 07-09)</td>
</tr>
<tr>
<td>Infant Mortality Rate (IMR) [0-1 year] (Per 1000 live births)</td>
<td>39 (SRS 2014)</td>
<td>48 (SRS 2010)</td>
<td>44 (SRS 2011)</td>
</tr>
<tr>
<td>Neonatal Mortality Rate (NMR) [0-28 days] (Per 1000 live births)</td>
<td>26 (SRS 2014)</td>
<td>31 (SRS 2010)</td>
<td>29 (SRS 2011)</td>
</tr>
<tr>
<td>Early NMR [within 7 days of Birth] (Per 1000 live births)</td>
<td>20 (SRS 2014)</td>
<td>27 (SRS 2010)</td>
<td>25 (SRS 2011)</td>
</tr>
<tr>
<td>Under 5 Mortality Rate (Per 1000 live births)</td>
<td>45 (SRS 2014)</td>
<td>64 (SRS 2010)</td>
<td>59 (SRS2011)</td>
</tr>
<tr>
<td>Total Fertility Rate (TFR)</td>
<td>2.3 (SRS 2014)</td>
<td>3.7 (SRS 2010)</td>
<td>3.6 (SRS 11-12)</td>
</tr>
<tr>
<td>Full Immunization</td>
<td>65% (RSOC 2012-13)</td>
<td>65.6% <strong>(AHS 12-13)</strong></td>
<td>66% *** (WHO)</td>
</tr>
</tbody>
</table>

* SRS-Sample Registration System, **AHS- Annual Health System, *** WHO- World Health Organization, **** HMIS- Health Management Information System, '' RSOC- Rapid Survey on Children
RMNCH interventions target the ‘window of opportunity’

Defining sharply, what ASHAs and AWWs should do during the 1,000 day window of opportunity

-9 months  -6 months  -3 months  0 (birth)  +6 months  +12 months  +18 months  +24 months

Birth preparedness Delivery PNC EBF, FP Complementary Feeding, FP
CARE initiated operations in Bihar in 2011, with focused implementation in 8 districts

With the support of BMGF, Integrated Family Health Initiative (IFHI), spearheaded by CARE, was focused on supporting GoB to improve family health outcomes across state. The core objective was to test and scale-up innovative and high impact interventions/solutions.

- 2010-11: Implementation Design
- 2011-13: Solutions implemented in 8 focus districts
- Ongoing measurement of Results and Outcomes
- 2013 onwards: Scale-up of solutions across State by govt

Focus on 8 Technical interventions

1. **Family planning**, especially for healthy timing, spacing, and limiting of pregnancies
2. **Skilled attendance at birth**, meeting guidelines for quality care, and delivery of quality emergency obstetric care
3. **Immediate newborn care**, with special emphasis on care for low birth weight infants
4. **Management of asphyxia**
5. **Prevention and management of neonatal sepsis**
6. **Early and exclusive breastfeeding**
7. **Appropriate complementary feeding**
8. **Complete immunization**
There were lessons learnt from IFHI by mid-2013

- Proof of concept established: the proposed solution levers had worked at a scale of ~28m population, given the level of facilitation provided:
  - Clear upstrokes in a range of desired outcomes
  - Clear associations between levels of effort of FLWs and desired outcomes
- GoB appetite for solution levers was strong, wished them to be scaled up (HSC, mentoring)
- Plenty of solution-specific lessons available for fine-tuning
- Initial experience with eight ‘twin’ districts suggested that scale up was likely to be more rapid than the effort involved in the original districts
- Clear system level deficiencies, which were not being significantly corrected with current efforts of BTAST and others
In addition to the lessons learnt, there were circumstances favoring TSU formation:

- Consistent political support from GoB to improve the health of women and children, exemplified most recently by the launch of the Human Development Mission (*Manav Vikas Mission*) under the chairmanship of Chief Minister in the state.

- The then recent launch of the government of India’s (GoI) RMNCH+A strategy.

- Success of the *Ananya* program in identifying strategies and solutions that support these goals.

- Request to the Foundation from GoB for support in the areas of nutrition and family planning.
Combination of these conditions led to evolution of TSU

**TSU approach**

- Co-owning development goals with GoB given high degree of alignment with Maternal & child health and nutrition initiatives; sharp focus on desired results

- Create ownership and necessary environment within Health departments and programs to implement solutions and nurture innovation

- Providing techno-managerial and operational expertise

- Creating necessary enabling environment to GoB to nurture interventions

- Working closely with other development partners in strengthening system components for better service delivery

**Expected outcome**

- Formally influence and support health department and ICDS at highest levels to shape effective policies and complement systemic changes in areas of human resources, supply chain, IT etc.

