

Interventions to Reduce Post-Partum Readmissions in Patients with Hypertensive Disorders of Pregnancy at Denver Health: A Work In Progress Quality Improvement Study

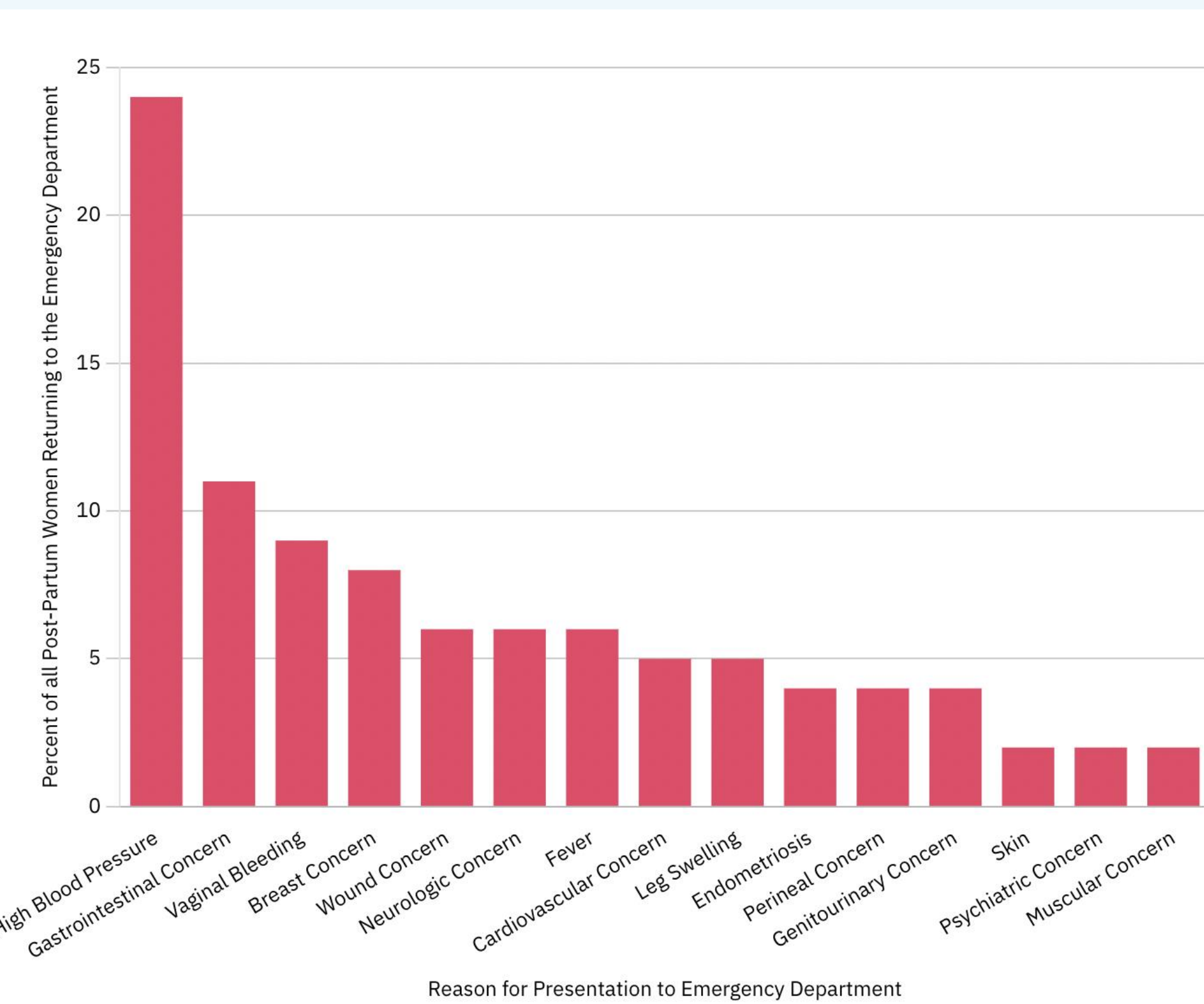
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Background

The post-partum period (the period after person gives birth) is a critical time frequently complicated by hospital readmissions (6). One of the main drivers of readmission is uncontrolled hypertension also known as high blood pressure. The risk of elevated blood pressure (BP) often peaks within the first week post-delivery, a vulnerability not always captured by standard follow-up (1,2). Poorly controlled high BP does not only increase the risk and burden of hospital readmission but may result in severe acute maternal risks (e.g., stroke, heart failure) and long-term cardiovascular disease (3, 4). This clinical failure is compounded by significant economic burden; readmissions for HDP have nearly doubled in recent years, contributing to hundreds of millions in annual healthcare costs (5). Addressing this morbidity and cost requires a shift from reactive care to proactive, protocol-driven outpatient BP management.

Figure 1. Most Common Reasons Women Return to the Emergency Department Within 42 Days of Giving Birth



Original figure created by the author for this presentation, data based on Corry-Saavedra et al. (6)

Objective

To implement and evaluate a comprehensive quality improvement (QI) initiative aimed at reducing the 42-day (6 week) readmission rate for hypertension (high blood pressure) and/or hypertensive related complications in post-partum patients at Denver Health.

