

Prasav Parivahan Seva: Lessons from an Integrated Transportation Service for Mothers and Newborns in Jhansi District, Uttar Pradesh

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Background

With a maternal mortality ratio of 359¹ and a neonatal mortality rate of 40² Uttar Pradesh (UP) contributes close to 30% of maternal and neonatal deaths in India. Many of these deaths occur due to lack of timely access to an appropriate health facility. Although the National Rural Health Mission (NRHM) advocates for institutional delivery, women from rural, remote, and disadvantaged families in UP face numerous difficulties in finding and obtaining affordable transportation to appropriate facilities for delivery or for obstetric or neonatal complications. As a result, many women deliver at home with untrained personnel, leading to poor maternal and newborn health outcomes.

Data from a household survey in UP's Jhansi district in 2011³ found that 100% of women who had an institutional delivery (normal or Caesarean section) arranged their own transport and only 57% used a motorised vehicle to reach the health facility. The survey also revealed that, for normal delivery, the median post-delivery stay at a facility was only three hours, causing mothers and neonates to miss essential postnatal care. The majority of respondents cited "lack of money to arrange a drop-back service on a later date" as the reason for their short stay, and reported that they had returned home soon after delivery using the same vehicle they had hired to reach the facility.

To strengthen emergency medical transportation services (EMTS) in Jhansi district, the Manthan Project, funded by the Bill & Melinda Gates Foundation and led by IntraHealth International, demonstrated the implementation of a free integrated transportation service for pregnant women and newborns through public-private partnership called **Prasav Parivahan Seva** (PPS). The service was designed to provide pick-up before delivery, drop-back after delivery, and referral transport in case of complications through a single point of contact. The Manthan Project collaborated with the Jhansi district administration and the Government of Uttar Pradesh (GOUP) Department of Medical, Health and Family Welfare to operate PPS over a nine-month period from July 2011 through March 2012.

Objectives

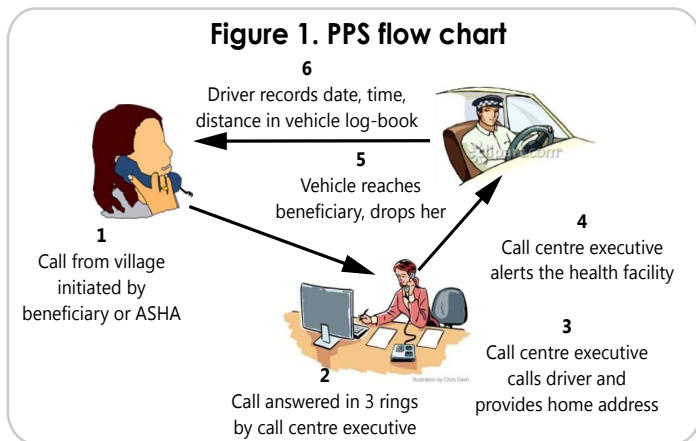
- Demonstrate the effectiveness of an integrated transportation service to increase disadvantaged women's access to institutional delivery.
- Demonstrate the effectiveness of the free drop-back service in increasing the length of postpartum stay following an institutional delivery.
- Document the operational details of implementing a public-private integrated transportation service for mothers and newborns.
- Share lessons learned with the GOUP to inform future scale-up.



Interventions

The Manthan Project implemented PPS as an integrated transportation service for mothers and newborns in the Mauranipur and Bangra blocks of Jhansi district, covering a population of 416,000. The Project opted for a transportation model that would guarantee two basic services: (1) free and timely transportation to a facility for delivery and obstetric emergencies, and (2) free drop-back service after an institutional delivery and postpartum care. Several existing EMTS models informed the design of PPS, most notably the *Janani Express Yojana* (JEY) adopted by the Government of Madhya Pradesh using a public-private partnership approach.

Through a transparent bidding process, the Project contracted a private agency to run four vehicles (two per block); which were on call at all times and stationed at the block primary health centres (PHCs). In collaboration with district authorities, the Project also established a 24-hour call centre at the district hospital to coordinate vehicle operations. On receipt of a call from a family or an accredited social health activist (ASHA), the on-duty call centre executive (CCE) instructed the driver of an available vehicle to proceed to the beneficiary's home (Figure 1). Vehicle drivers carried functional mobile phones to enable contact any time of the day. At the same time, the CCE informed the health facility about the incoming patient.



The Project publicised PPS and the call centre number through community-level posters, banners, leaflets, stickers, and text messages to ASHAs and auxiliary nurse midwives (ANMs). The Project also set up a monitoring system for regular review of the PPS performance.

