

# Postpartum Hypertension Management

## Engaging Patients in Text-Based Remote Monitoring

### SUMMARY

Through dramatic improvements in patient engagement, health care providers can now access the right data at the right time to prevent readmissions and maternal morbidity from postpartum hypertension. Our newly developed model for remote blood pressure (BP) monitoring already has 69% of enrolled patients sharing a daily BP reading with their provider on five out of seven days post-discharge, compared to 0% of patients in the standard model of care.

### HEALTH AND COST BURDEN

- Preeclampsia is a disorder of pregnancy resulting in hypertension and proteinuria after 20 weeks gestation. It manifests as significant elevations in BP and may take several weeks to fully resolve following delivery.
- Preeclampsia affects 5-10% of all pregnancies. Incidence has increased by 25% in the past two decades.
- Preeclampsia accounts for nearly 20% of maternal mortality and tremendous avoidable cost.
- Hypertension is the leading cause of seven-day readmissions post-delivery.

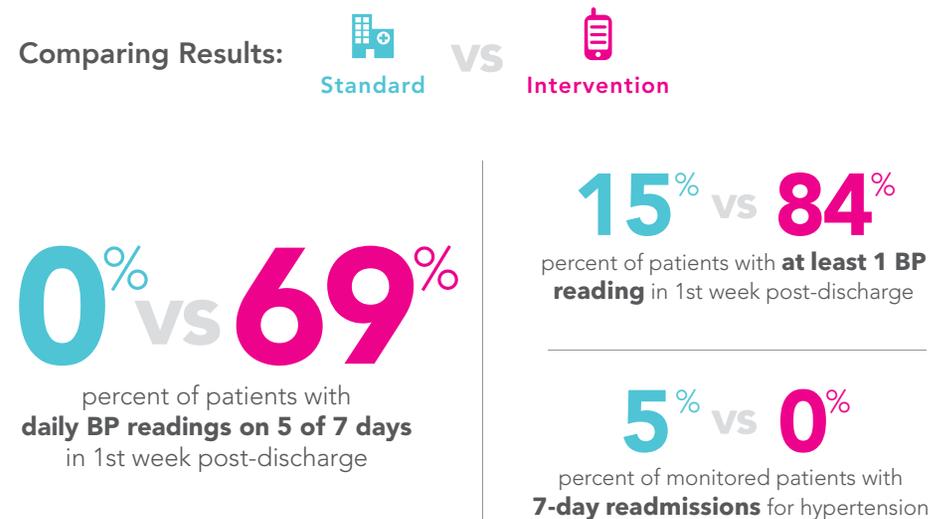
### DATA GAPS

Optimal postpartum follow-up identifies patients when intervention is early enough to prevent morbidity and mortality. The majority of problems from postpartum hypertension occur in the first seven days post-discharge. Currently, there is no way to know early indicators of risk during the first week post-discharge. In the standard model of care, patients attend a one-time, in-person clinic visit for a BP check. The clinic takes place every two weeks, which is too late for effective intervention, and even then, the show rate for the visit is just 30%.

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### RIGHT DATA, RIGHT TIME

We discharged new mothers with electronic BP monitors and asked them to text us their BP every day for the first seven days post-discharge. We sent them reminders each day via text message. Patients texted in their BP results, which were reviewed by an Ob/Gyn physician. Patients with elevated BPs were addressed within 24 hours.



### TOWARDS SCALE

We are now testing a scalable model using programmatic texting to automate sending reminders, respond to incoming messages with a clinician-developed algorithm, and flag incoming messages for priority response.

- Text-based remote monitoring data from pilot studies of postpartum patients at the Hospital of the University of Pennsylvania (N=32).
- BP clinic data from the Hospital of the University of Pennsylvania for Fiscal Year 2014.