EVALUATION DEPARTMENT

REPORT 12/2018

Norad

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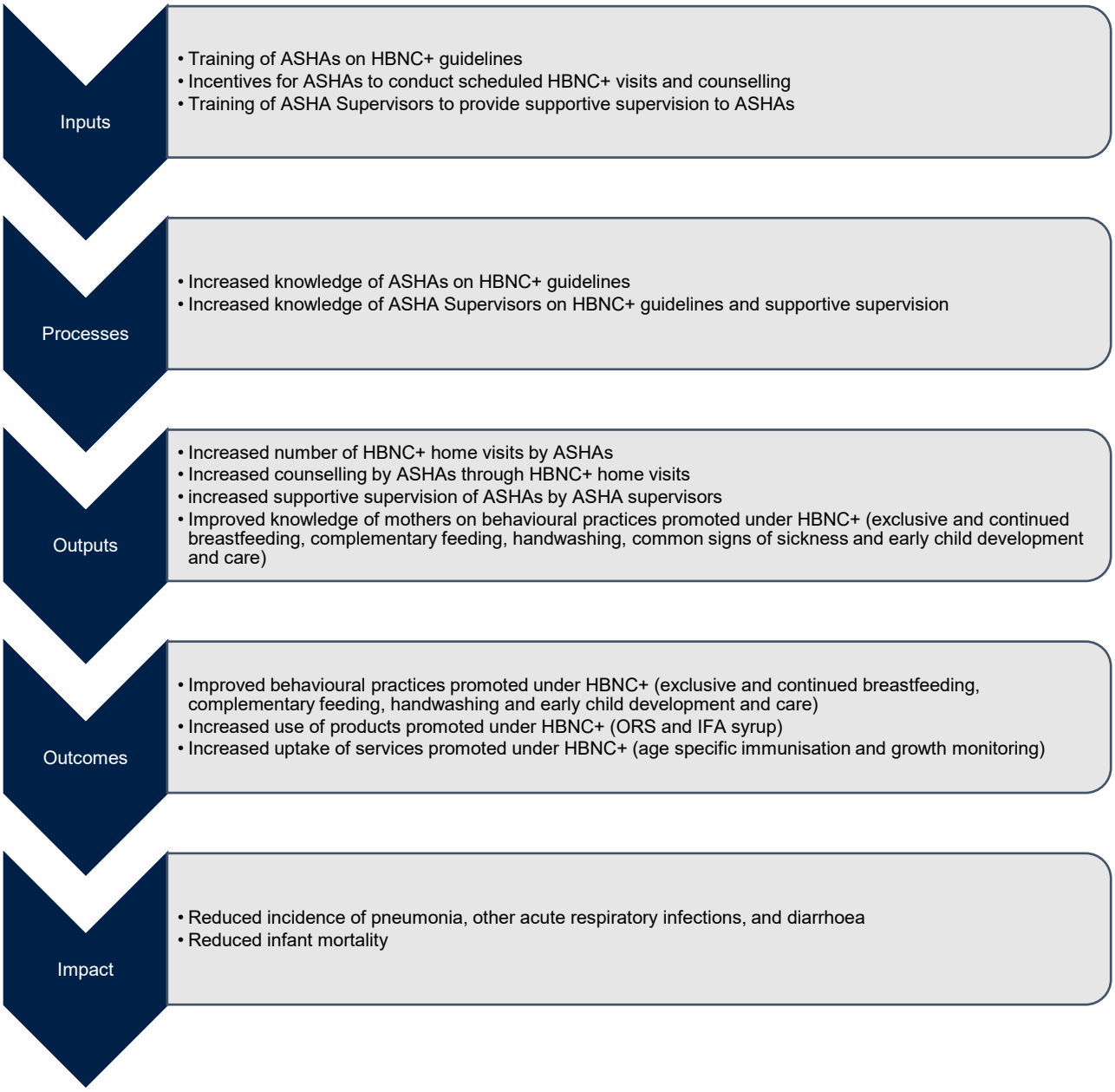
The Norway-India Partnership Initiative Phase II: Impact Evaluation of Five Interventions

ANNEX A-I

Annex A: Additional analysis for HBNC+

A1. Theory of change

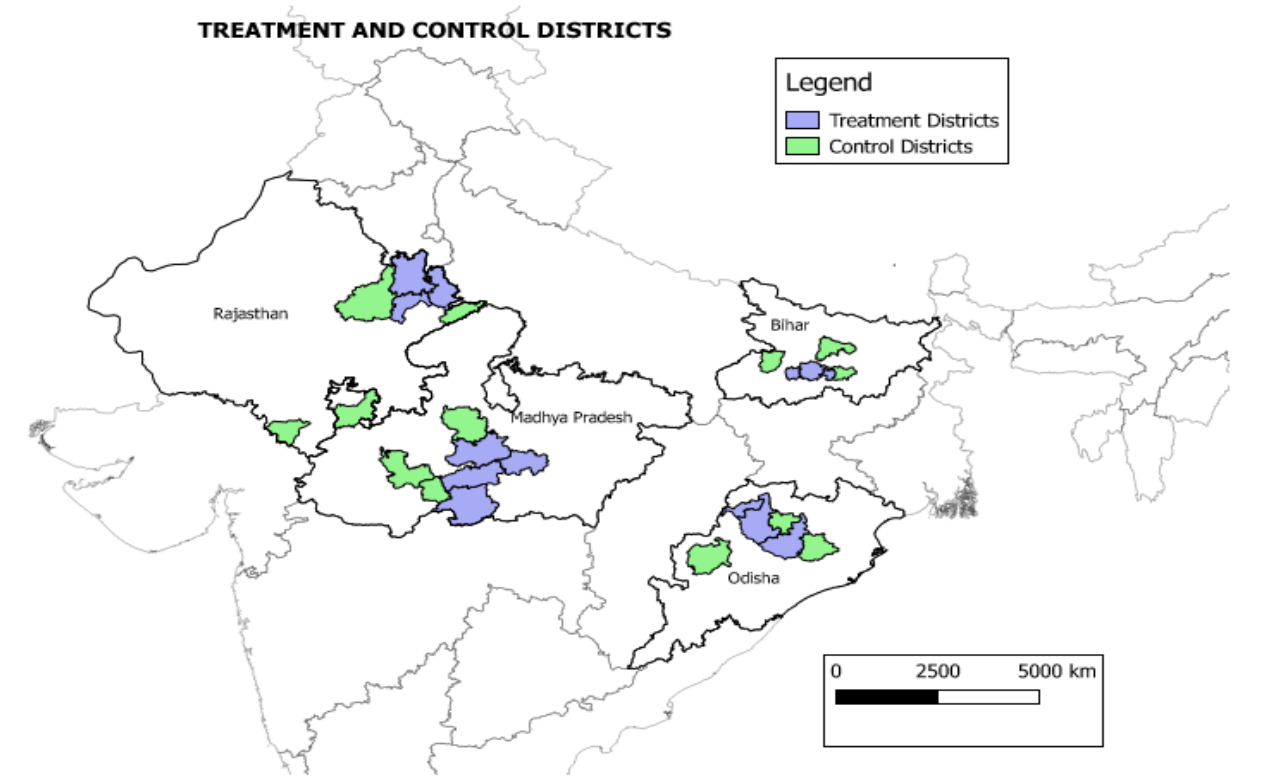
Figure 1: Results chain for HBNC+



Assumptions explicit in the results chain for HBNC+

1. ASHAs and ASHA Supervisors are in place to operationalise HBNC+ i.e. no vacant positions.
2. The training would cover all the ASHAs and would be able to attain required levels of provider knowledge
3. ASHAs are also trained on and have skills related to counselling to facilitate behavioural change of mothers and communities
4. Appropriate incentives are in place to motivate ASHAs to undertake HBNC+ visits
5. ASHAs receive timely and full amount of incentives
6. Mothers receive the home visits by ASHAs as per the training and visitation schedule
7. Mothers get appropriate and timely counselling by ASHAs on healthy behaviour and practices related to infants.
8. Caregivers lack appropriate knowledge on healthy behaviour and practices related to infants.
9. Social and cultural norms and individual related factors act as facilitators for mothers to adopt healthy practices for healthier infants
10. The supply chains that deliver the products and services required for mothers to implement the HBNC+ recommendations (ORS, iron supplementation, growth monitoring and immunisation services) are adequately available, functional and accessible

Figure 2: Sample locations for HBNC+



A2. Power calculations

The inception report presented calculations for HBNC+ showing that a sample size of 4,500 households (2,250 households each in treatment and control areas) would give a minimum

detectable effect (MDE) of the diff-in-diff calculations of at least better than five percentage points at the programme level and at least better than ten percentage points at the state-level. Five percentage points and ten percentage points would pertain to the worst possible indicator (design effect of 1.85, starting value 50%) but indicators with lower design effects or more extreme starting values would have considerably smaller minimum detectable effects.

As the evaluation uses the ITT model, incomplete coverage of the intervention would imply that the units covered would have to deliver a higher percentage points change in key indicators so that the programme average would equate to the minimum detectable effect. For example, if the minimum detectable effect was five percentage points, and coverage was only 50%, then the covered units would need to have an effect of ten percentage points for the overall area to show an average effect of five percentage points.

Given estimated coverage of HBNC+ of 66%, Table 20, demonstrates minimum detectable effects for different key indicators at 95% confidence level (standard) and 90% confidence level at programme and state-level. The data is sourced from the NFHS 2015-16 for Bihar. Data from other states apart from MP is not published yet. Only a few indicators have been published for Bihar. Therefore, the indicators do not exactly match those from the evaluation design.

Table 1: Sample size considerations for HBNC+

Indicator	NFHS 4 Value	Design Effect	Programme MDE at 95% confidence, 100% coverage (pp)	State MDE at 95% confidence, 100% coverage (pp)	Programme MDE at 95% confidence, 66% coverage (pp)	State MDE at 95% confidence, 66% coverage (pp)	Programme MDE at 90% confidence, 66% coverage (pp)	State MDE at 90% confidence, 66% coverage (pp)
Children aged 12-23 months fully immunised	61.3 %	1.38	4.2	8.4	6.3	12.6	5.7	11.3
Children with diarrhoea in preceding two weeks treated with ORS	45.2 %	1.11	3.9	7.8	5.8	11.7	5.25	10.3
Hypothetical worst-case indicator	50%	1.85	5.0	10.0	7.5	15	6.7	13.5

A3. Changes to the endline questionnaire

The following changes have been incorporated in the primary quantitative tools:

1. Included questions on awareness, availability, and usage of IFA supplementation for children

2. Included questions on knowledge of ORS preparation and ensuring availability of ORS of mothers

3. Included questions on availability of soap and water in a household

4. Included questions for mothers on use of growth charts by health workers and availability and updating of Mother Child and Protection (MCP) card

5. Included questions for health workers on their use of growth charts and Mother and Child Protection Card (MCP) cards and the ease of using it

6. Removed questions on long list of danger signs and revised them to common signs of sickness as per Integrated Management of Newborn and Childhood Illness (IMNCI) guidelines

7. Included questions on incentives paid to the health workers for home visits for both HBNC and HBNC+

8. Included questions on counselling received by a mother on several HBNC+ components.

9. Included questions on home visits by other health workers.

A4. ASHA knowledge

Table 2: Awareness of ASHAs regarding exclusive breastfeeding

Indicator	Treatment			Control			Impact estimate (S.E.)
	BL	EL	Diff (EL-BL)	BL	EL	Diff (EL-BL)	
ASHAs aware of correct EBF duration of six months (%)	96.5	98	1.5	91	95.4	4.4	-2.87 (3.17)
N	144	151		156	152		
ASHAs aware that child must be breastfed even when sick (%)	91	96	5.01**	91	93.5	2.4	2.88 (3.92)
N	144	151		156	153		

Unweighted estimates reported. Cluster-adjusted Standard Errors (SE) are reported in parentheses.
Impact estimates use difference-in-difference modelling and control for a vector of ASHA characteristics, and state fixed effects.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017.

Table 3: ASHA knowledge on the age at which to start complementary feeding

Indicator	Treatment			Control			Impact estimate (S.E.)
	BL	EL	Diff (EL-BL)	BL	EL	Diff (EL-BL)	
ASHAs aware of correct age at which to start on solids/semi-solids (%)	86.8	99.3	12.5***	88.5	97.4	8.9**	2.36 (5.68)
N	144	151		156	153		

Unweighted estimates reported. Cluster-adjusted Standard Errors (SE) are reported in parentheses.
Impact estimates use difference-in-difference modelling and control for a vector of ASHA characteristics, and state fixed effects.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017.

Table 4: ASHA awareness regarding IFA supplementation

Indicator	Endline		
	T	C	T-C
ASHAs with correct knowledge of age at which IFA should be started (%)	60.3	47.1	13.2
N	151	153	
ASHAs aware that IFA syrup to be given twice a week (%)	52.3	41.8	10.5
N	151	153	
ASHAs with correct knowledge of IFA doses given in a year (%)	6.0	0.0	6.0***
N	151	153	
ASHAs with correct knowledge of IFA dosage (%)	43.9	42.5	1.5
N	107	73	

Unweighted estimates reported.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Endline Survey 2017.

Table 5: ASHA awareness regarding ORS

Indicator	Endline
	T
ASHAs distributed ORS packets to HHs in the last calendar month (%)	70.9
ASHAs aware that 1 lt water to mixed with ORS packet (%)	90.1
ASHAs aware that ORS solution to be consumed within 24 hrs (%)	96
N	151

Unweighted estimates reported.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Endline Survey 2017.

