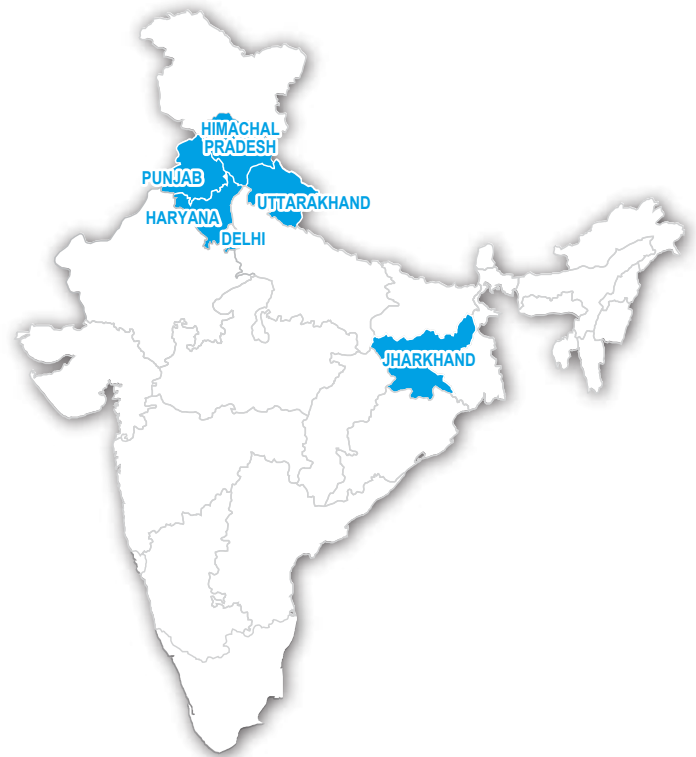




Changes that improved newborn health services in India





CONTEXT




The change ideas shared in the newborn change package is a compilation of ideas that showed success in changing important processes to achieve improvement in services in neonatal period. These change ideas were successfully implemented in a select group of facilities in 27 high priority districts in six states where the USAID ASSIST project was providing technical support to the state governments in improving quality of maternal and newborn health (MNH) services. The change ideas were developed and implemented using the quality improvement approach in the six states of India, viz. Delhi, Jharkhand, Haryana, Himachal Pradesh, Punjab and Uttarakhand. The change ideas shared in this change package are aligned with Government of India's Facility based Integrated Management of Neonatal and Childhood Illnesses (F-IMNCI)¹ and are only applicable for neonatal interventions in facilities.



AIM#1





Administration of Injection Vitamin K to all newborns to prevent Vitamin K deficiency bleeding.



Change idea	Logic for change	How the change happened
 <p>Orientation to medical and nursing staffs on guidelines of the Government of India on administration of Injection Vitamin K to all neonates².</p>	<ul style="list-style-type: none"> Staffs in many facilities had incomplete knowledge on GOI guidelines for administering of Vitamin K to newborns. They did not have clarity on dosage and timing of administering Injection Vitamin K. In most facilities, Vitamin K was being administered only to pre-term or underweight newborns. 	<p>The MOIC oriented the medical and nursing staffs in labor room and in postnatal ward on the importance of Vitamin K administration, the correct dosage, syringe specifications, time of administration and the procurement of Injection Vitamin K1 as is recommended in GOI guidelines.</p>
 <p>Replacement of Vitamin K3 with Vitamin K1, as per GOI guidelines, for preventing Vitamin K deficiency bleeding in newborns.</p>	<p>The central drug store in the district supplied Vitamin K1 (phyloquinone) to facilities. Some facilities, in case of stock-outs, were using untied funds to procure Injection Vitamin K from local pharmacy as a stop gap arrangement. The local vendor supplied them with Injection Vitamin K3 (menadione), which was used by the staffs.</p>	<p>The USAID ASSIST Project team brought this gap to attention of both the district and state level authorities, with information that Vitamin K1 is not only recommended by GOI but also a natural and non-toxic product versus Vitamin K3 being a synthetic product, with evidence of toxicity for the newborns. As a result, the state issued a directive to all facilities across all districts emphasizing use of Vitamin K1 only. The staffs engaged in procurement in the facilities were oriented to differentiate Vitamin K1 vials from Vitamin K3 vials.</p>
 <p>Administration of Vitamin K Injection before the newborn leaves the labor room or the operation theatre (OT).</p>	<ul style="list-style-type: none"> Administration of Injection Vitamin K to newborns was often missed in cases where they were moved from labor room or OT to SNCU or NICU instead of postnatal ward. Vitamin K administration was also getting missed in newborns who had to be referred to another facility for better management of newborn complications. 	<ul style="list-style-type: none"> Nursing staffs of the facility were oriented not to transfer newborns out of the labor room or the OT until Injection Vitamin K was administered to them. It was also agreed among the nursing staffs to administer Vitamin K to newborns before they were transferred to higher level facility for additional care and maintain record of such cases.
 <p>Keeping record of Vitamin K having been administered to all newborns, including those being referred to another facility for more care and support.*</p>	<p>Record of Vitamin K administration to newborn was not being practiced in some facilities. Administration of Vitamin K administration could not be verified in absence of proper documentation.</p>	<p>The labor room staffs were encouraged to record the date and time of administering Vitamin K, along with their signature, in the case sheets.</p>