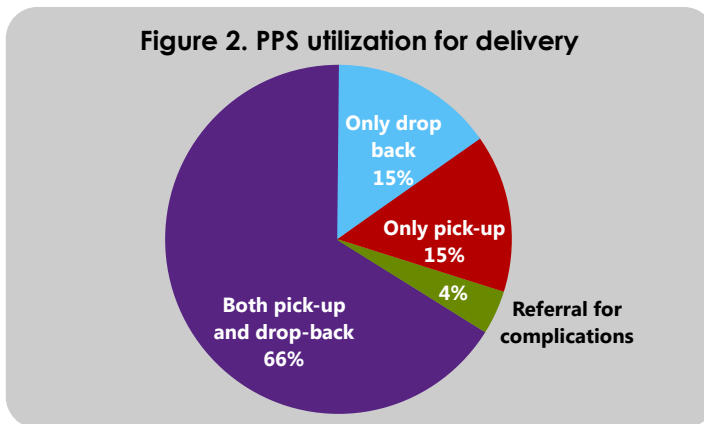
PPS was designed to work within the framework of the existing *Janani Suraksha Yojana* (JSY) scheme, which incentivises women to give birth in health facilities. Under

JSY ASHAs receive a performance payment for institutional deliveries and INR 250 to cover transportation for the beneficiary. If the beneficiary directly pays for the transportation then the ASHA gives the money to the beneficiary. In keeping with this process, under PPS, the beneficiary paid INR 250 to the driver at the time of pick-up and the driver provided a receipt. The ASHA later reimbursed the beneficiary against the receipt so that the service ended up being free. Beneficiaries received the drop-back and referral services free of charge.

Results

Service utilisation for pick-up, drop-back and referrals

Over the nine-month period, PPS served 2,376 beneficiaries and made 3,967 trips. Two-thirds of the women used the service for both pick-up and drop-back (Figure 2). The average time taken from the initial call until the beneficiary reached the facility was one hour and 26 minutes. All pregnant women with obstetric complications (4% of service users) over the nine-month period rode in PPS vehicles for the transfer from the PHC to Jhansi Medical College for referrals.



Greater PPS use among disadvantaged women

PPS benefitted women from poorer families more than women from socioeconomically better-off families. The proportion of PPS users from the poorest families (below poverty line or BPL) and from the historically disadvantaged scheduled castes (SC) or scheduled tribes (ST) was higher (46%) when compared with the overall proportion (37%) of these population groups in Jhansi district. Further, SC/ST groups represent under half (43%) of the district's population but constituted almost two-thirds (64%) of women using PPS. Further, three-fourths of women who used PPS were from small and remote hamlets with limited

access to health services when compared with 26% from villages with better access to facilities. The qualitative statements made by some of the beneficiaries during the endline interviews endorsed these findings (Box 1).

Box 1. Beneficiary Perspectives

“PPS helped me reach the hospital from home quickly. The vehicle arrived within 15 minutes, and I am thankful for this. Last time, I delivered at home because I could not get a vehicle.”

“In our village, it takes 2-3 hours to search for a vehicle..., and then the private drivers ask for an unreasonable amount of money. This vehicle (PPS) comes on time and its rate is fixed, which is very good.”

“PPS is a good option since we paid 1,200 rupees two years back {for transport to a facility} and were worried that this time we would have to pay more.”

“My pain started at night around 2:00 a.m. but we did not face any difficulty as [the] ASHA came immediately and called up the Gadi (PPS vehicle). The real benefit of PPS is time.”

Increased duration of post-delivery stay at facility

Most (86%) women who used PPS stayed in the health facility for more than six hours (Table 1). Interviews with providers and beneficiaries carried out as part of the assessment process revealed that neither group fully understood the benefits of a 48-hour postpartum stay, particularly for normal deliveries. According to respondents, the lack of appropriate infrastructure (i.e., adequate beds, water, toilets, security and electricity) was a major reason for not wanting to remain longer at the PHCs. In addition, the availability of free drop-back services was not sufficient incentive to encourage women to remain for the recommended 48 hours.