A5. Home visits during the HBNC+ period in treatment areas: Sub-group analysis at endline

Figure 3: Full schedule of visits during the HBNC+ period, by caste

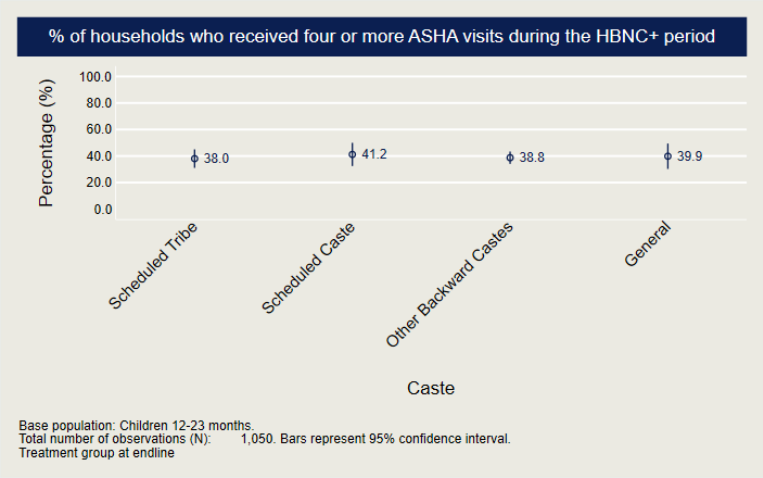


Figure 4: Full schedule of visits during the HBNC+ period, by wealth

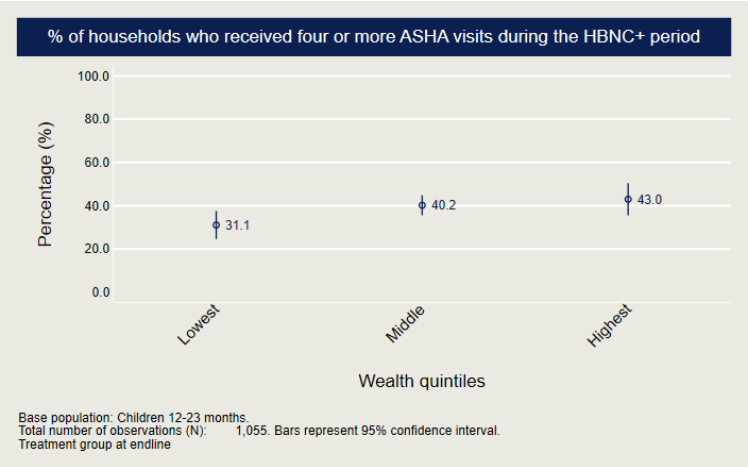
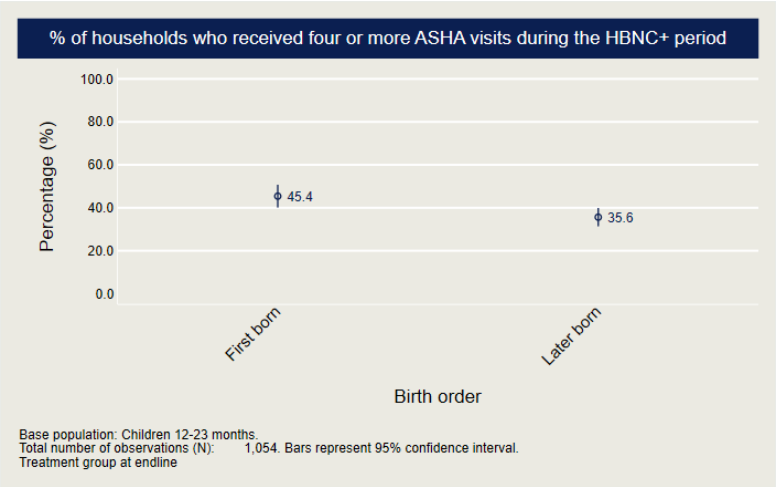


Figure 5: Full schedule of visits during the HBNC+ period, by birth order



A6. Correlation between actual home visits receipt and behavioural outcomes

Table 6: Regression analysis: Treatment observations at endline

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Received a diet with minimum diversity	Mothers who reported washing hands at 3 or more moments	Growth monitored at least once in 3 months	Received full immunisation	Consumed IFA syrup at least twice per week in last 2 weeks	Mothers aware of ORS as treatment for diarrhoea	Mothers who play with child
Children 12-23 months who received at least 4 visits in the HBNC+ period	-0.010	0.002	0.068***	0.023	0.032**	0.030	-0.001
	(0.030)	(0.005)	(0.024)	(0.035)	(0.016)	(0.035)	(0.026)
Age of Index Child (months)	0.019***	0.000	-0.006	0.011**	-0.002	-0.001	0.002
	(0.004)	(0.001)	(0.003)	(0.004)	(0.002)	(0.004)	(0.003)
Female Index Child	-0.023	0.003	-0.024	0.062*	-0.019	0.031	-0.041
	(0.033)	(0.007)	(0.036)	(0.037)	(0.017)	(0.037)	(0.033)
Number of children ever-born, both surviving and dead to sampled women	0.025**	0.003	-0.029*	0.019	-0.002	-0.022*	0.029***
	(0.012)	(0.003)	(0.015)	(0.017)	(0.005)	(0.013)	(0.011)
Age of women [All survey mothers]	-0.000	-0.001	0.007***	-0.006*	-0.000	0.015***	-0.003
	(0.003)	(0.001)	(0.002)	(0.004)	(0.002)	(0.003)	(0.003)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Received a diet with minimum diversity	Mothers who reported washing hands at 3 or more moments	Growth monitored at least once in 3 months	Received full immunisation	Consumed IFA syrup at least twice per week in last 2 weeks	Mothers aware of ORS as treatment for diarrhoea	Mothers who play with child
Mother's highest education - Primary education	0.028	0.007	0.019	0.024	-0.007	0.066*	0.012
	(0.033)	(0.008)	(0.032)	(0.040)	(0.020)	(0.038)	(0.029)
Mother's highest education - Secondary education	0.011	-0.008	-0.088*	0.021	-0.024	0.147***	-0.029
	(0.047)	(0.015)	(0.049)	(0.056)	(0.027)	(0.047)	(0.048)
Mother's highest education - Higher education	0.073*	0.005	-0.012	0.031	0.008	0.182***	-0.041
	(0.042)	(0.011)	(0.041)	(0.051)	(0.025)	(0.045)	(0.041)
Mother gave birth in a facility	0.019	-0.001	0.073	0.119**	-0.005	0.075	-0.047
	(0.036)	(0.013)	(0.050)	(0.053)	(0.015)	(0.055)	(0.038)
Frequency of ANC visits - 1-3 ANC visits	0.042	-0.008	0.139**	0.113***	0.006	0.101**	-0.093**
	(0.037)	(0.010)	(0.067)	(0.041)	(0.010)	(0.040)	(0.045)
Frequency of ANC visits - 4 or more ANC visits	0.099**	-0.006	0.128*	0.179***	0.014	0.166***	-0.072
	(0.042)	(0.011)	(0.065)	(0.053)	(0.014)	(0.049)	(0.046)
Mother reported problems getting permission to seek medical advice	-0.036	-0.002	0.034	0.044	-0.010	0.005	-0.022
	(0.032)	(0.006)	(0.037)	(0.036)	(0.015)	(0.038)	(0.034)
Mother reported that distance is a problem to get to the facility	-0.004	-0.000	-0.053*	0.017	-0.035*	-0.013	-0.016
	(0.031)	(0.004)	(0.032)	(0.033)	(0.020)	(0.034)	(0.032)
Log of household size	-0.097*	0.010	0.015	0.185**	0.008	0.033	-0.044
	(0.056)	(0.016)	(0.063)	(0.078)	(0.031)	(0.073)	(0.066)
Log of number of females in HH	-0.024	-0.010	0.011	-0.081	0.032	-0.021	0.002
	(0.050)	(0.014)	(0.050)	(0.062)	(0.026)	(0.056)	(0.050)
Household wealth - Middle quintiles	0.001	-0.014	-0.019	0.003	0.014	0.190***	0.142***
	(0.041)	(0.009)	(0.034)	(0.048)	(0.017)	(0.046)	(0.040)
Household wealth - Top quintile	0.009	-0.006	-0.009	-0.010	0.021	0.238***	0.194***

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Received a diet with minimum diversity	Mothers who reported washing hands at 3 or more moments	Growth monitored at least once in 3 months	Received full immunisation	Consumed IFA syrup at least twice per week in last 2 weeks	Mothers aware of ORS as treatment for diarrhoea	Mothers who play with child
	(0.055)	(0.008)	(0.047)	(0.060)	(0.030)	(0.055)	(0.048)
Caste of Head of HH – SC	-0.018	-0.017**	0.000	0.015	-0.003	0.044	-0.029
	(0.043)	(0.008)	(0.043)	(0.055)	(0.026)	(0.052)	(0.041)
Caste of Head of HH – ST	0.001	-0.003	-0.054	-0.008	0.015	0.033	-0.015
	(0.051)	(0.003)	(0.044)	(0.060)	(0.034)	(0.054)	(0.043)
Caste of Head of HH – OBC	0.016	-0.009*	-0.048	-0.031	-0.009	0.047	-0.014
	(0.040)	(0.005)	(0.034)	(0.052)	(0.024)	(0.045)	(0.033)
Distance to nearest bus station - 5-10 Kms	-0.067*	0.001	-0.083**	0.027	0.005	0.041	0.011
	(0.034)	(0.007)	(0.037)	(0.041)	(0.026)	(0.040)	(0.031)
Distance to nearest bus station - More than 10 Kms	0.002	0.007	-0.049	0.015	0.026	0.018	-0.029
	(0.039)	(0.007)	(0.042)	(0.048)	(0.033)	(0.058)	(0.048)
Distance to PHC - 5-10 Kms	-0.018	0.002	0.050	-0.023	0.006	-0.051	0.029
	(0.032)	(0.006)	(0.034)	(0.039)	(0.021)	(0.040)	(0.033)
Distance to PHC - More than 10 Kms	-0.008	-0.005	0.073*	-0.048	0.008	-0.104**	0.031
	(0.036)	(0.007)	(0.038)	(0.042)	(0.027)	(0.050)	(0.039)
PSU has sub-centre	0.023	0.006	-0.041	-0.003	-0.027	-0.036	0.046
	(0.028)	(0.006)	(0.029)	(0.036)	(0.020)	(0.035)	(0.029)
PSU has electricity supply of 12 hours or more	0.039	-0.003	-0.034	-0.001	0.002	0.156***	0.050
	(0.031)	(0.006)	(0.036)	(0.034)	(0.022)	(0.041)	(0.033)
PSU has road access	-0.047	0.003	-0.028	0.069	-0.050	0.001	0.004
	(0.039)	(0.007)	(0.033)	(0.049)	(0.033)	(0.038)	(0.043)
State code = Madhya Pradesh	-0.008	0.024*	0.157***	0.234***	0.007	-0.018	0.027
	(0.046)	(0.013)	(0.052)	(0.060)	(0.019)	(0.056)	(0.047)
State code = Rajasthan	-0.089**	0.026**	-0.070	-0.181***	-0.006	-0.290***	0.097**
	(0.042)	(0.011)	(0.063)	(0.045)	(0.011)	(0.059)	(0.041)
State code = Odisha	0.118*	0.017	0.202***	0.273***	0.160***	0.150**	0.123**
	(0.061)	(0.015)	(0.046)	(0.062)	(0.037)	(0.058)	(0.050)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Received a diet with minimum diversity	Mothers who reported washing hands at 3 or more moments	Growth monitored at least once in 3 months	Received full immunisation	Consumed IFA syrup at least twice per week in last 2 weeks	Mothers aware of ORS as treatment for diarrhoea	Mothers who play with child
Constant	-0.045	0.993***	0.617***	-0.256	0.060	-0.267*	0.788***
	(0.140)	(0.039)	(0.145)	(0.181)	(0.074)	(0.154)	(0.134)
Observations	1,031	1,032	853	950	1,030	1,032	1,032
R-squared	0.114	0.025	0.203	0.206	0.134	0.257	0.068

Base population: Children 12-23 months of age at endline.
Unweighted estimates reported. Cluster-adjusted Standard Errors (SE) are reported in parentheses.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Endline Survey 2017.

A7. Impact analysis on behavioural outcomes

Table 7: Diff-in-Diff impact on exclusive breastfeeding

Indicator	Treatment			Control			Impact estimate (S.E.)
	BL	EL	Diff (BL-EL)	BL	EL	Diff (BL-EL)	
Mothers aware of exclusively breastfeeding until the age of six months (%)	79.7	86.3	6.6***	82.7	88.2	5.5***	0.68 (1.96)
N	1948	1985		1987	2064		
Children 3-5 months of age exclusively fed breastmilk (%)	36.7	74.5	37.8***	43.6	76.1	32.5***	5.49 (5.85)
N	365	329		367	343		

Unweighted estimates reported. Cluster-adjusted Standard Errors (SE) are reported in parentheses.
Impact estimates use difference-in-difference modelling and control for a vector of child, mother and household characteristics, and state fixed effects.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017.

Table 8: Diff-in-Diff impact on complementary feeding

Indicator	Treatment			Control			Impact estimate (S.E.)
	BL	EL	Diff (BL-EL)	BL	EL	Diff (BL-EL)	
Introduction of solids, semi-solids and soft foods among children 6-8 months of age	64.3	53.3	-11***	59.6	58.8	-0.8	-9.10* (5.49)
N	249	276		272	284		
Among children 6-12 months of age:							
Minimum Diet Diversity (%)	17.5	8.3	-9.2***	14.9	7.7	-7.2***	-1.38 (2.69)

N	675	724		679	751		
Meals with minimum frequency (%)	73.5	61	-12.4***	69.1	62.8	-6.2**	-5.48 (4.00)
Minimum Acceptable Diet (%)	17.5	7.5	-10.0***	13.8	6.5	-7.3***	-2.05 (2.52)
N	634	557		653	541		

Unweighted estimates reported. Cluster-adjusted Standard Errors (SE) are reported in parentheses.
Impact estimates use difference-in-difference modelling and control for a vector of child, mother and household characteristics, and state fixed effects.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017.