Change idea	Logic for change	How the change happened
 <p>Planned procurement (in time and in adequate quantity) of Injection Vitamin K, Insulin syringes and 26 gauge needles to ensure 24 x 7 availability.</p>	<p>Vitamin K, Insulin syringes and 26 gauge needles were being procured on case-to-case basis instead of procurement and stocking on the basis of delivery load at the facility. Some facilities experienced stock outs of Injection Vitamin K.</p>	<p>The staffs involved in procurement were oriented to calculate average delivery load of the facility and keep at least one month of Injection Vitamin K supply in stock. Staff nurse was made responsible for indenting the stock from the pharmacist of the facility. The MOIC used Janani Shishu Suraksha Karyaram (JSSK)³ funds, which has provision for such purchases, to procure Injection Vitamin K. There was sufficient supply of 26 gauge needles and syringes at the facilities.</p>
 <p>Placement of handwritten notes or posters on guidelines related to Injection Vitamin K administration pasted in labor room and postnatal wards in the facility, as visual reminder.</p>	<ul style="list-style-type: none"> As the labor room and postnatal ward staffs were overloaded with care of both mother as well as the newborn, they missed administration of Vitamin K to all newborns. Staffs, even after orientation on Vitamin K administration to newborns, required regular reminders to administer Injection Vitamin K to newborns within 24 hours of their birth. 	<ul style="list-style-type: none"> Key points in the GOI guidelines mentioning the dosage and timing of Injection Vitamin K administration for newborns were pasted on the wall of the labor room and newborn care corners. Since the labor room/postnatal ward staff worked in different shifts, the poster also served as a reminder for them to administer Injection Vitamin K to those newborns to whom it had not been administered in the previous shift.
 <p>Regular review of Injection Vitamin K administration to newborns by MOIC for ensuring adherence to guidelines.</p>	<ul style="list-style-type: none"> Staffs in some facilities were not following the guidelines, often due to hesitation or lack of conviction. A process of regular review, feedback and handholding to staffs was important to ensure correct practices are established in the system. 	<p>The MOIC regularly reviewed records and ensured that all newborns, including those who were getting referred to a higher facility for better care and support, were administered Injection Vitamin K before transfer to that facility. This was further verified by a review of case sheets and labor room register.</p>
<p>Proportion of newborns administered Vitamin K within 24 hours of birth</p>		

* These change ideas were implemented in selected government health facilities in Jharkhand.



