

The primary causes of maternal mortality are prolonged labor and obstructed labor (Ali et al., 2010). In order to reduce labor complications, the WHO universally recommends use of the partograph, a low-tech paper form that has been hailed as an effective tool for the early detection of maternal and fetal complications. Yet despite decades of training and investment, implementation rates and capacity to correctly use the partograph remain low in resource-limited settings. The partograph's complicated multi-axis graph makes it especially difficult for health workers, such as intrapartum care providers, with limited training to use it, resulting in limited adoption and proficiency among healthcare providers (Fistula Care, 2011).

## Benefits of Dimagi's Technology For Labor Monitoring

Through an iterative process of user-focused design, Dimagi's technology aims to reduce the partograph's barriers by focusing on improving interpretability, applicability, time, and minimizing complexity. The Mobile Partograph acts as a job aid by prompting intrapartum care providers to report the necessary information at the appropriate time while calculating and producing timely reports on labor status.

## Health Clinics and Supervisors

Health clinics receive partographs that are filled out after the labor, and data takes too long to reach decision makers such that up to date statistics are not always available.

- **Real-time data reporting** enables supervisors to **detect data irregularities** and observe whether recommended actions were taken, including identifying providers whose clinical practices in labor monitoring and management need improvement.
- Algorithms are capable of detecting post-labor use, for increased **accountability**.
- Live partograph reports enable district health centers and Ministries of Health to **view and monitor** complete labor records, including the full computer-plotted partograph.
- Monthly and quarterly reports allow health administrators to **assess labor monitoring**, timely provision of care for abnormal labors, and maternal and fetal health outcomes.
- Key alerts on emergency action can be sent to supervisors, and/or referral facilities, who can provide **immediate back-up support** on appropriate next steps.

## Intrapartum Care Providers

Many intrapartum care providers find the paper partograph challenging to fill in and see it as a burden rather than a job aid, filling it out retrospectively.

- Easy input of labor monitoring data (e.g., cervical dilation, fetal heart rate, status of membranes, amniotic fluid, etc.) in alphanumeric form **improves usability** as compared to paper-based form.
- Data is displayed in graphical or non-graphical format for use by a wide range of health workers
- **Minimal training** is needed due to embedded training videos and quizzes.
- An integrated library of obstetric clinical protocols, such as **WHO and national guidelines**, prompts information entry at appropriate times.
- **Automatic alerts** from data collected during labor and delivery facilitates workflow, and warnings when data entered falls beyond set parameters support intrapartum care providers to maintain data accuracy.
- Up to date information about available referral facilities informs **decision-making** to transfer a patient.

## Highlighted Projects

### **Mobile Partograph, India**

Key alerts on urgent emergency action are sent to supervisors, staff, and/or referral facilities, who can provide back-up advice on appropriate next steps by making immediate phone calls to providers. Monthly and quarterly reports are generated for health administrators to assess labor monitoring, timely provision of care for abnormal labors, and maternal and fetal health outcomes.