Table 1. Duration of post-delivery stay at facility for PPS users

Duration of post-delivery stay	Percentage
Less than 6 hours	14
6-12 hours	47
13-18 hours	23
19-24 hours	8
More than 24 hours	8
Number of PPS users	2,369

Costing

The Manthan Project staff conducted a cost analysis to record the start-up and operational costs associated with PPS. Start-up expenses included call centre set up such as phone line, furniture, publicity, and vehicle branding. Recurring costs included CCE salaries, office supplies, and vehicle operator payments, which was paid as a fixed rate per kilometre (km). Factoring in all initial and recurring

expenses, the average total cost of PPS was INR 14 per km, with an average trip cost per pick-up or drop-back of approximately INR 450 (Table 2). Not surprisingly, the cost of referral trips was higher because of the greater distance involved. Using the total cost per km as a basis for extrapolation to the entire district, PPS could be scaled up in all blocks of Jhansi district at an estimated cost of INR 13 per km. This estimate could be reduced further by establishing a state-level call centre that could serve multiple districts rather than incurring the expense of establishing a call centre in each district.

Table 2. Average cost per trip, by type of service

Type of service	Distance per trip (km)	Average cost per trip (Rs. 14.1 x distance in km)
Pick-up	30.3	427
Drop-back	32.3	455
Referral	125.1	1,764

Technical Assistance to GOUP

Based on the positive experiences described above, the Manthan Project supported the GOUP in developing operational guidelines to roll out *Uttar Pradesh Ambulance Services* in August 2012. The Project also served as a core member of the EMTS working group under the leadership of the NRHM director, and supported the development of a roadmap for implementing comprehensive emergency transportation services.

Lessons Learned and Recommendations

The *Prasav Parivahan Seva* experience highlighted four key lessons and corresponding recommendations for existing and future EMTS.

IntraHealth International's mission is to empower health workers to better serve communities in need around the world. IntraHealth fosters local solutions to health care challenges by improving health worker performance, strengthening health systems, harnessing technology, and leveraging partnerships.

The Purpose of the Manthan Project (2009-2013) is to support the Government of Uttar Pradesh to improve maternal and newborn health outcomes in the state through the development and adoption of effective operational strategies to increase coverage of evidence-based interventions within the National Rural Health Mission.

1. A public-private partnership model is a viable option for delivery of EMTS.

The PPS experience reinforced existing evidence in support of a public-private partnership model for providing EMTS. PPS demonstrated that local administrative and health authorities could implement EMTS effectively with local private operators.

2. A centralised call centre is important for effective management of EMTS.

The PPS experience suggests that a functional centralised call centre is critical for managing all aspects of transportation service implementation. Management responsibilities include vehicle coordination, communication with beneficiaries and health facilities, monitoring and tracking, record keeping, ensuring service quality, and preventing vehicle misuse. It is important to regularly monitor PPS performance and provide periodic capacity-building for call centre executives.

3. ASHAs can promote appropriate use of PPS.

ASHAs played a pivotal role in promoting PPS in their communities, especially during the initial period before the PPS publicity gathered momentum. ASHAs guided many beneficiaries to PPS. While initially beneficiaries directly called the PPS for minor ailments, normal ANC checkups and even made unnecessary calls, channelling calls through the ASHAs ensured proper vehicle use.

4. Free drop-back services are not a sufficient incentive to increase postpartum stays.

Although the introduction of free drop-back services through PPS improved the duration of postpartum stays by a few hours, it was insufficient in encouraging women to stay for the recommended 48 hours. Lack of appreciation of the importance of the postpartum stay by both providers and beneficiaries needs to be addressed. In addition, facilities need to provide functional postpartum wards and round-the-clock availability of trained providers to motivate women and their families to remain longer in the facilities for postpartum care.

Conclusions

The Project's support to operating PPS in Jhansi district of UP demonstrated that locally-operated integrated transportation services using government-contracted private vendors can help increase the access of disadvantaged families to facility-based deliveries. Using ASHAs to publicise the service and to channel beneficiaries to the call centre plays a critical role in appropriate use of the transportation service. Given that GOUP has already initiated state-wide scale-up of PPS, increasing efforts for creating awareness about benefits of postpartum care at the facility can potentially contribute significantly to improve maternal and newborn care outcomes in the state.

References

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- ²Office of Registrar General, India. 2013. Sample registration system Statistical Report 2011. Report no. 1 of 2013.
- ³Khan Nizamuddin et al. 2011. Improving Maternal and Neonatal Health in Northern India: Findings from Household Survey in Bahraich and Jhansi Districts. The Manthan Project. IntraHealth International.

The Manthan Project is led by IntraHealth International and funded by the Bill & Melinda Gates Foundation. For more information on the Manthan Project, visit www.intrahealth.org/manthan

Project Partners:

