Changes that improved maternal health services during intranatal period in India

CONTEXT

The change ideas shared in the intranatal change package is a compilation of ideas that showed success in changing important processes to achieve improvement in services in intranatal 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 guidelines for Antenatal Care and Skilled Attendance at Birth by ANMs/LHVs/SNs.

Use of partograph in early identification and management of complications during labor.

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<tr>
<td>Training and handholding of labor room staff on correct and complete use of partograph for monitoring labor.</td>
<td>• Health care providers did not know the correct method of plotting partograph and its relevance in identifying early danger signs. • In some facilities, the labor room staffs had undergone SBA training but were hesitant to use partograph.</td>
<td>MOIC trained the labor room staff on correctly plotting partograph and identifying danger signs on its basis.</td>
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<td>Compliance by labor room staffs to use the simplified version of partograph, developed by WHO and as recommended by the Government of India for use.</td>
<td>The labor room staffs were plotting the older version of partograph incorrectly and incompletely. The facilities also experienced frequent stock outs of partograph.</td>
<td>Health facility staffs were trained in plotting the simplified version of partograph. The partograph was printed in bulk and given to the nursing staff to avoid stock outs.</td>
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<td>Annexing partograph to the Bed Head Ticket (BHT) as soon as a woman is admitted in labor.</td>
<td>Plotting of partograph was being missed by some labor room staffs even after training because partograph was not readily available when women were brought in labor.</td>
<td>Labor room staffs attached the partograph to BHT at the time of admission of woman in labor. The attached partograph reminded staff to plot it during active labor.</td>
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<td>Establishing a process of handing over and taking over of partograph between the nursing staffs of two consecutive shifts.</td>
<td>The information plotted on partograph was not being detailed when labor room staffs of one shift were handing over charge to nursing staffs for the next shift. This resulted in the early danger signs getting missed for some women in labor.</td>
<td>Sharing of information on partographs was included in the handover of duties by nurses during shift changes so as to ensure early danger signs of labor are not missed.</td>
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Proportion of pregnant women identified as high risk by use of partograph
The USAID ASSIST Project acknowledges the unwavering support of Dr. Rakesh Kumar, Joint Secretary (RCH), Ministry of Health and Family Welfare, Government of India in development of this change package.

### Proportion of pregnant women identified as high risk by use of partograph

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<td>Weekly review of plotted partograph by the Medical Officers/SBA master trainer to check for its completeness and correctness, and provide support as needed.</td>
<td>The use and interpretation of partograph was not being done in some cases, in spite of the labor room staffs having undergone the training. They needed more hands on support and supportive supervision.</td>
<td>The SBA trainer, the medical officer or a senior nursing staff reviewed the partographs on weekly basis and provided feedback, orientation and mentoring support as needed to the labor room staff. The more experienced nurse acting as mentor to the less experienced one.</td>
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### Administration of Injection Oxytocin 10 International Units/intramuscular within one minute of delivery to all the women for active management of third stage of labor (AMTSL)³

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<td>Orientation and capability building of labor room and post partum ward staffs on Skilled Birth Attendance –</td>
<td>All newly recruited staff nurses lacked confidence to administer Oxytocin intramuscular within one minute of childbirth, as they had not undergone training in AMTSL and were not aware of GOI guidelines.</td>
<td>Staffs of the facility, who had undergone training in SBA and are practicing AMTSL, conducted a two-day on-the-job training in batches for newly recruited staff nurses.</td>
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<td>Orientation to emergency medical technician, placed in Emergency Medical Transport Service (ambulance) (EMTS) of National Health Mission (NHM), on administration of Injection Oxytocin to women delivering in transit.⁴</td>
<td>Labor room staffs were asked to mention all reasons for not administering Oxytocin on one page format pasted on a wall inside the labor room. Evidence from this exercise showed that women delivering in transit were not being administered Injection Oxytocin as per guidelines as staffs on EMTS were not trained in AMTSL.</td>
<td>QI teams identified Emergency Medical Technician in EMTS, who is a pharmacist by qualification in Uttarakhand, to be trained in administration of Injection Oxytocin to women who deliver in transit. The EMTS coordinator trained Emergency Medical Technician(s) of the district on GOI guidelines related to administration of Injection Oxytocin.</td>
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<td>Load syringes with Oxytocin (10 IU), at the time of perineal bulging and keep them ready for use.</td>
<td>Challenges experienced by the selected facilities in administering Injection Oxytocin in time were -</td>
<td>The labor room staffs were trained to use the time of perineal bulging to load a syringe with Oxytocin and keep it ready in the delivery tray.</td>
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<td>Placement of a clock with seconds hand on the wall of the labor room to guide the staffs on time of administration of Injection Oxytocin.</td>
<td>The staffs used to remove their wrist watch before washing hands in preparation of delivery. In absence of a clock in the labor room and with several tasks competing for attention of labor room staffs immediately post delivery, they often missed administering injection Oxytocin within one minute of delivery.</td>
<td>MOIC of the facility agreed to procure one clock from funds given to the facility. The clock was installed on a wall facing staff attending the delivery. This helped in noting the time of birth and in administration of Injection Oxytocin within one minute of delivery.</td>
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| **Documenting Oxytocin usage in case files as well as delivery register.** | Challenges identified in documenting use of Injection Oxytocin in various selected facilities were –  
- There was no practice in some facilities of recording Oxytocin administration in the labor room.  
- In others, the labor room staffs were either erratically recording administration of Oxytocin in their delivery notes in case sheets or the delivery details were not getting recorded in a single record format but were being reported in different recording sheets. | • The delivery register was updated to provide details of Oxytocin administration, including timing.  
- In some facilities, the column was titled as ‘Inj, Oxytocin 10 IU/IM given within 1 minute’. ‘Yes’ or ‘No’ was written by staff nurses under this header to indicate whether or not she had administered Oxytocin to the mother.  
- The staff, who assisted the delivery, was made responsible to enter the details in the register.  
- Reviews based on documentation helped identify mothers who got missed, establish reasons for the same and take measures to improve the practice. |
| **Ensure recording of administration of Injection Oxytocin by use of rubber stamp on case files of women undergoing C-section with ‘Inj, Oxytocin 10 IU/IM given within 1 minute of delivery of baby’ mentioned on it.** | Due to high caseload, the medical team was missing recording administration of Injection Oxytocin to women who underwent C-section. | A rubber stamp embossed with ‘Injection Oxytocin 10 IU/IM given within 1 minute of delivery of baby’ was kept in Operation Theatre. OT staff nurses were oriented to put the stamp on the files of C-section patients who were administered Injection Oxytocin. The anesthetists/gynecologist verified the records. |
| **Handwritten notes or posters, printed on flex, with instructions on Oxytocin administration placed in line of sight, like wall in the labor room or nursing stations, to act as visual reminders.** | • Staff nurses, who worked in different shifts, were not knowledgeable about the guidelines on Oxytocin administration.  
- The staffs in labor room, even after orientation on administering Injection Oxytocin, required regular reminders and reference to specific actions they need to take to sustain the practice. | • Details on Oxytocin dosage, timing and method of administration were translated into local language, either written on paper or printed on flex and pasted in the labor room and at the nurses’ duty station. This served as a ready reckoner for nurses on duty in the labor room.  
- Sites for placing the reckoner were decided in consultation with the medical officer in-charge (MOIC). |
| **A collection of all change ideas being implemented in the facility called Mujhe Bhi Batao (Tell me too!) register to be used as reference.** | The nursing staffs of one shift would some time miss reminding the nursing staff of the subsequent shift about the change idea. A ready reference of all change ideas would also facilitate newer staff to learn the practices in place in the facility. | A register was introduced to record all change ideas and how it will get implemented in their facility. This register was called as Mujhe Bhi Batao (Tell me too!) register. The register was made accessible to all staffs, who would not only record the change ideas agreed to and introduced in the facility but also refer to it regularly for any updates. |
| **Timely indenting of Injection Oxytocin by the labor room staff.** | There were cases when Oxytocin stock in the labor room 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 in the labor room, was set up to ensure 24 x 7 availability of Injection Oxytocin in the labor room. |
| **Planned procurement (in time and in adequate quantity) of Oxytocin to ensure 24 x 7 availability.** | The procurement was being done only on report of stock-out, which caused delays, sometimes as long as a couple of weeks, in replenishment of Injection Oxytocin. This led to Oxytocin not being administered to a number of women immediately post delivery. | The staffs involved in procurement were oriented to estimate average monthly use of Injection Oxytocin in their facility based on utilization of preceding months. They were oriented to use this information for establishing a buffer stock of one month for Injection Oxytocin in their facility and a benchmark level when they shall place order for fresh stock. In some facilities, the staffs kept three months of Injection Oxytocin supply in stock. This strengthened the stock ordering mechanism in their facility and minimized delays in stock replenishment. |
| **Improvement in storage of Oxytocin to minimize loss due to loss of efficacy and/or breakage of vials.** | Vials of Injection Oxytocin were not stocked in safe location and in correct temperature. | • The refrigerator available in the facility was relocated to the labor room for keeping Oxytocin safe.  
- The MOICs made one of the many vaccine carrier cases available exclusively for storing Injection Oxytocin wherever refrigerator was not available. Ice packs in the vaccine carrier were changed every 24 hours.  
- In some cases, the Oxytocin was kept at the refrigerator in operation theatre (OT), with daily indenting from labor room to OT in-charge and supply from OT to the labor room. |
| **Engaging a female member of the pregnant woman’s family to assist in delivery.** | Often in health facilities, there is only one staff available at the time of delivery, which does not provide opportunity to the staff to take care of mother as well as the newborn. | Medical staffs of the health facilities were oriented to involve female family members of the pregnant woman as attendants for newborn. This freed up their time to administer Oxytocin to the mother. |
| **Placement of an additional staff in the labor room –  
- Auxiliary Nurse Midwives (ANMs) from feeding sub-centers, placed on rotational basis, to assist labor** | Most facilities had only one nursing staff to assist delivery as well as to deliver newborn care services. Staff nurses would often miss administering Injection Oxytocin within one minute of delivery to mothers when she had to handle a neonatal emergency. | • MOIC of the facility assigned ANMs working in the peripheral sub centers on rotation basis to the facility labor room in order to assist the primary staff nurse in handling deliveries and administering Injection Oxytocin when the nursing staff was busy with neonatal emergencies. |

