

## Integrated Medical Information and Disease Surveillance with biometric Monitoring system at Primary Health Centre in Karnataka

### Introduction

In 2010, the Government of Karnataka developed the Integrated Medical Information and Disease Surveillance System (“IMIDSS”) to address absenteeism in PHCs and patient tracking. A biometric monitoring system that objectively records attendance and reports it to supervisors in real-time was installed, combined with a robust system of incentives and penalties for unauthorized absences, led to an improvement in staff attendance and patient health.

### Implementation of the practice

From a sample of 322 PHCs across five socio-economically diverse districts, 140 were randomly selected to receive IMIDSS while the remaining 182 continued with the status quo paper system. PHCs in the treatment group were equipped with an IMIDSS device, consisting of a fingerprint reader and a multi-purpose mobile phone (J-PAL, 2020). The device was used to record staff attendance via thumb impression at the beginning and end of each day. It was also capable of recording details about cash benefits paid to patients along with photographs and signatures and thumb impressions of beneficiaries taken at the clinic, and statistics regarding the number of patients seen and the diseases treated. In practice, it was primarily used for attendance monitoring (J-PAL, 2020).

### Results of practice – outputs and outcomes

- The monitoring system increased attendance among nurses, lab technicians, and pharmacists
- Even though the official leave policy was not strictly enforced, the monitoring system increased medical staff attendance by 5.5 percentage points (15 percent) from a base of 37 percent among medical staff. It had the greatest impact on nurses, lab technicians, and pharmacists (a 7%-point increase from a base of 40 percent), but virtually no effect on doctors (J-PAL, 2020).
- The new monitoring system led to improved antenatal care and infant health. Pregnant women in treatment PHCs were 11 percentage points (27 percent) more likely to receive recommended Iron Folic Acid tablets, compared to 39 percent of the comparison group (J-PAL, 2020).
- Mothers in treatment at PHCs were 8 percentage points (16 percent) more likely to have their baby delivered by a doctor, compared to 50 percent of the comparison group. Their newborn children were 4.6 percentage points (26 percent) less likely to be born underweight, compared to 18 percent of the comparison group, and weighed 67 grams more on average.

### Lessons Learnt

- The monitoring system increased the attendance among nurses, lab technicians, and pharmacists
- The system did not have much effect on doctors

## Conclusion

The initiative can be replicated in other states for monitoring staff attendance by regularly recording the attendance and leaves at all levels.

## Further Readings

- i. <https://openknowledge.worldbank.org/bitstream/handle/10986/18408/882680PUB0978100Box385205B00PUBLIC0.pdf#page=215>
- ii. <https://www.povertyactionlab.org/evaluation/evaluating-karnataka-integrated-medical-information-and-disease-surveillance-system>