Table 9: Diff-in-Diff impact on growth monitoring

Indicator	Treatment			Control			Impact estimate (S.E.)
	BL	EL	Diff (BL-EL)	BL	EL	Diff (BL-EL)	
Growth monitored once in a month (%)	42.5	57.9	15.4***	39.7	55.2	15.5***	-1.23 (3.72)
Growth monitored at least once in three months (%)	62.7	82.7	20***	59.1	77	17.9***	0.41 (3.21)
N	1455	1628		1457	1710		

Unweighted estimates reported. Cluster-adjusted Standard Errors (SE) are reported in parentheses.
Impact estimates use difference-in-difference modelling and control for a vector of child, mother and household characteristics, and state fixed effects.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017.

Table 10: Diff-in-Diff impact of HBNC+ on handwashing

Indicator	Treatment			Control			Impact estimate (S.E.)
	BL	EL	Diff (BL-EL)	BL	EL	Diff (BL-EL)	
Mothers who report washing their hands							
After defecation (%)	99.9	99.6	-.3**	99.9	99.7	-0.2	-0.13 (0.21)
After cleaning child's bottom (%)	99.9	98.9	-1***	99.9	99	-.9***	-0.14 (0.40)
Before feeding (%)	98.9	95.9	-3***	98.4	96.3	-2.1***	-1.14 (0.90)
Before cooking (%)	97.9	97.2	-0.7	98.5	96.7	-1.9***	0.85 (0.90)
Before eating (%)	98.8	97.9	-.9*	99.1	98.2	-.9**	0.02 (0.66)
N	1948	1985		1987	2064		

Indicator	Treatment			Control			Impact estimate (S.E.)
	BL	EL	Diff (BL-EL)	BL	EL	Diff (BL-EL)	
Unweighted estimates reported. Cluster-adjusted Standard Errors (SE) are reported in parentheses. Impact estimates use difference-in-difference modelling and control for a vector of child, mother and household characteristics, and state fixed effects. *significant at 10%; ** significant at 5%; *** significant at 1%. *Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017.*							

Table 11: Diff-in-Diff impact on full immunization

Indicator	Treatment			Control			Impact estimate (S.E.)
	BL	EL	Diff (BL-EL)	BL	EL	Diff (BL-EL)	
Children 3-23 months of age who do not have MCP card (%)	6.3	8.6	2.3*	5.1	8.2	3.1***	-0.30 (1.59)
N	1895	1985		1930	2064		
Children 12-23 months who received full immunization (%)	51.9	47.9	-4	49.4	44.4	-5**	-0.77 (3.63)
N	969	986		1041	993		
Unweighted estimates reported. Cluster-adjusted Standard Errors (SE) are reported in parentheses. Impact estimates use difference-in-difference modelling and control for a vector of child, mother and household characteristics, and state fixed effects. *significant at 10%; ** significant at 5%; *** significant at 1%. *Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017.*							

Table 12: Diff-in-Diff impact on specific immunizations

Indicator	Treatment			Control			Impact estimate (S.E.)
	BL	EL	Diff (BL-EL)	BL	EL	Diff (BL-EL)	
Among children 12-23 months of age:							
Hepatitis B-0 (%)	62.3	58.2	-4.2*	62.6	55.8	-6.8***	0.14 (3.77)
N	993	1030		1065	1060		
BCG (%)	95.6	94.8	-0.8	96	93.4	-2.6**	1.24 (1.45)
N	1033	1066		1079	1111		
OPV-0 (%)	89	87.1	-1.9	87.3	85.4	-1.8	-1.78 (2.41)
N	1030	1055		1075	1097		

Indicator	Treatment			Control			Impact estimate (S.E.)
	BL	EL	Diff (BL-EL)	BL	EL	Diff (BL-EL)	
OPV-1 (%)	92.5	91.8	-0.7	90.7	91.8	1.1	-2.42 (2.01)
N	1029	1055		1077	1097		
OPV-3 (%)	87	86.2	-0.9	84.4	85	0.6	-3.04 (2.63)
N	1025	1041		1077	1075		
DPT-1 and Hep B-1 or Pentavalent-1 (%)	91.9	89.1	-2.8**	90.5	90.6	0.2	-3.65* (2.03)
N	874	947		932	980		
DPT-2 and Hep B-2 or Pentavalent-2 (%)	90.8	87.1	-3.7**	87.5	89	1.5	-6.12*** (2.28)
N	858	948		922	973		
DPT-3 and Hep B-3 or Pentavalent-3 (%)	85.3	84	-1.3	83	85.3	2.3	-5.05* (2.70)
N	870	939		901	974		
Measles (%)	84.4	81.5	-2.9	81.2	81.3	0.1	-4.05 (2.70)
N	1016	1039		1076	1075		
Received Vitamin-A - At least 1 dose	72.4	68.5	-3.9*	70.5	65.1	-5.4***	0.04 (3.17)
N	1007	1031		1073	1063		

Unweighted estimates reported. Cluster-adjusted Standard Errors (SE) are reported in parentheses.
Impact estimates use difference-in-difference modelling and control for a vector of child, mother and household characteristics, and state fixed effects.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017.

Table 13: Ex-post impact on IFA supplementation

Indicator	Endline		
	T	C	T-C
Among children 6-23 months of age:			
Aware that IFA syrup to be given two times per week (%)	22	14.3	7.7***
Consumed IFA syrup twice per week in the last two weeks (%)	5.0	2.1	2.8***
Ever provided IFA syrup by the ASHA (%)	30.4	15.7	14.7***
Provided IFA syrup by the ASHA in the last six months (%)	27.0	13.9	13***
Ever demonstrated IFA syrup administration by the ASHA (%)	29.0	16.5	12.5***
N	1656	1721	

Unweighted estimates reported.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Endline Survey 2017.

Table 14: Pre-post impact of HBNC+ on ORS

Indicator	Treatment		
	BL	EL	Diff (EL-BL)
Aware of ORS (%)	28.3	69.1	40.8
N	60	94	
Treated with ORS (%)	57.4	44.7	-12.7
N	47	76	

Unweighted estimates reported.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017.

Table 15: Diff-in-Diff impact on early childhood care and development

Indicator	Treatment			Control			Impact estimate (S.E.)
	BL	EL	Diff (BL-EL)	BL	EL	Diff (BL-EL)	
Mothers who talk to their child (%)	86.8	93.9	7.1***	85.1	93.1	8***	-1.33 (1.86)
Mothers who play with their child (%)	60.4	81.1	20.7***	58.4	81.0	22.6***	-2.83 (2.78)
N	1948	1985		1987	2064		

Unweighted estimates reported. Cluster-adjusted Standard Errors (SE) are reported in parentheses.
Impact estimates use difference-in-difference modelling and control for a vector of child, mother and household characteristics, and state fixed effects.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017.

A8. Supply-side issues for products

Table 16: IFA supply-side issues

Indicator	Treatment			Control			Impact estimate (S.E.)
	BL	EL	Diff (EL-BL)	BL	EL	Diff (EL-BL)	
ASHAs having no current stock of IFA syrup	45.1	47.7	2.5	37.2	58.6	21.4***	-18.42** (7.78)
N	144	151		156	152		
ASHAs distributed IFA syrup to HHs in the last calendar month	16.7	54.7	38***	26.9	48.7	21.8***	16.74 (10.71)
N	144	150		156	152		

Unweighted estimates reported. Cluster-adjusted Standard Errors (SE) are reported in parentheses.
Impact estimates use difference-in-difference modelling and control for a vector of ASHA characteristics, and state fixed effects.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017.

Table 17: ORS and Zinc supply side issues

Indicator	Treatment		
	BL	EL	Diff (EL-BL)
ASHAs with no current stock of ORS packets (%)	22.9	24.5	1.6
N	144	151	
ASHAs with no current stock of zinc tablets (%)	61.8	60	-1.8
N	144	150	

Unweighted estimates reported.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Source: NIPI Phase-II Endline Survey 2017.

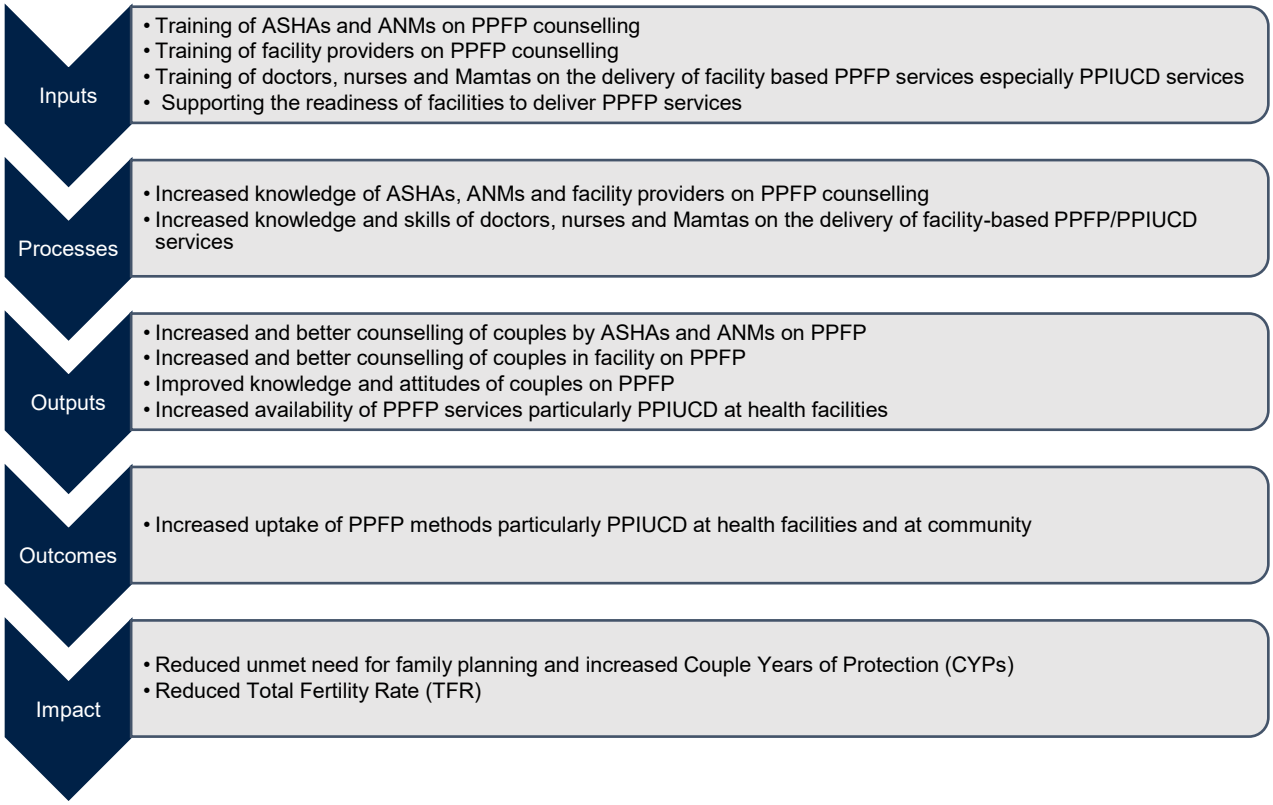
Annex B: Additional analysis for PPFP

B1. Theory of change

The evaluation team, in consultation with Jhpiego and NIPI Coordination Unit developed the theory of change, described in this section.

The aim of PPFP/PPIUCD is to reduce the unmet need for family planning and increase the contraceptive prevalence rate by primarily promoting counselling after childbirth and also promoting uptake of PPFP methods, especially PPIUCD, at the targeted health facilities. The below figure illustrates the theory of change for PPFP/PPIUCD:

Figure 6: Results chain for PPFP/PPIUCD



Assumptions explicit in the theory of change for PPFP/PPIUCD

1. There is currently a lack of awareness about issues around return to fertility i.e. physiological timing of return to fertility, family planning and methods and birth spacing amongst community members
2. ASHAs, facility counsellors, doctors, nurses/ANMs and Yashodas/Mamtas are in place i.e. there are no vacant positions.
3. ASHAs, ANMs, facility counsellors and Yashodas/Mamtas have the right level of knowledge and skills to deliver appropriate counselling and awareness, and have the right motivation and incentive structure to achieve this

Assumptions explicit in the theory of change for PPFP/PPIUCD

4. This counselling and awareness generation is sufficient to overcome the existing information deficiencies
5. There are not individual and social barriers to behavioural change that prevent changes in knowledge from translating into changes in behaviour (e.g. attitudes and norms)

B2. Sampling for Quantitative Evaluation

Table 18: District-wise sample sizes

State	District	Sample Sizes			
		Mothers		ASHAs	
		2013	2017	2013	2017
Bihar	Jehanabad	180	179	13	12
	Nalanda	180	177	8	12
	Sheikhpura	180	180	13	11
Madhya Pradesh	Betul	180	180	12	12
	Hoshangabad	180	180	11	12
	Narsinmhapur	180	180	11	12
	Raisen	180	180	7	11
Odisha	Anugul	180	177	10	12
	Jharsuguda	180	177	12	12
	Sambalpur	180	179	12	12
Rajasthan	Alwar	180	180	12	10
	Bharatpur	180	177	11	11
	Dausa	180	180	12	12
TOTAL		**2340**	**2326**	**144**	**151**

B3. Facility Level SARA Tables

Table 19: Availability of Basic Amenities in the Facility

Basic amenities	Total		DH = 7		SDH = 5	
	%	Freq	%	Freq	%	Freq
24*7 electricity (through supply or backup)	92%	11	100	7	80	4
24*7 water supply	100%	12	100	7	100	5
Potable water for clients	92%	11	100	7	80	4
Toilet in good condition for use	75%	9	86	6	60	3
Proper bio-medical waste disposed system*	50%	6	43	3	60	3

* Incinerator and outsourced to an agency are included in the biomedical waste disposal mechanism

Table 20: Availability of Required Infrastructure for PPIUCD

Infrastructure for PPIUCD	Total		DH		SDH	
	%	Freq	%	Freq	%	Freq
Table in labour room	100%	12	100	7	100	5
Light source in labour room	67%	8	71	5	60	3
Both	67%	8	**71**	**5**	**60**	**3**