AIM#2 Early initiation of breastfeeding in all newborns

Change idea	Logic for change	How the change happened
 <p>Orientation to nursing staffs on GOI guidelines for infant and young child feeding (IYCF)⁴ practices and importance of early initiation of breastfeeding to newborns.</p>	<p>The nursing staffs were not fully aware of the guidelines on IYCF practices and advantages of early initiation and exclusive breastfeeding. They were not sufficiently equipped to motivate mothers and their families for early initiation and exclusive breastfeeding to newborns.</p>	<ul style="list-style-type: none"> Nursing staffs were oriented on various aspects of breastfeeding through multiple sessions. In some states, a pediatrician oriented and demonstrated with training aids to the QI team the correct practices of breastfeeding and also on management of common problems during breastfeeding. The MOIC instructed the health facility staffs to facilitate initiation of breastfeeding as per GOI guidelines.
 <p>Documentation of early initiation of breastfeeding in the postnatal register.</p>	<p>In many facilities, initiation of breastfeeding to newborns was not being recorded. Early initiation of breastfeeding could not be verified in absence of record.</p>	<p>Additional columns were created in the postnatal register by the nursing staffs to record cases in which breastfeeding was initiated within one hour of birth.</p>
 <p>Initiate breastfeeding in the labor room immediately post delivery.</p>	<ul style="list-style-type: none"> The practice in many facilities was to initiate breastfeeding once mother and newborn were shifted to the postnatal ward. Delays in shifting the mother and newborn to the ward often resulted in delayed start of breastfeeding. Early initiation and exclusive breastfeeding was further delayed in some cases when family members insisted on performing birth rituals for mother and newborn. 	<ul style="list-style-type: none"> Labor room staffs were made responsible to initiate breastfeeding before shifting the newborn and mother out of the labor room. Staffs counseled mothers in labor room on benefits and proper method of breastfeeding. In some facilities, the staffs initiated breastfeeding in the labor room before administering Injection Vitamin K to the newborn.
 <p>Counseling on early initiation and exclusive breastfeeding to mothers from the time of her ANC visits by medical and paramedical staffs, Sahiyyas⁵, GNM trainees, Yashodas⁶ (facility based counterparts of ASHAs) or by staffs trained in IYCF practices.</p>	<ul style="list-style-type: none"> There were no dedicated staffs responsible to counsel the pregnant woman and her family members, who either had limited knowledge on or had misconceptions regarding infant feeding practices. Most facilities had only one nursing staff to facilitate deliveries and provide postnatal services. Heavy workload on both fronts resulted in them missing the component of getting breastfeeding initiated within an hour of delivery. IYCF counselors, who were available in most hospitals, were placed with the pediatric department and were not engaged in counseling pregnant women 	<ul style="list-style-type: none"> Staffs (medical and paramedical), Sahiyyas, Yashodas, IYCF counselors and GNM trainees were oriented to include counseling on breastfeeding into the antenatal counseling sessions with the pregnant women. Along with counseling on diet and nutrition, care during pregnancy, birth preparedness, complication readiness and family planning, they were told about the benefits of colostrum, early initiation and exclusive breastfeeding. The nurses in Newborn Stabilization Units (NBSUs), who are available in shifts round the clock in CHCs, were engaged by the MOICs to counsel mothers on early initiation of breastfeeding. In some facilities, the nursing students (GNM trainees) who were placed to assist the labor room staffs, were engaged to counsel and motivate mothers to begin breastfeeding within one hour of birth and document it in the labor room register. The departments of pediatrics and gynecology in district hospitals agreed to engage IYCF counselors to begin continuum of care of infants and young children from the antenatal period.

Change idea	Logic for change	How the change happened
	<p>in ANC clinics or mothers in the postnatal ward, which are under the gynecology department.</p> <ul style="list-style-type: none"> Mothers in law and husbands influence the mother on early initiation and exclusive breastfeeding. 	<ul style="list-style-type: none"> Responsibility of IYCF counselors was expanded to include visits to ANC clinics and to postnatal wards to counsel mothers and promote early initiation and exclusive breastfeeding. Yashodas in labor rooms of district hospitals were relieved of other tasks and engaged in taking care of mothers, including counseling on early initiation of breastfeeding. Relatives accompanying the women for ANC visits and for delivery were also counseled on breastfeeding and were encouraged to support the mother in initiating breastfeeding within one hour of delivery.
 Placement of posters on early initiation, correct practice and correct placement of newborn for breastfeeding pasted in the wards as visual reminder and as reinforcement of messages to the mothers and their attendants.	<p>There was a need to create a mechanism of continuous reminders to mothers and relatives to practice early initiation and exclusive breastfeeding, as one time counseling session to mothers and their attendants was not enough.</p>	<p>IEC materials were created and displayed in local language informing the mothers on the benefits of early initiation and exclusive breastfeeding. Posters showed proper positions of feeding the baby, time of feeding and benefits. The materials were placed at conveniently visible places in the labor room, ANC clinics and in postnatal wards.</p>
 Reinforcing breastfeeding messages through different cadres of staffs working in the postnatal ward.	<p>The support staffs deputed to the post natal wards also interacted with the mother and her attendants on a regular basis. As the mother and her attendants shared a lot of socio-cultural and demographic characteristics with the support staffs, they found repetition of medical advice by them more reasonable and acceptable.</p>	<p>The QI team members organized a short sensitization session for the support staff on early initiation and exclusive breastfeeding. The support staffs were encouraged to ask the mother and relatives "has the baby been breastfed?" in each of their interaction with the mother and their attendants. This helped reinforcing the practice of breastfeeding among mothers.</p>
<p>Proportion of newborns who were breast fed within one hour of birth</p>		