- Create an enabling environment which will eventually drive sustainable change

- *MVM- Manav Vikas Mission*
Hypotheses and Nature of our support to GOB changed significantly over time based on learnings from eight districts.

Improving quantity, quality, equity & timeliness of CHW interactions with families through home visits does drive behavior change but is under powered to increase reach and coverage, hence need to consider alternative plays.

- Overcoming health system barriers and provision of policy guidance
- Strengthening leadership, culture of focus on outcomes within GoB
- Building accountability within GoB through data and monitoring

...are critical to achieve and sustain results at scale

- Scaling up HSC level planning, review and learning forums
- Expanding focus of ~90K RI service delivery sessions to include products and information around diarrhea/ORS/Zinc, FP, IFA etc
- Monthly complementary feeding demonstrations through ICDS under the Child Malnutrition Free Bihar campaign

Schematic adapted from BMGF
Hypotheses and Nature of our support to GOB changed significantly over time based on learnings from eight districts

- Scaling up QI processes and nurse mentoring across all PHCs and 56 DHs/RHs with refinements (e.g., PRONTO simulations, identification and referral of complications)
- Doctor mentoring in 56 DHs/RHs to improve management of complications and C-sections
- Added emphasis on identification and tracking of LBW babies following continuum of care from facility to home
- Strengthening facility based record keeping systems
- Learning collaborative in 10 DHs to improve intrapartum care, C-sections operations, and newborn resuscitation through IHI
- Training and demand generation of comprehensive FP services (Minilap/PPTL, PPIUD, IUD) across 200 high volume facilities
- Improving FP service quality and informed choice

...will be critical to achieve and sustain results at scale

Improving quality of care beyond PHCs at DHs / RHs through QI and doctor mentoring is crucial to improve complications management and provision of comprehensive FP services

Schematic adapted from BMGF
Hypotheses and Nature of our support to GOB changed significantly over time based on learnings from eight districts.

- **Going-in hypothesis in 8 districts**
- **New hypothesis with scale up**
- **Initiatives carried forward from 8 districts**
- **New initiatives with scale up**

Improving quality of care beyond PHCs at DHs / RHs through QI and doctor mentoring is crucial to improve complications management and provision of comprehensive FP services.

Intersecting health into SHGs works but GOB ownership required for comprehensive scale play.

- Learning investment across 2 districts to improve diarrhea / pneumonia outcomes across private and public sector.

Improving pneumonia-diarrhea outcomes at population level requires addressing barriers to care and working with a large proportion of informal / formal providers.

Schematic adapted from BMGF
Our approach for RMNCHN changed significantly since inception based on learnings from 8 districts

- HR support – rationalization and policy changes
- Streamlining supply chain – procurement guidelines, pharmacist trainings
- Operationalizing PPP cell and improved accreditation policies
- Strengthening NCH services through functional pediatric ward and SNCUs at District Hospitals
- TA to GoB for integrated information systems through ICT
- Planning and management support: PIP, budget and expenditure tracking
- TA to strengthen procurement and distribution of supplies

Overcoming health system barriers and provision of policy guidance

..will be critical to achieve and sustain results at scale
Our approach for RMNCHN changed significantly since inception based on learnings from 8 districts

Going-in hypothesis in 8 districts

- On the job support and tools to strengthen leadership of ICDS and Health at different levels
- Peer to peer influence through TSU team presence
- Plan for leadership and management development programs for GoB officials
- Universal, modular program management trainings for GoB leadership
- Rewards and Recognition program (Bihar Swasth Seva Ratan)

New hypothesis with scale up

- Improving quality of care beyond PHCs at DHs / RHs through QI and doctor mentoring is crucial to improve complications management and provision of comprehensive FP services

Initiatives carried forward from 8 districts

- Improving pneumonia-diarrhea outcomes at population level requires addressing barriers to care and working with a large proportion of informal/formal providers

New initiatives with scale up

- Integrating health into SHGs works but GOB ownership required for comprehensive scale play

..will be critical to achieve and sustain results at scale
Our approach for RMNCHN changed significantly since inception based on learnings from 8 districts