Table 21: Availability of Necessary Equipment for PPIUCD

Equipment for PPIUCD	Total		DH		SDH	
	%	Freq	%	Freq	%	Freq
PPIUCD tray	50%	6	43	3	60	3
Antiseptic (chlorhexidine)	50%	6	57	4	40	2
Sterile Gloves	100%	12	100	7	100	5
Sterile Cotton	100%	12	100	7	100	5
All four	17%	2	**14**	**1**	**20**	**1**

Table 22: Knowledge of providers on PPFP

Knowledge of providers	Total		DH = 11		SDH = 9	
	%	Freq	%	Freq	%	Freq
% of providers who are aware of an ideal spacing gap of at least 2 years between two consecutive births	95%	19	100	11	89	8
% of providers who are aware that an ideal spacing gap of at least 6 months if a woman has a miscarriage or induced abortion	65%	13	64	7	67	6
% of providers who are aware that fertility can return 4 to 6 weeks for women who are not exclusively breastfeeding after child birth	15%	3	18	2	11	1

Knowledge of providers	Total		DH = 11		SDH = 9	
	%	Freq	%	Freq	%	Freq
% of providers who are aware of a woman's fertility can return immediately after an IUCD is removed	35%	7	18	2	56	5
% of providers who are aware of the contraceptive methods for postpartum women up to 6 months postpartum*	75%	15	73	8	78	7
% of providers who are aware of when can IUCD inserted to mother desiring post-partum contraceptive***	85%	17	73	8	100	9
% of providers who are aware of at least one correct side effect of IUCD insertion**	60%	12	55	6	67	6

Note: *appropriate contraceptive methods for women up to 6 months postpartum are: LAM, IUCD, injectable, condom and sterilization. So, if the provider reported yes to any of the above-mentioned methods and "no" to oral contraceptive pills, we considered that provider have correct knowledge of contraceptive methods for postpartum women.
**The IUCD can be inserted to woman desiring post-partum contraceptive within 48 hours of the delivery and after 4 weeks of the delivery. If provider reported yes to either of these and "no" for between 2 and 30 days of the delivery, then the provider is considered have correct knowledge of when can IUCD inserted to a woman desiring post- partum contraceptive.
***cramps/pain for few days after insertion and heavier or longer bleeding than normal are the side effects of IUCD. So, if the provider reported "yes" for either of these and "no" for 'nausea/vomiting' and 'weight gain', then the provider is considered to have correct knowledge of at least one side effect.

B4. Sampling Weights

To ensure that sample estimates are representation at the target population level (households living in NIPI-II programme areas), probability weights are applied when analysing treatment districts only, as is the case for PPFP. Probability weights are not used for control areas – and as a result for the Diff-in-Diff analyses in the case of HBNC+ – as non-probability matching methods were used for different stages of sampling.

Sampling weights are the inverse of the likelihood of being sampled into the study. In simple terms, the sampling weights inflate the impact of those under-represented in the sample, and deflate the impact of those who ore over-represented so that the original population is approximated. When N is the total population of an element and n is the total sample population of an element, then sampling is the inverse of the probability of an element being selected i.e. 1/(n/N).

Population survey

The sampling weight reflects the probabilities of selection at each stage of the multi-stage sampling design:

- **Probability of a sub-district being selected for a district (P1)**: Two sub-districts were randomly sampled from each district. P1 is calculated as:

$$\frac{\#\ of\ subdistricts\ sampled\ within\ a\ district\ (=2)}{\#\ of\ subdistricts\ within\ a\ district}$$

- **Probability of a PSU being selected for a sub-district (P2):** Six PSUs were sampled from each sub-district using Probability Proportional to Size (PPS) sampling. P2 is calculated as:

$$\#\ of\ PSUs\ sampled\ within\ a\ subdistict\ (=6) \times \frac{\#\ of\ HHs\ in\ the\ PSU}{\#\ of\ HHs\ in\ the\ subdistrict}$$

The evaluation draws on a panel of PSUs, so sampling weights P1 and P2 are the same across baseline and endline data.

- **Probability of a household being selected within a PSU (P3)**: 15 households with at least one child under the age of two were sampled per PSU, of which completed number of interviews is > 15. P3 is calculated as:

$$\frac{\#\ of\ HHs\ interviewed\ in\ a\ PSU}{\#\ of\ eligible\ HHs\ in\ a\ PSU}$$

The final sampling weight for each household is calculated as:

$$\frac{1}{P1\ \times P2\ \times P3}$$

ASHA survey

One ASHA was interviewed from each PSU. Therefore, the sampling weight is calculated as:

$$\frac{1}{P1\ \times P2}$$

B5. Unmet Need for Family Planning

The unmet need for family planning indicator represents the percentage of women who do not want to get pregnant (because they either do not want any more children or would like to delay having children) but do not currently use family planning methods (USAID, Unmet Need for Family Planning, 2012)[1]. We classify women as having an unmet need for family planning if:

- The woman is pregnant and either did not want the current pregnancy at all or wanted it later
- The woman is PP-amenorrhoeic (i.e. her period has not returned since her most recent pregnancy) in the last two years, and did not want the recent pregnancy at all or wanted it later
- The woman is self-reported fertile, and either: (1) does not want any more children, (2) wants a child later than in the next two years, (3) does not know when she wants more children, or (4) does not know if she wants more children

Note that in our sample, the overall level of unmet need for family planning has registered a significant improvement with 43% of currently married women having an unmet need

[1] We utilize the definition used by The DHS Program, Unmet Need for Family Planning, http://dhsprogram.com/topics/unmet-need.cfm

compared to 68% of women at baseline. However, these estimates are higher than average estimates for the same districts according to NFHS-4 data[2]. There are a few reasons why this may the case:

- NFHS-4 data captures data and constructs indicators from a sample that is by design representative of all women aged 15-49 years in that district. Our sample on the other hand is much more restricted – the women interviewed for this analysis are limited to those with children younger than two years old. This systematic difference in samples may have contributed to the differences.

- There are also a few methodological differences in the construction of the unmet need indicator in our analysis, and how the NFHS estimate was created. The NFHS-4 estimate, which is constructed using USAID's DHS revised unmet need indicator, has robust exclusion criteria based on characteristics like infertility and sexual inactivity. Due to limitations of our questionnaires, the information needed to capture these different sub-groups of women across baseline and endline is not available.

As a result, we have calculated a composite indicator for all women using the sub-groups available to us without applying the strict exclusion criteria to the analysis. Still, our results may still be able to capture *differences* between baseline and endline since both estimates were calculated using the same methodology.

B6. Supplementary Findings from Correlation Analysis

The correlation analysis seeks to investigate the relationship of key program outcomes with program inputs and other factors. The following dependent variables have been used: (1) use of family planning (current), (2) use of family planning (ever), (3) knowledge of at least three family planning methods, and (4) knowledge of IUCD/PPIUCD as a family planning method.

The two key explanatory variables are: (1) family planning counselling received, and (2) family planning knowledge (a woman is classified as having family planning knowledge if she is able to list at least three methods of family planning).

Table 23 summarizes the other explanatory variables chosen for this analysis. Further tables present full regression results.

[2] The NFHS-4 estimate is calculated using the following criteria:
Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:

- At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.
- Pregnant with a mistimed pregnancy.
- Postpartum amenorrhoeic for up to two years following a mistimed birth and not using contraception

Women are considered to have unmet need for limiting if they are:

- At risk of becoming pregnant, not using contraception, and want no (more) children.
- Pregnant with an unwanted pregnancy.
- Postpartum amenorrhoeic for up to two years following an unwanted birth and not using contraception.

Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant. Unmet need for family planning is the sum of unmet need for spacing plus unmet need for limiting.

Table 23: Non-program explanatory variables for correlation analysis

Category	Variables
Mother-specific factors	• Mother's age (in years) • Mother's highest education • Mother gave institutional delivery • Frequency of ante-natal care • Mother's reporting that getting permission to seek medical advice is a problem (as a proxy for empowerment) • Mother's reporting that seeking medical advice is a problem due to cost
Household-specific factors	• Wealth quintile (5 quintiles)
PSU-level characteristics	• Distance to a PHC (as a proxy for access to primary healthcare) • Whether the PSU is connected to a road

The key findings from the analysis show that there is a strong positive association between receiving family planning counselling and current or previous family planning uptake. If a woman has received counselling she is 17 percentage points more likely to have currently or ever used family planning, holding other factors constant. Similarly, there is positive association between receiving family planning counselling and the knowledge of at least three family planning methods, including IUCD/PPIUCD. Given that knowledge of any one family planning methods is near universal, counselling has a potentially important role to play in the knowledge-uptake gap in family planning.

The program's outcome indicators exhibit the following note-worthy relationships with non-program explanatory variables:

- Women who have more interactions with health systems (through institutional deliveries, or visits to facilities for antenatal care, for example) are more likely to engage in the uptake of family planning methods and exhibit awareness of IUCD/PPIUCDs as a family planning option.

- Women from households in upper income quintiles uniformly show better outcomes in knowledge and uptake of family planning methods.

- Women who report having problems accessing health services due to cost (which serves as a proxy for economic disempowerment) are less likely to use family planning methods.

- Women's education levels are positively associated with knowledge outcomes but not with actual uptake of family planning methods.

Table 24: Correlations – PPFP Counselling as Explanatory Variable

Explanatory variables	Using family planning currently	Ever used family planning	Knows 3+ family planning methods	Knows about IUCD/PPIUCD as a family planning method
Family planning counselling received	**0.174*** **	**0.169*** **	**0.071*** **	**0.073** **
	(0.034)	(0.040)	(0.023)	(0.034)
Institutional delivery	0.013	0.032	-0.019	0.090*
	(0.035)	(0.040)	(0.025)	(0.046)
Age	0.000	0.000	0.001	0.004
	(0.002)	(0.003)	(0.003)	(0.003)
Employment Status	-0.024	-0.016	-0.031	0.032
	(0.047)	(0.051)	(0.031)	(0.042)
No. of births	0.048***	0.053***	-0.007	-0.002
	(0.009)	(0.010)	(0.007)	(0.010)
Education				
Primary Education	0.021	0.014	-0.016	0.014
	(0.028)	(0.031)	(0.018)	(0.028)
Secondary Education	0.053	0.031	0.014	0.024
	(0.046)	(0.043)	(0.026)	(0.051)
Higher Secondary Education	-0.007	0.017	0.044**	0.074*
	(0.037)	(0.043)	(0.021)	(0.041)
Desire for more children	0.036	0.042	0.032**	0.063**
	(0.037)	(0.035)	(0.016)	(0.030)
Antenatal care				
1-3 ANC visits	0.079**	0.087*	0.045	0.041
	(0.037)	(0.045)	(0.032)	(0.048)
3+ ANC Visits	0.077*	0.108**	0.055*	0.019
	(0.046)	(0.052)	(0.029)	(0.048)
Wealth index				
PCA Score = 2	0.081*	0.085	0.018	0.011
	(0.046)	(0.053)	(0.029)	(0.040)
PCA Score = 3	0.071**	0.102**	0.007	0.055
	(0.036)	(0.046)	(0.028)	(0.041)
PCA Score = 4	0.0251	0.063	0.035	0.052
	(0.044)	(0.051)	(0.028)	(0.052)
PCA Score = 5	0.096**	0.115**	0.062**	0.127**
	(0.0446)	(0.055)	(0.031)	(0.053)
Problems getting permission to seek medical advice	0.049	0.058	-0.052*	-0.041
	(0.031)	(0.037)	(0.028)	(0.033)
Problems getting medical advice/treatment due to cost	-0.073***	-0.078**	0.015	0.008
	(0.027)	(0.031)	(0.026)	(0.031)
Distance to the Primary Healthcare Centre (PHC)				
5-10 kms.	-0.037	-0.024	0.034	0.008
	(0.036)	(0.041)	(0.029)	(0.037)
10+ kms.	-0.029	-0.053	-0.011	-0.074*
	(0.045)	(0.059)	(0.031)	(0.041)
Access to roads	0.009	0.036	0.033	0.061
	(0.043)	(0.047)	(0.067)	(0.075)
Treatment districts				
Nalanda	-0.092	-0.092	0.061	0.064

Explanatory variables	Using family planning currently	Ever used family planning	Knows 3+ family planning methods	Knows about IUCD/PPIUCD as a family planning method
	(0.085)	(0.092)	(0.043)	(0.064)
Sheikhpura	-0.101	-0.158	0.024	-0.027
	(0.090)	(0.102)	(0.046)	(0.092)
Narsimhapur	-0.010	-0.099	0.038	0.104*
	(0.095)	(0.097)	(0.039)	(0.056)
Hoshangabad	0.041	-0.008	0.036	0.074
	(0.106)	(0.110)	(0.043)	(0.070)
Raisen	0.016	0.012	0.085**	0.123*
	(0.102)	(0.114)	(0.040)	(0.067)
Betul	0.091	0.017	0.033	0.058
	(0.095)	(0.093)	(0.038)	(0.053)
Alwar	-0.106	-0.162	-0.075	-0.149*
	(0.093)	(0.106)	(0.078)	(0.076)
Bharatpur	-0.209**	-0.279**	-0.094	-0.139
	(0.098)	(0.110)	(0.080)	(0.117)
Dausa	-0.062	-0.115	-0.027	0.035
	(0.099)	(0.107)	(0.079)	(0.081)
Angul	-0.111	-0.110	-0.009	0.084
	(0.108)	(0.128)	(0.040)	(0.064)
Jharsuguda	-0.141	-0.168	-0.105	-0.097
	(0.121)	(0.110)	(0.080)	(0.098)
Sambalpur	-0.128	-0.136	0.045	0.093
	(0.108)	(0.110)	(0.054)	(0.085)
Constant	0.032	0.064	0.786***	0.465***
	(0.119)	(0.134)	(0.100)	(0.111)
Observations	2,268	2,268	2,254	2,254
R-squared	0.121	0.119	0.102	0.120