The USAID ASSIST Project also acknowledges contribution of facility managers and health service providers who, as members of the quality improvement teams, initiated and implemented change ideas to improve quality of healthcare services in their facilities.
## Change idea

- Room staff in assisting delivery:
  - The students of General Nurse Midwifery (GNM) course were used at the labor rooms in district hospitals to make up for the additional staff requirements.

- Including OT staff nurse/attendant in QI team to enhance administration of Oxytocin for lower segment Caesarian section (LSCS) cases.

- Making the practice of using Injection Oxytocin for prevention of atonic PPH as per GOI guidelines an integral part of care for mothers in the facility.

## Logic for change

- It was observed that administration of Injection Oxytocin for prevention of atonic PPH in LSCS cases was getting missed as OT staff, especially anesthetists, were reluctant to remove sterile drapes in order to give intra gluteal/ antero-lateral thigh injections. With around 25-30% of deliveries undergoing LSCS, this was a significant number missing Oxytocin.

- Written instructions from the MOIC to medical and nursing staff for using Injection Oxytocin within one minute of delivery and for adhering to the standard operating procedures set in place the institutionalization of this practice.

- An OT staff nurse/attendant was involved in the QI team and oriented on the relevance of administering Injection Oxytocin within one minute of delivery to prevent atonic PPH and ensure that the Oxytocin is administered in LSCS cases.

- The syringe was prefilled, kept in the tray and administered IM, intra deltoid (anterior shoulder) by the anesthetist/OT assistant as soon as the baby was delivered which did not require removal of drapes.

## How the change happened

- The Civil Surgeon, on request of medical officer in-charge (MOIC) of the facility, approved placement of GNM students in the tertiary care facilities, so that there are at least two staff in the labor room for each shift.

- SBA trained staff were moved from low load facilities in the district to those facilities where delivery load was high.

- An OT staff nurse/attendant was involved in the QI team oriented on the relevance of administering Injection Oxytocin within one minute of delivery to prevent atonic PPH and ensure that the Oxytocin is administered in LSCS cases.

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## Proportion of vaginal deliveries for which uterotonic was administered within one minute of birth

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## Abbreviations

- AMTSL: Active Management of Third Stage of Labor
- ANM: Auxiliary Nurse Midwife
- ASSIST: Applying Science to Strengthen and Improve Systems
- BHT: Bed Head Ticket
- CHC: Community Health Center
- EMTS: Emergency Medical Transport Services
- GNM: General Nurse Midwife
- GOI: Government of India
- IM: Intramuscular
- IU: International Units
- IV: Intravenous
- LSCS: Lower Segment Caesarian Section
- MHH: Maternal and Newborn Health
- MOIC: Medical Officer In-Charge
- NMH: National Health Mission
- OT: Operation Theater
- PPH: Postpartum Hemorrhage
- QI: Quality Improvement
- SBA: Skilled Birth Attendant
- USAID: United States Assistance for International Development
- WHO: World Health Organization

## References

2. Ibid reference 1
3. The Civil Surgeon in Jharkhand is equivalent to a Chief Medical Officer or a Chief Medical and Health Officer, the most senior official in a district administering public health services.

## 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.

## Disclaimers

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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.