- Strengthening and systematizing reviews with use of data through dashboards; other complementary tools like Mobile app and web portal for GoB officials at state, district and block level
- Upskilling GoB officials on use of data and developing result-orientation
- Strengthening quality of care through clinical reviews at facility level

Improving pneumonia-diarrhea outcomes at population level requires addressing barriers to care and working with a large proportion of informal/formal providers

Improving quantity, quality, equity & timeliness of CHW interactions with families through home visits does drive behavior change but is under powered to increase reach and coverage, hence need to consider alternative plays

Integrating health into SHGs works but GOB ownership required for comprehensive scale play

Improving health systems (HR, critical supplies and infrastructure) is essential to improve quality of care but will be taken care of by other DPs

Strengthening and systematizing reviews with use of data through dashboards; other complementary tools like Mobile app and web portal for GoB officials at state, district and block level

Upskilling GoB officials on use of data and developing result-orientation

Strengthening quality of care through clinical reviews at facility level

Building accountability within GoB through data and monitoring

..will be critical to achieve and sustain results at scale

Schematic adapted from BMGF
Not only hypothesis and nature of support, operational scale has also changed over a period of time.

**Solution scale-up across state**
- **2011-2013 IFHI operation**
  - 137 blocks
  - 0.9m pregnant women
  - 0.85m births/ year

- **TSU Mode of operation**
  - 534 blocks
  - 2.7m pregnant women
  - 2.55m births/ year

**Intervention support**
- **2011-2013 IFHI operation**
  - 46,000 ASHA/ AWW
  - 1,900 doctors
  - 5,000 Grade A Nurses / ANMs

- **TSU Mode of operation**
  - 180,000 ASHA/ AWW
  - 4,200 doctors
  - 25,000 Grade A Nurses / ANMs
Given the level of co-ordination needed with state, TSU offered a structure designed providing support at all levels.

**TSU structure**

**Strategy formulation & technical support team**
- State RMNCH+A unit (SRU)
- Nutrition Strategy Unit (NUS)

**Ground support team**
Provides programmatic support, technical skilling, problem solving support and mentoring at block and district levels.

**Data collection and analytics team**
Puts in place processes to generate and analyse outcome and process data on community and facility-level services.

**Healthcare hierarchy**

- **State level**
- **District and block level**
CML Framework - What are we trying to do

Domains in which we are working

Maternal, New born & Child Health
Reproductive Health/ Family Planning
Nutrition
Strengthening Health System
Childhood Pneumonia and Diarrhoea

Measurement Framework

Tracking Progress of intervention/solution implemented by the system and BTSP
Output and Outcome level
Input and Process level
Deep Dives
Exploratory studies
Assessment of Solutions

Web Platform for real-time data access
Geo-tagging and geo spatial analysis
Presenting data to the GoB at appropriate level
Coverage of some of the major measurement efforts

Coverage: population survey: LQAS+

- All Districts covered: District Estimates and the state estimate
- 534 blocks across 38 districts
- 15,687 sample size/age group
- 78,435 respondents

Frequency: Bi-annual

Age Groups
- 0-2 months
- 3-5 months
- 6-8 months
- 9-11 months
- 12-23 months

Data Quality Assurance: 15% back checks

Coverage: QoC Measurements

Facility Assessment
- All functional facilities of Bihar
- Infrastructure and HR: annual
- Equipment, supply, record keeping: bi-annual

Direct Observation of Delivery
- Pre and post mentoring
- Independent observation through a check-list
- Covered 400 facilities

Facility Information System
- During the period of mentoring
- Granular case-wise data
- Covered 400 facilities
## Contraceptive method mix

<table>
<thead>
<tr>
<th>Method</th>
<th>6-8 months age group</th>
<th>12-23 months age group</th>
<th>6-8 months age group (VHSND pilot blocks)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R6</td>
<td>R7</td>
<td>Change</td>
</tr>
<tr>
<td>mCPR</td>
<td>13%</td>
<td>11%</td>
<td>down</td>
</tr>
<tr>
<td>IUD</td>
<td>0.4%</td>
<td>0.8%</td>
<td>up</td>
</tr>
<tr>
<td>Injectable</td>
<td>0.3%</td>
<td>0.5%</td>
<td>up</td>
</tr>
<tr>
<td>OCP</td>
<td>1%</td>
<td>1%</td>
<td>down</td>
</tr>
<tr>
<td>Condoms</td>
<td>1.3%</td>
<td>1.1%</td>
<td>down</td>
</tr>
<tr>
<td>TL</td>
<td>10.2%</td>
<td>7.5%</td>
<td>down</td>
</tr>
</tbody>
</table>

### Uptake of PPIUCD across age groups

Source: LQAS R6 (May – Sept 2014) and R7 (Sept – Nov 2015)
Systematic planning and activation of FP services in public facilities is beginning to show increase in service uptake.