Note:
Weighted results reported.
Results reported for endline observations only due to missing observations at baseline for family planning counselling received.
*significant at 10%; ** significant at 5%; *** significant at 1%.
Standard Errors (SE) are reported in parentheses.
Only endline observations are used for this analysis.
Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017

Table 25: Correlations – PPFP Knowledge as Explanatory Variable

Explanatory variables	Using family planning currently	Ever used family planning
Knowledge of family planning	**0.094*** **	**0.130*** **
	(0.024)	(0.0245)
Time	0.052**	0.0690***
	(0.020)	(0.0236)
Institutional delivery	0.045*	0.0507**
	(0.027)	(0.024)
Age	0.004**	0.0046*
	(0.002)	(0.002)
Employment Status	0.010	0.000
	(0.037)	(0.039)

Explanatory variables	Using family planning currently	Ever used family planning
No. of births	0.043***	0.049***
	(0.007)	(0.008)
Education		
Primary Education	0.030	0.037*
	(0.019)	(0.021)
Secondary Education	0.047*	0.053*
	(0.028)	(0.031)
Higher Secondary Education	-0.005	0.007
	(0.026)	(0.031)
Desire for more children	0.032	0.032
	(0.025)	(0.027)
Antenatal care		
1-3 ANC visits	0.068**	0.068**
	(0.027)	(0.033)
3+ ANC Visits	0.070**	0.095***
	(0.030)	(0.035)
Wealth index		
PCA Score = 2	0.061**	0.064**
	(0.026)	(0.029)
PCA Score = 3	0.035	0.054*
	(0.023)	(0.028)
PCA Score = 4	0.058**	0.093***
	(0.029)	(0.032)
PCA Score = 5	0.079***	0.118***
	(0.026)	(0.028)
Problems getting permission to seek medical advice	0.013	0.006
	(0.024)	(0.029)
Problems getting medical advice/tmnt due to cost	-0.020	-0.019
	(0.021)	(0.024)
Distance to the Primary Healthcare Centre (PHC)		
5-10 kms.	-0.008	-0.008
	(0.022)	(0.026)
10+ kms.	-0.012	-0.027
	(0.028)	(0.039)
Access to roads	0.020	0.048*
	(0.022)	(0.025)
Treatment districts		
Nalanda	-0.072	-0.055
	(0.064)	(0.072)
Sheikhpura	-0.051	-0.059
	(0.068)	(0.074)
Narsimhapur	0.109	0.045
	(0.073)	(0.076)
Hoshangabad	0.083	0.062
	(0.069)	(0.079)
Raisen	0.091	0.078
	(0.071)	(0.078)
Betul	0.149**	0.099
	(0.068)	(0.073)
Alwar	-0.098	-0.146*
	(0.068)	(0.078)
Bharatpur	-0.083	-0.137

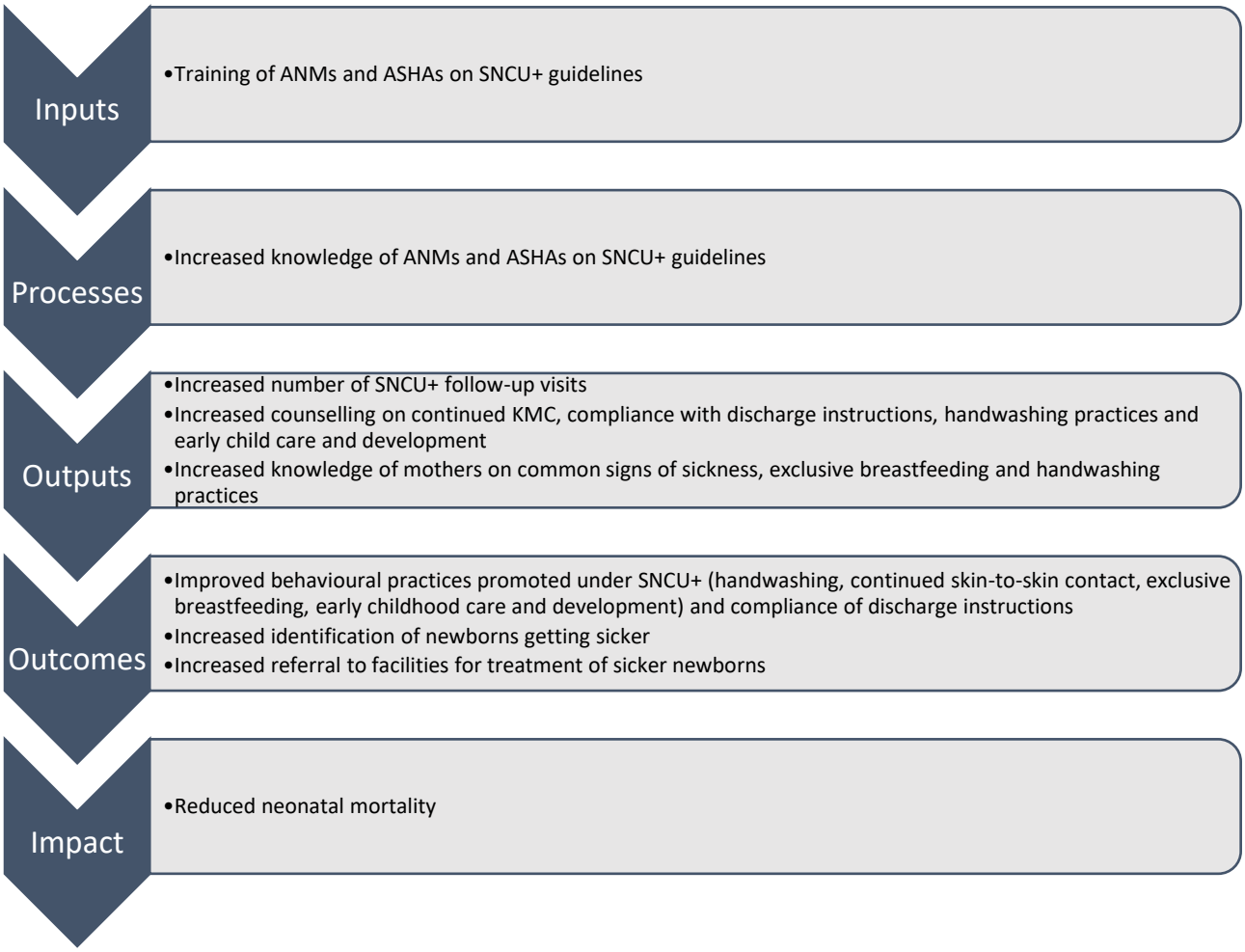
Explanatory variables	Using family planning currently	Ever used family planning
	(0.079)	(0.092)
Dausa	-0.014	-0.045
	(0.076)	(0.077)
Angul	0.0040	-0.037
	(0.069)	(0.080)
Jharsuguda	0.105	0.094
	(0.079)	(0.078)
Sambalpur	0.045	0.050
	(0.074)	(0.080)
Constant	-0.234***	-0.272***
	(0.085)	(0.0922)
Observations	4,549	4,549
R-squared	0.080	0.090

Note:
*significant at 10%; ** significant at 5%; *** significant at 1%.
Standard Errors (SE) are reported in parentheses.
Source: NIPI Phase-II Baseline Survey 2013; NIPI Phase-II Endline Survey 2017

Annex C: Additional analysis for SNCU+

C1. Theory of change

Figure 7: Results chain for SNCU+



Assumptions explicit in the theory of change for SNCU+

1. Non-compliance of discharge instructions is very prevalent leading to increased vulnerability of newborns after discharge from SNCUs
2. ANMs and ASHAs are in place to operationalise SNCU+ i.e. no vacant positions.
3. The training of ANMs will be of sufficient coverage and quality to attain required levels of provider knowledge
4. ANMs are trained on and have skills and capacity related to making home visits
5. ANMs are able to identify, track and locate newborns discharged from SNCUs
6. ANMs have the skills to deliver effective behavioural change counselling to change maternal knowledge and behaviours
7. Clear instructions and guidance is provided by health facility staff to the caregivers at the time of discharge from SNCUs
8. Caregivers lack appropriate knowledge on healthy behaviour and practices related to newborns.
9. ANMs make referrals in case of complications and there are no other barriers in terms of accessing health facilities for further treatment
10. The health facilities such as SNCUs and other facility-based newborn care are equipped, functional and accessible for referral and treatment of newborns

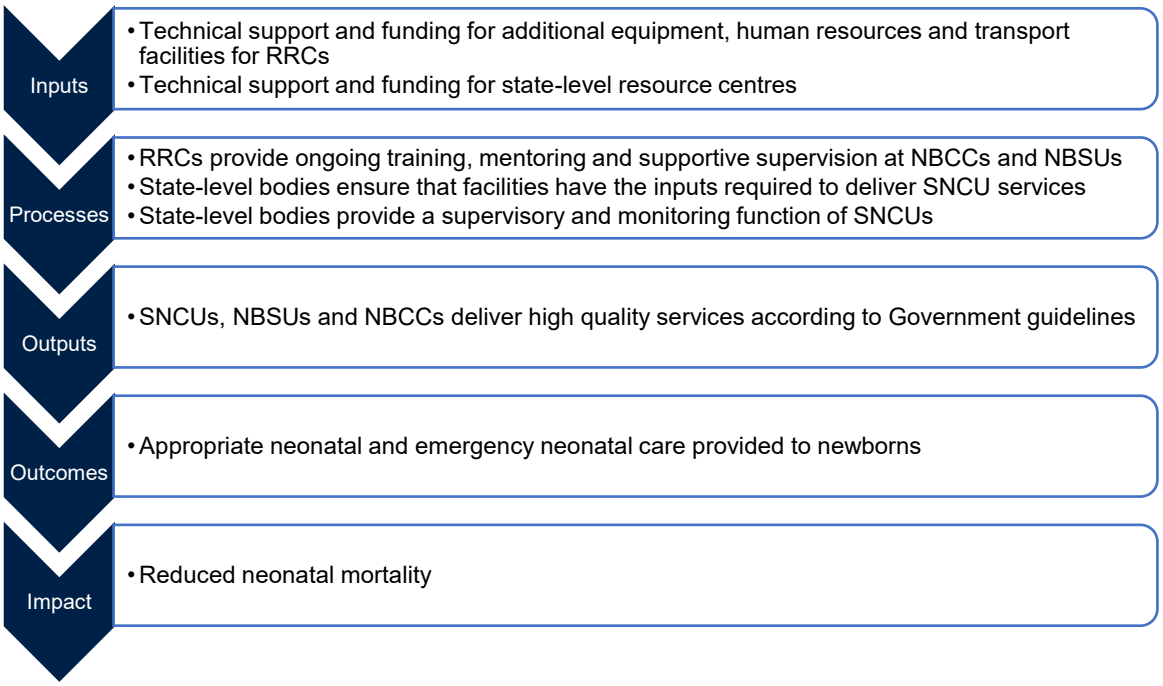
Annex D: Additional analysis for Regional Resource Centres for Facility Based Newborn Care

D1. Theory of change

The evaluation team, in consultation with NIPI Newborn Project (IPE Global) and NIPI Coordination Unit., has developed the theory of change, described in this section.

The broad theory of change for this intervention is:

Figure 8: Results chain for SNCU systems related interventions



Assumptions explicit in the theory of change for SNCU systems related interventions

1. SNCUs, NBCCs and NBSUs are operational
2. The RRCs provide high quality training and achieve high effective coverage[3] of providers
3. Broader health system issues around e.g. fund flows, HR management and procurement of supplies do not prevent the state-level bodies from ensuring facilities have the inputs required to deliver high quality SNCU care (e.g. drugs and consumables, adequate staffing)

[3] For SNCU systems related interventions, coverage is defined as the proportion of NBSUs and NBCCs who have received training and supportive supervision from an RRC for a given treatment district.

D2. Tables on Findings

a. Service Availability and Readiness Assessment Index

Table 26: Basic Amenities[4]

Basic amenities	PHC		SDH	
	%	N	%	N
Availability of Rooms	25	4	25	4
Power	25	4	50	4
Water	75	4	75	4
Emergency Transportation	75	4	50	4
Communication	25	4	75	4

Table 27: Equipment[5]

Equipment		% of equipment available	N
Bihar	PHC	45	22
Madhya Pradesh	PHC	77	22
Odisha	PHC	59	22
Rajasthan	PHC	77	22
Bihar	SDH	64	22
Madhya Pradesh	SDH	82	22
Odisha	SDH	91	22
Rajasthan	SDH	72	22

Table 28: Drugs and Consumables[6]

Drugs/consumables		% of drugs/consumables available	N
Bihar	PHC	60	52
Madhya Pradesh	PHC	73	52
Odisha	PHC	63	52

[4] We have considered room availability if all the rooms (At least all the essential and desirable rooms as per IPHS guideline 2012 for PHC) were available.
Power means continuous power supply, power-cuts for less than 2 hours in a day, the availability of a back-up, and that power supply met the needs of the facility
We have reported water supply available if 24*7, filtered water is available for patients as per the SARA-WHO guideline
Emergency transportation was reported as available if 24*7 functional ambulance is available at the facility as per SARA-WHO guideline.
Communication means was reported as available if there was a 24*7 functional mobile/telephone
[5] Note that equipment is based on 22 essential equipment at the Labour Room. Equipment was reported as available if the quantity was equal to/more than the minimum quantity as per the IPHS guideline. For those equipment for which quantity is not mentioned in the IPHS guidelines, availability means the availability of at least one equipment.
[6] Drug/consumable score is based on a list of 52 essential drugs and consumables that are expected at the facilities as per IPHS Guidelines

Drugs/consumables		% of drugs/consumables available	N
Rajasthan	PHC	60	52
Bihar	SDH	60	52
Madhya Pradesh	SDH	88	52
Odisha	SDH	88	52
Rajasthan	SDH	87	52

Table 29: Infection Control

Infection Control	PHC		SDH	
	%	N	%	N
Infection prevention guideline	25	4	50	4
House-keeping checklists	75	4	50	4
Biomedical waste management checklists	100	4	75	4
Sharp disposal	50	4	100	4
Non-sharps disposal	75	4	75	4
Anatomical waste disposal	25	4	75	4

Table 30: Labour Room and NBCC Specific Infrastructure (PHC)

Infrastructure in the Labour Room (NBCC)	Bihar	M.P	Odisha	Rajasthan
	PHC	PHC	PHC	PHC
Maintenance of registers	0	1	0	0
Colour-coded bins	0	1	1	1
IEC materials	1	1	0	1
Water supply NBCC	1	1	0	1
Visibility NBCC	1	1	0	1
Separate NBCC	1	0	0	1
Hand washing station in labour room[7]	1	0	1	0
Availability of a Toilet inside the Labour room	0	0	0	0
Frequency	**5**	**5**	**2**	**5**
%	**63**	**63**	**25**	**63**

[7] Considered available only when elbow tap running water available as per the WHO-SARA guidelines

Table 31: Labour Room (NBCC) Specific Equipment (PHC and SDH)

Equipment at Labour Room (NBCC)	% of facilities where the equipment is available	N	% of facilities where the equipment is available	N
	PHC	PHC	SDH	SDH
Adult Weighing Machine	100	4	75	4
Ambu Bag	75	4	100	4
Autoclave	100	4	75	4
Baby Incubator	25	4	0	4
Baby weighing Machine	100	4	25	4
BP Apparatus	100	4	25	4
Foetoscope	75	4	100	4
Hub Cutter	100	4	100	4
Infantometer	50	4	25	4
Labour Table	100	4	100	4
mobile, 220-12 V	0	4	50	4
Nebulizer	25	4	50	4
Neonatal Resuscitation Kit	75	4	50	4
Oxygen Cylinder	75	4	100	4
Phototherapy Unit	0	4	50	4
Pump suction	75	4	25	4
Radiant Warmer	75	4	75	4
Resuscitator	50	4	100	4
Stethoscope	0	4	50	4
Thermometer	50	4	50	4

Table 32: Labour Room Specific Infrastructure (SDH)

Infrastructure in the Labour Room	Bihar	M.P	Odisha	Rajasthan
	SDH	SDH	SDH	SDH
Maintenance of registers	0	1	0	1
Colour-coded bins	1	1	1	0
Display of IEC materials	1	1	1	1
Hand washing station in labour room	1	0	1	1
Toilet Labour room	1	1	1	1
Frequency	**4**	**4**	**4**	**4**
%	**80**	**80**	**80**	**80**

Table 33: NBSU Specific Equipment (SDH)[8]

Equipment at NBSU	% of facilities where the equipment was available	N
Radiant Warmer	50	4
Resuscitator	50	4
Laryngoscope set	75	4
Electronic baby scale	100	4
Pump suction	100	4
Thermometer	25	4
Light Examination	25	4
Hub Cutter	100	4
Syringe	100	4
I/V Cannula 24 G, 26 G	100	4
Extractor, mucus	100	4
Tube, feeding	100	4
Oxygen catheter, Oxygen Cylinder	100	4
Sterile Gloves	100	4
Tube, suction	100	4
Cotton wool	100	4
Disinfectant, chlorhexidine	75	4

b. Signal Functions

Table 34: Newborn Care Signal Functions

Signal Functions for Newborn Care	PHC		SDH	
	%	N	%	N
Thermal protection	100%	4	100%	4
Immediate and exclusive breast feeding	100%	4	100%	4
Infection prevention including hygiene cord care	75%	4	100%	4
Neonatal resuscitation with bag and mask	100%	4	100%	4
Administration of antibiotics for preterm babies to prevent infection	75%	4	100%	4

[8] Minimum Quantity in NBSU as per the IPHS-SDH guideline. Equipment were reported as available if the quantity available equalled/more than the minimum quantity as per the IPHS guideline. For those equipment for which quantity was not mentioned in the guideline these were reported available if at least one such equipment was available in the NBSU.

Signal Functions for Newborn Care	PHC		SDH	
	%	N	%	N
Administration of corticosteroids in preterm labour	25%	4	50%	4
Kangaroo mother care for premature babies	75%	4	100%	4
Alternative feeding if baby unable to breastfeed	75%	4	75%	4
Administration of injectable antibiotics for neonatal sepsis	75%	4	100%	4
Administration of Intravenous fluid	75%	4	100%	4
Administration of Oxygen	100%	4	100%	4

c. Knowledge Scores[9]

Table 35: Knowledge Scores

Knowledge of providers	Total(N=24)		SDH(n=7)		PHC (n=7)	
	%	Frequency	%	Frequency	%	Frequency
Basic equipment need to assemble to perform the resuscitation of newborns	100	24	100	7	100	7
Signs of newborns that require immediate or urgent attention	100	24	100	7	100	7
Immediately after birth, if the baby is not breathing, or is breathing with difficulty, what would you do	100	24	100	7	100	7
Immediately after birth, if the baby is breathing normally, what would you do	100	24	100	7	100	7
To record the progress of labour on a partograph what need to monitor for half hour	54	13	57	4	43	3
Danger sign in pregnancy	67	16	57	4	71	5
After delivery, when should the cord be clamped	71	17	86	6	71	5
Indications to diagnose a pregnant woman with pre-eclampsia	46	11	71	5	43	3
Advice/ recommendations given to a new mother about first few days of the newborn	42	10	43	3	43	3
Recommendations to a mother about cord care during discharge	83	20	100	7	86	6

[9] For the knowledge assessment scores, we have followed the Yashoda and Dakshata guidelines to assess if each question was answered correctly.

Knowledge of providers	Total(N=24)		SDH(n=7)		PHC (n=7)	
	%	Frequency	%	Frequency	%	Frequency
Awareness of the NSSK (Navjaat Shishu Suraksha Karyakram) guidelines	67	16	71	5	71	5
Is the NSSK training available in the facility to refer them whenever required	58	14	57	4	71	5
Awareness of the FBNC Facility based Newborn Care guidelines	46	11	57	4	57	4
FBNC guidelines currently available in the facility to refer them whenever required	46	11	57	4	43	3
Awareness of the Facility Based Integrated Management of Neonatal and Childhood Illnesses (F-IMNCI) guidelines	42	10	57	4	29	2
F-IMNCI guidelines currently available in the facility to refer them whenever required	33	8	57	4	14	1

D3. Methodology

Table 36: List of newborn care related equipment in the labour room

List of New born care related equipment in the labour room
Baby weighing Machine
Adult Weighing Machine
Nebulizer
Ambu Bag
Thermometer
Resuscitator
Stethoscope
Foetoscope
Radiant Warmer
Phototherapy Unit
Infantometer
Neo-natal Stethoscope

List of New born care related equipment in the labour room
Neonatal Resuscitation Kit
Baby Incubator
Pump suction
BP Apparatus
mobile, 220-12 V
Autoclave
Oxygen Cylinder
Labour Table
Partograph
Hub Cutter

Table 37: List of drugs in labour room

List of Drugs in Labour room
Inj. Diazepam
Inj. Lignocaine hydrochloride
Inj. Pentazocin lactate
Inj. Dexamethasone
Inj. Promethazine
Inj. Methylergometrine maleate
Inj. Etofylline BP plus Anhydrous Theophylline IP combination
Inj. Adrenaline
Tab Methylergometrine maleate
Tab Diazepam
Tab Paracetamol
Tab Co-trimoxazole combination of Trimethoprim & Sulfamethoxazole
Tab Amoxycillin trihydrate
Tab Doxycycline hydrochloride
Tab Metronidazole
Tab Salbutamol sulphate

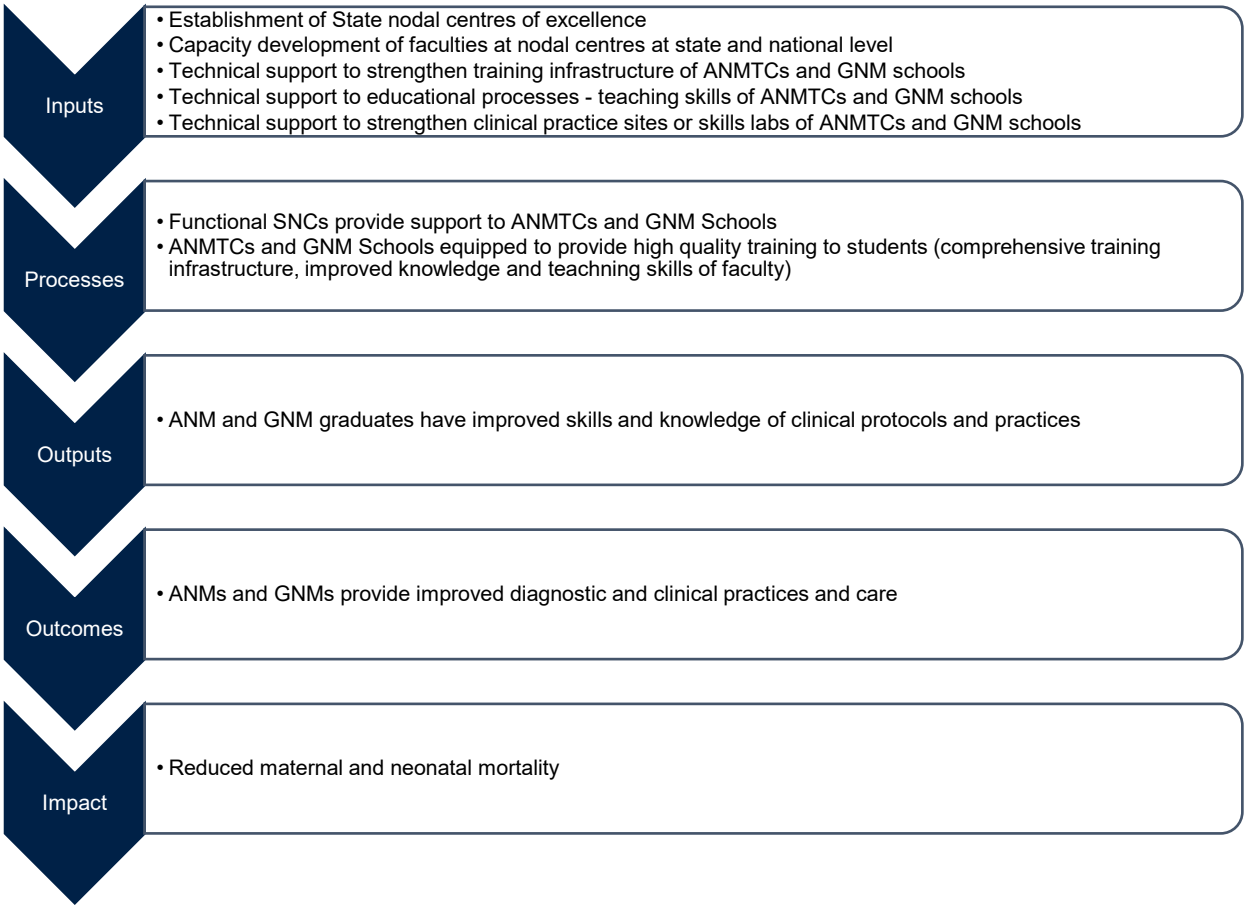
List of Drugs in Labour room
Tab Phenoxymethylpenicillin Potassium
Inj Menadione
Inj. Atropine
Tab Fluconazole
Tab Methyldopa
Inj. Oxytocin
Inj. Hydrocortisone Succinate
Inj. Pheniramine maleate
Inj. Calcium gluconate
Inj. Carboprost
Inj. Betamethasone
Inj. Hydralazine
Tab Methyldopa
Tab. Nifedipine
Inj. Magnesium sulphate
IV Haemocoel
Sterilised cotton and gauze
Inj. Ampicillin
Tab Metronidazole
Tab Misoprostol
Inj. Gentamicin
Inj. Vancomycin
Inj. Erythromycin
Inj. Piperacillin
Inj. Ceftriaxone
Inj. Penicillin
Disinfectant, chlorhexidine
Normal saline
Ringers Lactate
Dextrose
I/V Cannula
Extractor, mucus, Dee Lee
Tube, feeding
Oxygen catheter, Oxygen Cylinder
Sterile Gloves
Cord clamps

Annex E: Additional analysis for Strengthening Pre-Service Education in Nursing and Midwifery

E1. Theory of change

The theory of change for this intervention and the assumptions underpinning it are:

Figure 9: Results chain for Strengthening Pre-Service Education in Nursing and Midwifery



Assumptions explicit in the theory of change for SNCU systems related interventions

1. State-level nodal resource centres provide leadership and management functions to GNM Schools and ANM Schools
2. State Governments allocate requisite funds and resources and support infrastructure and skill lab improvements
3. The faculty members within the ANMTCs and GNM schools receive training
4. There are no other factors preventing knowledge and skills from being translated into improved learning (such as motivation)
5. Those who complete PSE enter the public health system and stay within it and form a substantive proportion of those providing clinical services
6. Broader health system issues around e.g. fund flows, human resources management and procurement of supplies do not prevent the ANMs and GNMs from providing the clinical care to the levels they have been trained in
7. Issues with in service education do not lead to an atrophy of knowledge and skills

E2. Data collection, Analysis and Sample Size

Enumerators received seven days training on the checklist and the IDI guide. Following training they started data collection simultaneously in all the states. The enumerators conducted interviews in Hindi and Odiya. After reaching the institution they met the principal and who then nominated two tutors. The tutors are selected only after confirming that they have worked for at least three years in that facility. Verbal consent is taken from the respondents for the IDIs and from the principal of the institution for the assessment of training centres.

The data collection is done by a team that included three enumerators, three supervisors and one field coordinator. There was one enumerator and one supervisor in each team. The field coordinator has conducted spot checks on ten per cent of the data to ensure quality.

Data was collected between April 5-30, 2017 when visits were made to all the sampled training centres and health centres. A second round of data collection was done telephonically between June 16 – July 5, 2017 to fill in the gaps in qualitative data. The missing values and discrepancies in quantitative data was resolved in two rounds during August and September 2017.