AIM#3






Drying and wrapping of newborns in warm cloth to prevent hypothermia

Change idea	Logic for change	How the change happened
 Keeping the clothes for wrapping newborns in warmer while preparing for delivery.	<p>The clothes used for wrapping the newborn was often not warm enough to keep the newborns warm.</p>	<p>Introduction of a practice to keep clothes used for wrapping newborns in the warmer half an hour before delivery so that it is warm enough to wrap the newborn on birth.</p>
 Using clean towels to dry and wrap newborns.	<p>Labor room staffs were using clothes brought by the family to dry and wrap the newborn, which were often not appropriate for keeping the newborns warm and clean.</p>	<p>In some facilities, old, autoclaved bedsheets were cut to make small sheets for wrapping newborns. The QI teams advocated with MOIC of the facility to procure towels for drying and wrapping newborn by utilizing funds earmarked for JSSK, Rogi Kalyan Samiti (RKS)7 or untied funds, as the case may be.</p>
<p>Proportion of newborns who were dried and wrapped after birth</p>		

AIM#4

Need based breathing assistance to newborns

Change idea	Logic for change	How the change happened
 Essential and emergency newborn care training, as per NSSK guidelines of GOI, and practical training using mannequins to all labor room staff.	<p>Labor room staffs were not trained to provide breathing assistance to newborns in many facilities. In case of breathing complications, they either preferred referring the newborn to Sick Newborn Care Units (SNCU) or call the pediatrician to labor room for support, often losing critical time in resuscitating the newborn, (the golden first minute after birth).</p>	<p>The state officials integrated NSSK training in its Program Implementation Plan (PIP). The QI team members, who were first trained by pediatricians, trained and mentored the labor room staffs. Pediatrician posted in facility continued hand holding to labor room staffs.</p>
 Keeping the baby tray ready in labor rooms and ensuring that all apparatus like mucous extractor, suction machine and ambu bag are working.	<p>The labor room staffs usually had to rush to the nursing stations or to the in-house store for materials needed for newborn care. There was no practice of keeping a baby tray ready in labor room.</p>	<p>Labor room staffs were oriented on preparing a baby tray as part of their delivery preparedness. In addition, mucous extractor, a suction machine and ambu bag were kept in working condition.</p>

Change idea	Logic for change	How the change happened
 Orientation of labor room staff regarding use of sterile cord clamps.	Labor room staffs were not aware about the effectiveness of sterile cord clamps in preventing infections in newborns.	MOIC of the facility oriented the nursing staffs on importance of using sterile clamps in prevention of neonatal sepsis and side effects of using threads.
 Use of quality cord clamps.	The sterile cord clamps available in some facilities were of inferior quality, which used to give way with thick cords. This discouraged the staffs from using those clamps. Thread was used to tie the umbilical cord, increasing risk of infection.	<ul style="list-style-type: none"> The staffs involved in procurement were oriented to assess the quality of cord clamps and the features they needed to look for during procurement. The labor room staffs were oriented on the advantages of using quality disposable cord clamps and trained on sterile cord cutting practices.
 Recording the use of cord clamps in the labor room register.	Reviewing delivery files was a challenging task and the staffs were not ready to maintain a separate register for recording cord cutting and clamping. Recording and reviewing was easier in the labor room register.	A blank column available in the labor room register was used for recording sterile cord cutting and clamping. The staffs wrote 'yes' or 'no' in that column depending on whether or not the clamp was used.
 Timely indenting of sterile cord clamps by the labor room staff.	There were times when the stock of cord clamps in the labor room got exhausted despite it being available in the store at the facility.	A process of periodic indenting between labor room and the store, based on average delivery load, was set up to ensure 24 x 7 availability of cord clamp in the labor room.
 Planned procurement (in time, in adequate quantity and of appropriate quality) of sterile cord clamps to ensure 24 x 7 availability.	While sterile cord clamps were available in many facilities, they were not procured on the basis of delivery load in the facility. This sometimes resulted in stock outs.	<ul style="list-style-type: none"> The staffs involved in procurement were oriented to calculate average delivery load of the facility and keep three months of sterile cord clamps' supply in stock.
Proportion of newborns who were provided sterile cord clamping		