**Method Mix Clinical FP Services**

<table>
<thead>
<tr>
<th>Method</th>
<th>Apr 2014 – Mar 2015</th>
<th>April to Dec, 2014</th>
<th>April to Dec, 2015</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>IUCD</td>
<td>4,30,723</td>
<td>26,3859</td>
<td>30,7471</td>
<td>43,612</td>
</tr>
<tr>
<td>PPIUCD</td>
<td>50,910</td>
<td>36,496</td>
<td>6,1947</td>
<td>25,451</td>
</tr>
<tr>
<td>FS</td>
<td>5,41,462</td>
<td>24,5736</td>
<td>26,2810</td>
<td>17,074</td>
</tr>
</tbody>
</table>

**Method Mix Non-Clinical FP Services**

<table>
<thead>
<tr>
<th>Method</th>
<th>Apr 2014 – Mar 2015</th>
<th>April to Dec, 2014</th>
<th>April to Dec, 2015</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condom (In pc)</td>
<td>53,72,668</td>
<td>61,88,30</td>
<td>72,64,90</td>
<td>107,660</td>
</tr>
<tr>
<td>OCP (In cycles)</td>
<td>8,41,359</td>
<td>40,47,265</td>
<td>40,25,666</td>
<td>-21,599</td>
</tr>
</tbody>
</table>
Availability of consumables (incl. FP-related consumables) at facilities have shown improvement

% availability of drugs and commodities at facilities

Cap. Amoxicillin: 51%, 47%
Magnesium Sulphate: 69%, 61%
Inj. Oxytocin: 70%-71%
Condoms: 63%
OCP: 64%
Pregnancy kit: 46%
IUCD: 98%, 88%

Source: CFA Round 1 data (April to June 2015); CFA Round 2 data (Dec 2015 to Jan 2016)
Note: Availability calculated as (1-% stockout)
AMANAT trainings have significantly improved clinical practices at facilities (1/2)

- Handing washing with water and soap (before delivery) *
  - Non-AMANAT facilities: 81%
  - AMANAT facilities: 91%

- Did not apply Fundal pressure *
  - Non-AMANAT facilities: 71%
  - AMANAT facilities: 86%

- 10 IU Oxytocin administered (within 1 minute of delivery) *
  - Non-AMANAT facilities: 14%
  - AMANAT facilities: 53%

- Any dose of Oxytocin administered (after delivery) *
  - Non-AMANAT facilities: 78%
  - AMANAT facilities: 91%

Source: 2015 DoD in Non-AMANAT facilities and AMANAT facilities
* Statistically significant (p<0.05)
Referral protocols have shown improvement (additional improvement in AMANAT facilities) with better supervision and referral tracking mechanism (Purnia district example).

<table>
<thead>
<tr>
<th>% complications identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMANAT facilities</td>
</tr>
<tr>
<td>Apr’15: 0.7%</td>
</tr>
<tr>
<td>Jul’15: 8.3%</td>
</tr>
<tr>
<td>Oct’15: 8.8%</td>
</tr>
<tr>
<td>Non-AMANAT facilities</td>
</tr>
<tr>
<td>Apr’15: 0.2%</td>
</tr>
<tr>
<td>Jul’15: 2.3%</td>
</tr>
<tr>
<td>Oct’15: 4.2%</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Apr’15: 0.3%</td>
</tr>
<tr>
<td>Jul’15: 3.7%</td>
</tr>
<tr>
<td>Oct’15: 5.3%</td>
</tr>
</tbody>
</table>

Note: No. of births in April 2015 = 3969, July 2015 = 5090, October 2015 = 6299.
Essential newborn care practices at facilities have shown marked improvement – AMANAT facilities have shown higher increase (1/2)