Table 38: Sample Size and method of data collection

State	District	Name or type of Centre	Qualitative Methods	Quantitative Data GoI PSE checklist
Bihar	Patna	State Nodal Centre	2 IDIs	1
	Muzaffarpur	ANMTC	2 IDIs	1
		GNMTC	2 IDIs	1
	Gaya	ANMTC	2 IDIs	1
		GNMTC	2 IDIs	1
Orissa	Odisha	State Nodal Centre	2 IDIs	1
	Ganjam	ANMTC	2 IDIs	1
	Kandhamal	GNMTC	2 IDIs	1
	Sambalpur	ANMTC	2 IDIs	1
		GNMTC	2 IDIs	1
Madhya Pradesh	Ujjain	State Nodal Centre	2 IDIs	1
	Hoshangabad	ANMTC	2 IDIs	1
	Narsinghpur	GNMTC	2 IDIs	1
	Betul	ANMTC	2 IDIs	1
	Raisen	GNMTC	2 IDIs	1
Rajasthan	Kota	State Nodal Centre	2 IDIs	1
	Alwar	ANMTC	2 IDIs	1
		GNMTC	2 IDIs	1
	Bharatpur	ANMTC	2 IDIs	1
		GNMTC	1 IDIs	1
Total			**39 IDIs**	**20**

Table 39: Performance standards selected from GOI guidelines for assessment

Domain	S. No.	Standard
Improved Educational Processes (at the institutions)	1	Classroom instructors/nursing tutors have the required qualifications
	2	Teaching is routinely monitored for effectiveness at least once a year
Improved Clinical practices (at the clinical practice sites)	3	The number of clinical practice sites meets requirements of the curriculum
	4	The variety of clinical sites meets the requirements of the curriculum
	5	Clinical Volume at the clinical practice sites provides students with sufficient practice to meet the clinical objectives
	6	The school has an agreement with the clinical practice sites that allows students to learn in the clinical area
	7	Clinical instructors/ tutors have the necessary teaching materials to effectively guide students in clinical practice
Strengthened capacity of the faculty (both teaching and clinical skills)	8	The school has the basic infrastructure to function effectively
	9	The school facilities are clean
	10	Classrooms are comfortable and properly equipped for teaching
	11	The demonstration room/ skills lab is poorly equipped for practical learning sessions
	12	The demonstration room/ skills lab are in a functional state
	13	The anatomical models in the skills lab are in a functional state
	14	The library space is appropriately equipped and organized
	15	The library has appropriate reference material
	16	The library is open to students on demand
	17	A well-equipped and functional computer lab exists for the students and faculty
	18	The hostel is adequately furnished and suitable for students
Strengthened training infrastructure	19	Student composition reflects national INC policies for auxiliary nurse midwifery education
	20	Class size is consistent with national policy and local capacity
	21	School has developed and implemented effective student recruitment and admission strategies according to the INC norms
	22	The curriculum is available to administrators and faculty
	23	Master copies of the learning resource materials exist for duplication
	24	A staff performance evaluation system exists
	25	Student academic performance standards exist and are known by students and teachers
	26	School Principal and teaching staff meet regularly
Strengthened management and leadership capacity at various levels	27	A nursing faculty visits clinical practice sites and meets with clinical staff
	28	The place and furniture are consistent with the government of India requirements for SBA training sites
	29	Infection prevention equipment is available as required based on the GOU requirements for SBA training sites
	30	Emergency drug tray is available as required based on the GOI requirements for SBA training sites

Domain	S. No.	Standard
	31	Equipment, supplies and other drugs are available as required based on GOI requirements for SBA training sites

Table 40: Tutor recommendations for further improvement in training centres

Domains	SNCs	GNMTCs	ANMTCs
Educational Processes	#Update Course curriculum of BSc #Ensure system of regular supply of equipment and instruments for teaching #Hire staff as per INC recommended teacher student ratio # Regular staff refresher training # Mention number of clinical practice hours in curriculum	# Continuous nursing education, refresher trainings by SNCs # Finances to support refresher trainings # Increase theory hours # Increase time allotted for computer classes in the 6 weeks Jhpiego training	# More topics for virtual classroom. (Bihar) # Recruit administrative and teaching staff. (Bihar, Odisha) # Computer education for students, teachers (Odisha) # Add history and evolution of nursing ANM education along with topics on new diseases (MP) # Timely completion of admission and examination processes (Rajasthan) #Upgradation of Betul ANMTC to a GNMTC. (MP)
Clinical Practice Sites	#Hire staff nurses to maintain recommended nurse patient ratio (Bihar) #Hire clinical instructor to maintain 1:10 ratio (MP) # Ensure sufficient caseload for students to practice # Timely supply of equipment and consumable medical supplies # provide a clinical teaching room at the practice site (MP)	# More and regular technical sessions by SNC # A teaching cum demonstration room in the clinical practice site (Rajasthan, MP) # Regular supply of consumables like Partograph and temperature chart in LR. (MP) # Better quality of care, more beds and cleanliness in the labour room. (Bihar) # Technical and motivational sessions for staff nurses and doctors of hospital for better care provision. (Bihar) # Visit to a tertiary referral facility for exposure. (Bihar)	#Space for teaching in the clinical practice area. (Odisha) #Continued financial support from government to sustain changes. #Students should be posted in the SNCU to practice newborn care. (MP) #Continued monitoring and supervision from Jhpiego / NIPI to sustain changes. #Recruitment of more clinical teaching staff to guide students better. (Rajasthan)
Training Infrastructure	# Auditorium & more toilets (Rajasthan) # Hostel building for students and quarters for teachers (MP) # More classroom space as student strength has increased (Odisha) # Renovation of SNC building on a larger plot (Bihar)	# Classrooms construction as per INC recommendations. Bigger classroom required (Odisha) # Bus for students (MP) # Hindi textbooks as that is the preferred language (MP) # More decision-making power to utilize budget. (MP)	# Hostels with more space & electricity backup (MP) # Merge hostel & school building, sufficient water supply, bigger classrooms, anatomical models, equipment in skill labs (Odisha) # Financial support # Ensure basics, water supply, accommodation for students & teachers (Rajasthan)
Leadership and Management Skills	# Refresher trainings to keep the nursing tutors updated. # More technical and financial support required for better infrastructure in the training schools and hostels.	# Continuous nursing education, through refresher trainings # More technical and financial support required for better infrastructure in training schools, hostels # Recruit staff as per the INC norms	# Refresher training on teaching skills and content of education at the district level # Continued monitoring and supervision from experts. # Opportunity for career progression.

Domains	SNCs	GNMTCs	ANMTCs
	# Remuneration should be as per the UGC recommended norms. # Promotional channels # Supervision and monitoring visits should be made to SNC from Jhpiego	# Remuneration as per the UGC recommended norms # Ensure proper supply of equipment's, anatomical models for skill labs # Promotional Channels	

Annex F: Background profile of respondents

The tables below report mean characteristics at baseline and endline for both treatment and comparison groups. There are 1,948 households in the treatment group and 1,987 in the comparison group at baseline. Mean differences in a set of 68 household characteristics were tested, and only five of these were found to be statistically different at the five per cent level at baseline.

The average age of the mother is 25 years, and the average of the index child is 12 months. The typical household size is five-six members. Household head is almost always male and his average age is 38 years. At baseline, around forty percent of the mothers had not completed primary education. Almost half of these households seek healthcare at a public facility and belong to Other Backward Castes (OBCs).

Table 41: Baseline and endline balance of key household background characteristics

Characteristics	Baseline			Endline		
	T	C	T-C	T	C	T-C
Age of the index child (months)	12.1	12.2	-0.1	12.2	12.2	0
Index child is female	44.2	46	-1.8	48.3	45	3.3*
Age of the respondent mother	24.6	25	-0.3	25.5	25.4	0.1
Household size	5.4	5.4	0	5.6	5.4	0.1
Age of the household head	38.3	38.2	0.1	38.4	38.1	0.3
Household head is female	3.5	3.7	-0.2	4.3	2.4	2***
Mother's education						
Did not complete primary education (%)	40.1	43.6	-3.5*	34.5	36.6	-2.1
Primary education (%)	37.6	37.3	0.3	38.9	40.1	-1.2
Secondary education (%)	10.2	10	0.3	10.4	11	-0.6
Higher education (%)	12.1	9.1	3**	16.2	12.3	3.9***
Religion						
Hindu (%)	95.3	95.4	-0.1	94.4	94.8	-0.4
Muslim (%)	4.7	4.1	0.6	5.5	5	0.6
Other Religions (%)	0.1	0.6	-.5*	0.1	0.2	-0.1
Caste						
SC (%)	21.8	22.3	-0.5	23.2	23.3	-0.1
ST (%)	13.9	12	1.9	15.8	12.1	3.7*
OBC (%)	49	50.2	-1.2	46.9	51.1	-4.2
General (%)	15.2	15	0.2	13.5	13.5	-0.1
Household usually seeks care at public facility (%)	47.5	49.1	-1.6	49.3	50.1	-0.8
N	**1948**	**1987**		**1985**	**2064**	

Notes: *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level. Unweighted estimates.
Source: NIPI-II Baseline and Endline Surveys

Table 42: Baseline and endline balance of household amenities and assets

Characteristics	Baseline			Endline		
	T	C	T-C	T	C	T-C
House ownership (%)	72.9	74.9	-2	77.9	75.9	2
Agricultural land ownership (%)	56.1	55.2	0.9	52.1	54.3	-2.2
Source of drinking water						
Other unprotected sources (%)	0.8	0.8	0	2.2	1.4	0.8
Protected dugwell/spring (%)	11	17.6	-4.4**	9.5	12	-2.5
Unprotected dugwell/spring (%)	1.5	1.7	-0.2	4.2	6	-1.8*
Piped/bottled water (%)	86.7	79.9	5.1**	84.1	80.7	3.4
Type of toilet						
No toilet (%)	73.9	74.2	-0.3	54.8	55	-0.2
Unsanitary flush toilet/pit latrine/dry toilet (%)	2.6	1.4	1.2*	0.2	0.2	0
Sanitary pit latrine (%)	3.1	3.2	0	2.7	3.3	-0.7
Sanitary flush toilet (%)	20.4	21.2	-0.9	42.4	41.5	0.9
Floor						
Natural floor (%)	62.1	61.2	0.9	58	59.1	-1.1
Rudimentary floor (%)	2.1	3.5	-1.4**	3.5	5.2	-1.7*
Finished floor (%)	35.8	35.3	0.5	38.4	35.7	2.7
Roof						
Natural roof (%)	11.8	13	-1.2	10	10	-0.1
Rudimentary roof (%)	3.7	5.2	-1.5*	8.1	7.7	0.5
Finished roof (%)	84.5	81.8	2.7*	81.9	82.3	-0.4
Wall						
Natural wall (%)	32.8	32.7	0.1	25.8	27.6	-1.8
Rudimentary wall (%)	9	6.8	2.2**	7.6	8.1	-0.5
Finished wall (%)	58.2	60.5	-2.3	66.6	64.3	2.3
Window						
Any windows (%)	70.1	68	2.1	71.6	71.2	0.4
Windows with curtains/shutters (%)	20.5	22.1	-1.6	15.5	16.9	-1.4
Windows with screens (%)	6.3	6.6	-0.3	9	7.8	1.2
Windows with glass (%)	3.1	3.3	-0.2	4	4.1	-0.1
Cooking fuel						
Unprocessed biomass (%)	90.3	89.5	0.9	80.7	78.2	2.5
Processed fuel (%)	0.5	0.2	0.3	0.8	0.2	.6*
Clean fuel (%)	9.2	10.4	-1.2	18.5	21.6	-3.1*
Assets						
Electricity (%)	83.4	80.3	3.1*	95.3	93.6	1.8
Mattress (%)	60.3	60.1	0.2	86.4	84.4	2
Pressure cooker (%)	44.8	44.6	0.2	61.9	59	3
Chair (%)	73.9	74.8	-0.9	81.7	79.7	2
Cot/bed (%)	88.5	86.5	2	94.8	95.3	-0.5
Table (%)	45.6	45.5	0.1	58.8	55.9	3

Characteristics	Baseline			Endline		
	T	C	T-C	T	C	T-C
Electric fan (%)	59.7	59.7	0	81.8	76.3	5.5***
Radio/transistor (%)	6.3	7.3	-1	1.9	1.7	0.2
B&W television (%)	3.2	3.5	-0.3	3.6	2.9	0.7
Colour television (%)	48.4	50.4	-2	63.7	61.6	2.1
Sewing machine (%)	21.7	20.7	0.9	31.7	30	1.7
Mobile telephone (%)	84.9	84.9	0	92.3	92.2	0.1
Any other telephone (%)	1.7	1.7	0	0.6	0.4	0.2
Computer (%)	2.2	2.2	0	2.5	2.5	0
Refrigerator (%)	11.3	9.3	2.1	16.1	14.5	1.6
Watch/clock (%)	76.2	75.9	0.2	85.1	84.3	0.8
Bicycle (%)	62.7	65.7	-2.9	75.5	77.6	-2.1
Motorcycle/scooter (%)	27.6	28.1	-0.5	43.2	42.2	1
Animal-drawn cart (%)	5.8	5.6	0.2	3.1	3.3	-0.2
Car (%)	1.8	1.8	0	3.1	2.6	0.5
Water pump (%)	11.3	9	2.3*	11.3	9.9	1.4
Thresher (%)	1.3	2.4	-1.1**	1.3	1.4	-0.1
Tractor (%)	3.3	4.4	-1.1	3.7	3.6	0.1
N	**1948**	**1987**		**1985**	**2064**	

Notes: *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level. Unweighted estimates.
Source: NIPI-II Baseline and Endline Surveys

Table 43: Baseline Equivalence of key HBNC+ outcomes

Indicator name	Treatment	N	Control	N	Diff (T-C)
Children 3-5 months of age currently breastfed exclusively (%)	36.7	365	43.6	367	-6.9*
Children 6-12 months of age with minimum diet diversity (%)	17.5	675	14.9	679	2.6
Children 3-23 months of age who had their growth monitored at least once in 3 months (%)	62.7	1455	59.1	1457	3.6*
Children 12-23 months of age who got full immunisation (%)	51.9	969	49.4	1041	2.5
Mothers who typically use soap to wash hands (%)	58.6	1948	58.7	1987	-0.1
Children 6-23 months of age treated with ORS for diarrhoea in last 2 weeks (%)	57.4	47	71.9	32	-14.4
Mothers who typically play with their child (%)	60.4	1948	58.4	1987	1.9

Notes: *** Significant at 1% level, ** Significant at 5% level, * Significant at 10% level. Unweighted estimates. Data on IFA supplementation not available at baseline.
Source: NIPI-II Baseline Survey

Annex G: Research ethics

Our research was conducted to the highest ethical standard, in line with the principles outlined in DFID's Ethics Principles for Research and Evaluation (July 2011). This included ensuring that expectations were not raised, confidentiality was maintained, and respondents were informed about the purpose of the survey and asked to participate voluntarily.