References

- F-IMNCI is a Government of India program to build capacities of the health personnel at facilities to address newborn and childhood illness and bridge the acute shortage of specialists.
- Operational guidelines: Vitamin K Prophylaxis at Birth (in facilities). Child Health Division, Ministry of Health & Family Welfare, Government of India.
- Janani Shishu Suraksha Karyakram is a national initiative to provide free and cashless services to pregnant women including normal deliveries and caesarean operations and sick new born (up to 30 days after birth) in Government health institutions in both rural & urban areas. Accessed from <http://www.nhp.gov.in/health-programmes/national-health-programmes/janani-shishu-suraksha-karyakram-jssk> on 15 Jan 2015.
- Guidelines for Enhancing Optimal Infant and Young Child Feeding Practices, Ministry of Health & Family Welfare, Government of India. 2013.
- Sahiyyas in Jharkhand are equivalent to an Accredited Social Health Activist (ASHA) in other states of India.
- Yashoda is a non medical volunteer who are placed at facilities to take care of mother and child post delivery. She facilitates post partum care and essential newborn care.
- Rogi Kalyan Samiti, i.e., Patient Welfare Committee, is a registered society established by Government of India, which acts as a group of trustees to manage the affairs of a public health facility.

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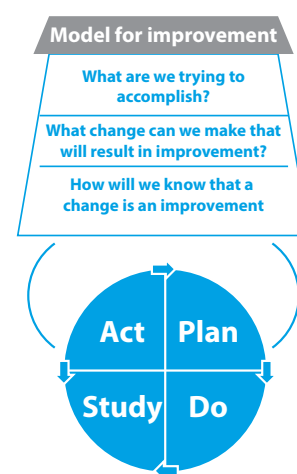
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Abbreviations

ANC	Antenatal care
MNH	Maternal and Newborn Health
ASHA	Accredited Social Health Activist
MOIC	Medical Officer In-Charge
ASSIST	Applying Science to Strengthen and Improve Systems
NBSU	Newborn Stabilization Unit
CHC	Community Health Center
OT	Operation Theater
F-IMNCI	Facility Based Integrated Management of Neonatal and Childhood Illnesses
PIP	Program Implementation Plan
GNM	General Nurse Midwives
QI	Quality Improvement
GOI	Government of India
RKS	Rogi Kalyan Samiti
IYCF	Infant and Young Child Feeding
SNCU	Sick Newborn Care Unit
JSSK	Janani Shishu Suraksha Karyakram
USAID	United States Assistance for International Development

Quality Improvement Approach

- The QI approach used in the USAID ASSIST Project consists of seven steps:
1. Defining the improvement aim
 2. Forming the improvement team
 3. Understanding the current system
 4. Developing a measurement system
 5. Developing changes
 6. Testing changes
 7. Implementing and sustaining changes



USAID ASSIST Project

The USAID Applying Science to Strengthen and Improve Systems (ASSIST) is a USAID funded project managed by University Research Co., LLC (URC) to support the government and to strengthen and improve the health system so that the quality of maternal & newborn care becomes better and more lives are saved. URC's global partners for USAID ASSIST include: EnCompass LLC; FHI 360; Harvard University School of Public Health; Health Research, Inc.; Institute for Healthcare Improvement; Johns Hopkins Center for Communication Programs; and Women Influencing Health Education and Rule of Law, LLC. For more information on the work of the USAID ASSIST Project, please visit www.usaidassist.org or write assist-info@urc-chs.com.

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This 'Change Package' is made possible by the generous support of the American people through USAID's Bureau for Global Health, Office of Health Systems. The contents are the sole responsibility of University Research Co., LLC (URC) and do not necessarily reflect the views of USAID or the United States Government. The USAID ASSIST Project is managed by URC under the terms of Cooperative Agreement Number AID-OAA-A-12-00101.

Many change ideas mentioned in this change package were context and facility specific. They may not necessarily be applicable across the board in their current form and may require modifications to achieve desired results.