### Skin-to-skin care (STSC) at birth

<table>
<thead>
<tr>
<th></th>
<th>All deliveries*</th>
<th>Public facility deliveries*</th>
<th>AMANAT facilities*</th>
<th>Non-AMANAT facilities*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public, Private, Home</td>
<td>14%</td>
<td>20%</td>
<td>20%</td>
<td>18%</td>
</tr>
<tr>
<td></td>
<td>(N=14290)</td>
<td>(N=8357)</td>
<td>(N=1112)</td>
<td>(N=7245)</td>
</tr>
<tr>
<td></td>
<td>20%</td>
<td>32%</td>
<td>39%</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>(N=13905)</td>
<td>(N=7882)</td>
<td>(N=831)</td>
<td>(N=5419)</td>
</tr>
</tbody>
</table>

### Early Initiation of Breast Feeding (EIBF)

<table>
<thead>
<tr>
<th></th>
<th>All deliveries*</th>
<th>Public facilities*</th>
<th>AMANAT facilities*</th>
<th>Non-AMANAT facilities*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public, Private, Home</td>
<td>56%</td>
<td>70%</td>
<td>73%</td>
<td>70%</td>
</tr>
<tr>
<td></td>
<td>(N=15671)</td>
<td>(N=9092)</td>
<td>(N=1207)</td>
<td>(N=7885)</td>
</tr>
<tr>
<td></td>
<td>57%</td>
<td>74%</td>
<td>81%</td>
<td>74%</td>
</tr>
<tr>
<td></td>
<td>(N=15471)</td>
<td>(N=8622)</td>
<td>(N=892)</td>
<td>(N=5935)</td>
</tr>
</tbody>
</table>

### Weighed at Birth

<table>
<thead>
<tr>
<th></th>
<th>All deliveries*</th>
<th>Public facilities*</th>
<th>AMANAT facilities*</th>
<th>Non-AMANAT facilities*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public, Private, Home</td>
<td>66%</td>
<td>91%</td>
<td>93%</td>
<td>91%</td>
</tr>
<tr>
<td></td>
<td>(N=15153)</td>
<td>(N=8722)</td>
<td>(N=1160)</td>
<td>(N=7562)</td>
</tr>
<tr>
<td></td>
<td>68%</td>
<td>94%</td>
<td>97%</td>
<td>94%</td>
</tr>
<tr>
<td></td>
<td>(N=15064)</td>
<td>(N=8333)</td>
<td>(N=866)</td>
<td>(N=5751)</td>
</tr>
</tbody>
</table>

Source: LQAS R6 (May – Sept 2014) and R7 (Sept – Nov 2015)

* Statistically significant (p<0.05)

Values related to AMANAT & Non-AMANAT are based on 78% of data
Essential newborn care practices at facilities have shown marked improvement – AMANAT facilities have shown higher increase (2/2)

For deliveries in Public facilities, Dry Cord Care continued at home *

This drop can be attributed to increase in application of various reagents to the cord after beneficiary returns home

Source: LQAS R6 (May – Sept 2014) and R7 (Sept – Nov 2015)

* Statistically significant at p<0.05
vLBW tracking intervention has led to marked increase in accurate identification of vLBW babies and direct reduction in mortality of identified vLBWs

1 - vLBW implies babies with birth weight <= 2000 gms
2- Expected prevalence is from Facility Information System (FIS): this estimation is on the basis of observation of large number of deliveries by nurse mentors working in facilities of rural Bihar

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![Graph showing % live births identified as vLBW babies before and after intervention](image1)

Prior to structured intervention (Feb to Apr-15): 2%
Post introduction of intervention (Sept to Oct-15): 4%
Expected Prevalence (Based on FIS data): 5.2%

Identified vLBW babies advised for extra care at hospital

**Before Intervention (Feb to Apr-15)**:
- R1: 15%
- R2: 34%

**Post intervention (Sept to Oct-15)**:
- R1: 18%
- R2: 46%

%vLBW families with at least 1 FLW visit in 1st week of delivery

**Before Intervention (Feb to Apr-15)**:
- R1: 15%
- R2: 34%

**Post intervention (Sept to Oct-15)**:
- R1: 18%
- R2: 46%

LBW babies who died within 3-27 days

**Before Intervention (Feb to Apr-15)**:
- R1: 9.73%
- R2: 7.84%

**Post intervention (Sept to Oct-15)**:
- R1: 8.3%
- R2: 14.5%

%vLBW babies who were not bathed before 48 hrs of delivery

**Before Intervention (Feb to Apr-15)**:
- R1: 41%
- R2: 51%

**Post intervention (Sept to Oct-15)**:
- R1: 8.3%
- R2: 14.5%

KMC at facilities for vLBW babies

**Before Intervention (Feb to Apr-15)**:
- R1: 3%
- R2: 8.3%

**Post intervention (Sept to Oct-15)**:
- R1: 8.3%
- R2: 14.5%

R1 - Before Intervention (Feb to Apr-15) N=1408
R2 - Post intervention (Sept to Oct-15) N= 1664
Nutrition
Practice of Exclusive Breast Feeding and Initiation of Complementary Feeding has shown improvement