Informed verbal consent was obtained from the research subjects. It was ensured that only female interviewers take the consent and interview of the female respondent.

No personal identifiers were used in any form of reporting or dissemination. Personal identifications were linked with a unique identifier and were kept securely.

No information was published that could identify the respondent. Paper copies of questionnaires will be stored for three years in a secure location; only the investigation team will be able to access them.

Participation in the research was voluntary and respondents were free to stop interviews at any time or skip any questions they did not want to answer. They had the right to ask questions at any point before, during or after the interview was completed.

The research staff and the participants were informed about the purpose, methods, and benefits and intended possible uses of the research.

All interviews were conducted by trained staff and in conditions of privacy. All interviews at the level of the community were usually conducted at the person's dwelling, or in a private room.

Annex H: Comments from the New Born Project

Report findings, conclusions and recommendations	NIPI New Born team Comment
Page No. 7, 27, 38 & 82 **Conclusion** The training seems to be less effective at improving thematic knowledge related to intervention components.	**The conclusion drawn is incongruous and the recommendation becomes invalid.** The findings of the evaluation have shown a significant increase in the knowledge of ASHAs on the thematic components of HBNC+ in treatment districts between baseline and endline, i.e. on page no. 37 and 38: 1. ASHAs aware that child must be breastfed even when sick (Baseline 91% – Endline 96%) 2. ASHAs aware of correct age at which to start on solids/semi-solids (Baseline 86.8% – Endline 99.3%) 3. ASHAs aware of immunizations to be given in 1 year (Baseline 55.6% – Endline 77.5%) 4. % ASHAs aware of correct frequency of feeding a child (Treatment 73.1% – Control 66.2%) only included in the endline questionnaire. No baseline done 5. % ASHAs aware that 1 lt water to mixed with ORS packet (Treatment 90.1% – Control 89.5%) only included in the endline questionnaire. No baseline done 6. ASHAs with correct knowledge of age at which IFA should be started (Treatment 60.3% – Control 47.1%) only included in the endline questionnaire. No baseline done 7. % ASHAs aware that IFA syrup to be given twice a week (Treatment 52.3% – Control 41.8%) only included in the endline questionnaire. No baseline done 8. ASHAs with correct knowledge of IFA dosage (Treatment 35.1% – Control 21.4%) only included in the endline questionnaire. 9. Thematic knowledge related to ECD not checked at baseline or endline 10. Wrong indicator for growth monitoring used “once a month” while correct indicator should have been once in 3 months 11. Responses regarding having received NIPI training in control districts are not credible because training was not delivered in control districts
Page No. 7, 38 & 82 **Recommendation** Operational research should be undertaken to find ways of delivering higher effective coverage of HBNC+ through government systems.	**The recommendation made is inappropriate.** 1. HBNC+ has been implemented through Government health system in the state. 2. The endline evaluation carried out captures data of one year implementation, has shown 39.1% mothers received full schedule and 68.7% mothers ever received a HBNC+ home visit. (Page no. 39). **These are not low coverages.** 3. Government of India has already scaled up in the entire country based on the recommendation of an operation research conducted by INCLEN trust. Therefore no more operational researches are needed in India

Page No. 7, 38 & 83 **Conclusion** There is no detectable effect of HBNC+ on average levels of outcomes **Recommendation** The evaluation is not able to detect sufficient impact to recommend the scaling of HBNC+.	**The conclusion drawn is inappropriate and recommendations become invalid** Impact was not assessed and only outcome was assessed. Significant increase has been reported between baseline and endline in the outcomes of HBNC+ in treatment districts. Some of the examples are: 1. % Children 3-5 months of age exclusively fed breastmilk (Baseline 36.7% - Endline 74.5% significant at 1%) Page no. 120 2. Growth monitored at least once in three months (%) (Baseline 62.7% - Endline 82.7% significant at 1%) Page no. 121 3. % children 6-23 months of age consumed IFA syrup twice per week in the last two weeks (Treatment 5% - Control 2.1% significant at 1%) not covered during baseline and results available only for endline. Page no. 123 4. Findings cannot be trusted because the indicator used to measure changes in early childhood development practices has low internal validity e.g % Mothers who talk to their child (Baseline 86.8% - Endline 93.9% significant at 1%) Page no. 124 5. Moreover, correct improvements cannot be commented as figures changed in the entire report from the baseline report 6. Hand washing indicator changed from bassline to endline and they are not the same 7. Vaccination card changed to MCP card between baseline and endline evaluation and they are two different tools **Thus many behavioral practices improved, values changed, indicators and values changed from baseline to endline. Moreover, OPM was not mandated to provide recommendations for scale up based on data of only one year.**
Page No. 7, 38 & 83 **Conclusion** There are no significant differences between treatment and control areas for morbidity indicators (prevalence of diarrhoea and pneumonia) but the evaluation is not powered to attribute changes to the intervention.	**Contradiction in conclusion**. 1. Indicator changes from Pneumonia to suspected Pneumonia without explaining how the same was collected and there is no globally accepted terminology as suspected pneumonia whereas WHO definition of Pneumonia is cough with fast breathing. 2. Report itself admits that the evaluation is not powered to attribute changes to the intervention.
Page No. 35 **Comment in the report** The Rapid Assessment of HBNC+ (Sambodhi Research and Communications, 2015) in Rajasthan found negligible or no differences in outcome levels between treatment and matched control areas in rates of exclusive breastfeeding, complementary feeding, immunisation, and handwashing.	**The statements are factually incorrect.** The rapid assessment of HBNC+ conducted by Sambodhi Research and Communications in 2015, depicted significant positive difference between treatment and control districts on the outcomes of HBNC+. Following were some of the findings of the assessment: 1. The percentage of infants in the age group of 0-5 months who were being currently exclusively breastfed was 73% and 65% in treatment and control districts respectively.

	The difference is statistically significant at 5% level of confidence (p value= 0.011) 2. 79% of infants of age 6-9 months received solid or semi solid food in the last 24 hours. This was around 4 percentage points more than the percentage of infants fed solid or semi-solid food in the last 24 hours in control areas. 3. 93% of the mothers washed their hands with soap and water in the treatment districts compared to 91% in the control districts.
SNCU+	
Page No. 10, 65 & 86 **Recommendation** It is not recommended that the intervention is scaled because it has been demonstrated that ANMs do not make the home visits in the way that the intervention requires.	**Recommendation is inappropriate.** 1. ANM completed 4% visits which is 40% of the task assigned as per the requirement of intervention**.**
Page No. 10, 65 & 86 **Conclusion** Home visits did not have any detectable effect on maternal knowledge but did have statistically significant effects on the proportion of mothers practicing kangaroo mother care (KMC) and exclusively breastfeeding during the newborn period.	**Inappropriate conclusions**. Contradiction in the document saying that KMC and Breast feeding practices improved but no effect on knowledge. Behavior change is the ultimate step. While conclusion says that knowledge of mother was poor and page 72 of the document says knowledge increased significantly
Regional Resource Centers for Facility Based Newborn Care (FBNC)	
Page No. 11, 72, 87 **Conclusion** Facilities lacked the equipment, supplies, commodities and infrastructure to deliver the routine, basic emergency and comprehensive emergency newborn care they were providing to government standards. **Recommendation** The programme should reconsider the relative merits of intervening at the service delivery level (the facility) without also intervening at the health systems level (particularly for supply chains); and the balance between objectives of service availability and service quality.	**Both conclusion and recommendation are unjustified.** 1. The regional resource centres were evaluated through SARA tool which is not an appropriate tool for the kind of support provided. SARA is a good WHO recommended tool for assessing resource centre support. Whereas, NIPI support was limited to strengthening clinical case management capacity of sub district facilities through supportive supervision by staff posted in higher facilities and the same cannot be assessed with this tool alone and there was need to use other methods. **2. Visit to wrong places**. It was communicated in the workshop that Sambalpur was assessed which is not the NIPI support district for resource centre support. As per the requirement assessment team needed to visit CHC with a functional NBSU which is not mentioned in the report.

Annex I: Comments from Jhpiego

Feedback on Post-Partum Family Planning (PPFP) and Pre-Service Education in Nursing and Midwifery the draft Endline evaluation report

S.No.	Evaluation question, findings, Conclusion and Recommendations	Jhpiego Comments
1	6.3.4.3 Training Infrastructure at ANM and GNM schools, p.79 Evaluation Question, conclusion and recommendation, p.81	**We do not agree with the evaluation question findings and recommendations due to the following reason:** - The data for this evaluation were collected in 1st quarter of 2017 where the project period was till December 2017. In Odisha and Rajasthan, procurement process for Skills Lab, IT Lab etc. was initiated in 2nd quarter 2017 and completed by 3rd quarter of 2017. - As per the recent program report, most of the institutions are having a well-established training infrastructure in their respective nursing institutions as per Government of India guidelines. The limitation of conducting the evaluation way before the actual project closure should be written beforehand while discussing the findings related to establishment of training infrastructure.
2	Table 63: Performance standards selected from GOI guidelines for assessment Annex E, page 39	**We are not in complete agreement of the performance standards selected by the evaluation team for the following reasons:** - The standards used for evaluation is a subset of 81 standards laid down by Government of India. The evaluation team on their own (without consultation with the implementation partner) reduced them to 31 standards and is factually not representative of our work. - Additionally, this Endline evaluation was conducted in 1st quarter of 2017 but the actual implementation of intervention was completed in December 2018. Hence, the findings are not reflecting actual standards achieved. - Moreover, the standards selected under the domain "strengthening of capacity of the faculty" and the standards (8 – 18) selected for capacity of faculty **are not representative of that domain** and those standards are for assessing the status of training infrastructure and not the capacity of faculty. Hence the graphs depicted in the report is not correct. - Similarly, standards (27-31) are kept under the domain named "*Strengthened management and leadership capacity at various levels"* which are **actually for assessing the clinical site practices and not the school management related processes**. These standards those were selected were not the true representative of the school management related processes.

1.	**Evaluation question 2. Page 8, 40, 43, 51 & 84** Evaluation Question 2: Does the training of providers in facilities increase their knowledge of postpartum family planning (PPFP) methods?	**We do not agree with the evaluation question for the following reasons:** - For answering the evaluation question no 2, baseline data is necessary which is not available for reasons better known to the evaluators. This should be acknowledged as a limitation upfront whenever this question is addressed anywhere in the document.
2.	**Evaluation question 2 and 3 both, Page no. 8** "If the intervention is replicated or scaled, the implementers should review training materials and approaches to see if it is possible to further improve the translation of training into knowledge and skills"	- As per our understanding, there was no objective assessment of skills during the evaluation. It was limited to assessment of knowledge. However, the qualitative data in the evaluation suggests that providers felt the trainings improved their skills. Therefore, based on data available through this evaluation, the evaluation/question is not in a position to comment on the skills part.
3.	**Evaluation question 4, Page no. 9** Does the training of ASHAs lead to increased coverage of postpartum family planning (PPFP) counselling of women?	- We do not agree with the evaluation question as per our intervention project design, ASHAs were not supposed to counsel, their primary responsibility is to give key messages on family planning
4.	**Evaluation Question 3 Page 12.** "The evaluation data suggested that many of the ANM and GNM nursing schools were slightly falling short of the standards threshold"	**The evaluation design is faulty and hence we do not concur with the recommendation:** - This has been commented beforehand in SNo2. For the record, the standards used for evaluation is a subset of 81 standards laid down by Government of India. The evaluation team on their own reduced them to 31 standards and is factually not representative of our work. Additionally, this Endline evaluation was conducted in 1st quarter of 2017 but the actual implementation of intervention was completed in December 2018. Hence, the findings might not be reflecting true status of standards achieved. - The internal assessment done using all the standards has revealed that 88% ANM/GNM schools have achieved the standards threshold (70%) which is more than the target (50%) we had set for this project. This information is very relevant in context of this evaluation and should be mentioned in every section where these findings have been discussed.
5.	**3.3 Key Findings, Page 42** Does the support provided to facilities increase the service	- This question is probably looking at unintended collateral benefits of the program as improving infrastructure and supplies was never the objective of project design and the

	availability and readiness of postpartum family planning (PPFP) services, particularly IUCDs inserted postpartum (PPIUCD)?	intervention. These findings can perhaps be presented after findings related to intended effects.
6.	Figure 6: Performance standards met by SNCs Page 75	- We have reviewed the standards selected under the domain "strengthening of capacity of the faculty" and found that the standards selected for capacity of faculty are not truly representing the domain. - The standards chosen by the evaluation team are for assessing the status of training infrastructure and not the capacity of faculty. Capacity of faculty can be assessed in terms of their teaching abilities' and clinical competence. As the selection of standards for assessing the capacity of faculty was not appropriate, **the findings associated with it is also not correct.**
7.	6.3.3 Are the ANMs and GNM schools functional according to the GoI guidelines? Page 77 "However, the findings suggest that there is still significant room for improvement particularly in the domains of faculty capacity (for ANM schools) and training infrastructure (for GNM schools)."	