EBF and CF practices**

<table>
<thead>
<tr>
<th></th>
<th>R6 (%)</th>
<th>R7 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusive Breast Feeding (0-2 months)</td>
<td>67%</td>
<td>76%</td>
</tr>
<tr>
<td>Exclusive Breast Feeding (3-5 months)</td>
<td>42%</td>
<td>52%</td>
</tr>
<tr>
<td>Initiation of Complementary Feeding (6-8 months)</td>
<td>46%</td>
<td>61%</td>
</tr>
<tr>
<td>Initiation of Complementary Feeding (6-8 months) in VHSND pilot blocks</td>
<td>46%</td>
<td>65%</td>
</tr>
</tbody>
</table>

Source: LQAS R6 (May – Sept 2014) and R7 (Sept – Nov 2015)

** Statistically significant at p<0.05
Frequency of complimentary feeding has improved significantly while other feeding practices (min. dietary diversity and min. acceptable diet) have remained stagnant.

Age appropriate frequency of feeding **

- **6-8 months**
  - LQAS R6: 38%
  - LQAS R7: 68%
  - N=15669
- **9-11 months**
  - LQAS R6: 39%
  - LQAS R7: 86%
  - N=15648

Age appropriate quantity of feeding (in ml.)

- **6-8 months**
  - LQAS R6: 131 ml
  - LQAS R7: 99 ml
  - Benchmark value = 200 ml
- **9-11 months**
  - LQAS R6: 150 ml
  - LQAS R7: 111 ml
  - Benchmark value = 300 ml

Children receiving minimum dietary diversity

- **6-8 months**
  - LQAS R6: 6%
  - LQAS R7: 6%
  - N=15687
- **9-11 months**
  - LQAS R6: 15%
  - LQAS R7: 14%
  - N=15649

Children receiving minimum acceptable diet

- **6-8 months**
  - LQAS R6: 6%
  - LQAS R7: 6%
  - N=15687
- **9-11 months**
  - LQAS R6: 10%
  - LQAS R7: 13%
  - N=15649

**Statistically significant at p<0.05**

Source: LQAS R6 (May – Sept 2014) and R7 (Sept – Nov 2015)
EBF indicators provide the clearest indication of the considerable impact of season. The best EBF rates are seen in round R2 and R5 (both from winter), and the worst in R6 (peak summer). As seen in the next two slides, there are two main offending fluids: plain water and animal milk. The prevalence of feeding of plain water is entirely a function of season, as evinced by the non-linear changes across rounds, and is a mirror image of the overall EBF curves on this page. Animal milk feeding patterns represent a steady replacement of mother’s milk with age, with only minor seasonal change, largely limited to the 3+ months group.
Seasonal trends: Giving water

Plain water given in the previous 24 hours

- R2-IFHI
- R3-IFHI
- R4-IFHI
- R5-IFHI
- R6-IFHI
- R6-IFHI-Twin (8)
- R6-Non-IFHI (22)
- R6-Twin+Non-IFHI (30)
Seasonal trends: Giving Animal milk

Animal or formula milk given in the previous 24 hours

Seasonal trends: Giving Animal milk
Visceral Leishmaniasis
Historical Visceral Leishmaniasis Incidence in Bihar
Interventions for VL Elimination

- IRS Spray
- Complete Treatment
- KA-MIS
- Surveillance
- Early Diagnosis
Effectiveness of IRS Spray

Proportion of HHs covered

Squads reach a high proportion of HH, similar for DDT and SP

Less than 10% HH refuse spraying, and even this has come down with SP

[Bar charts showing the proportion of households covered in each round for DDT and SP, with percentages increasing from R1 to R2 in 2014 and 2015, and a decrease in 2016 with SP.]
Projections of IRS coverage for 2012 and 2013 were made based on linear regression modelling using district level coverages of 2014 to 2016, by which point monitoring support had increased considerably. It is assumed that the 2012 coverage was typical of years since the appointment of KTS and VBDC under World Bank support.

Source – CML Survey
Thanking all who are supporting our work in Bihar...