Methodology

This project is a Quality Improvement initiative (a project which seeks to improve patient outcomes by using evidence-based strategies). It will be conducted in two phases at Denver Health Department of Obstetrics and Gynecology.

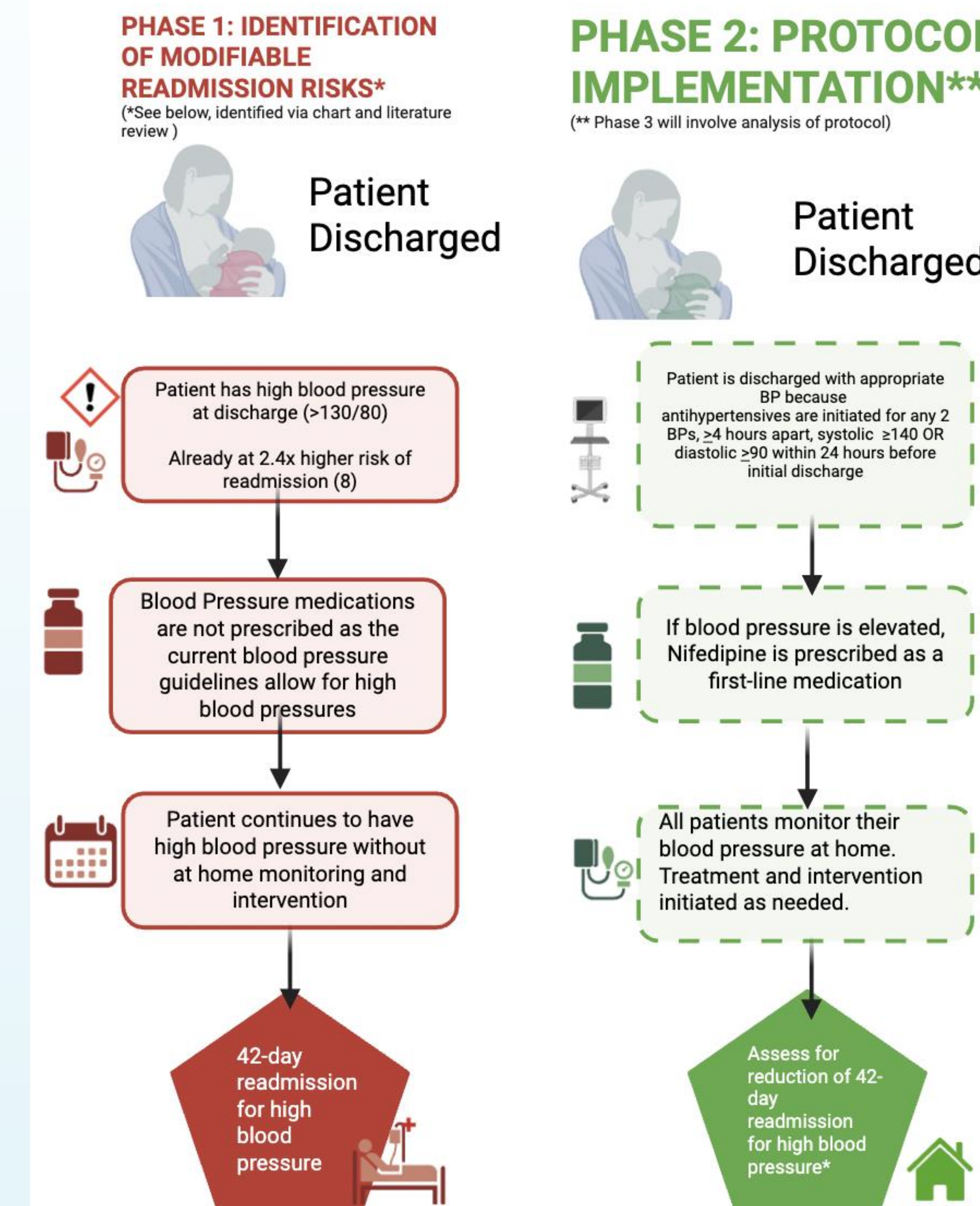
Phase 1 involves an in-depth chart review (investigation of medical records) of patients who delivered to Denver Health between 2023 and 2025 and who have been readmitted within 42 days for hypertension (high blood pressure) or related concerns. Phase 1 also includes an external/nationally based data search via literature review of similar quality improvement and research studies. Based on the internal data pull modifiable risk factors will be identified and compared with the literature review. At this time, certain anticipated modifiable risk factors will be screened for. These include: blood pressure during patient's delivery admission including within the 12-24 hours prior to discharge, types of antihypertensives (blood pressure medications) that patient was taking to control blood pressure and patient's prenatal course (1, 7, 8, 9). Known non-modifiable risks will also be identified which include factors such as age, race, insurance type, language, change in weight during pregnancy, body mass index, type of hypertensive diagnosis (there are many which include chronic hypertension, gestational hypertension, pre-eclampsia and pre-eclampsia with superimposed hypertension), length/complications of stay, mode of delivery, parity (number of prior children) and gestational age (7, 9).

Phase 2 will involve the implementation of a targeted, evidence-based intervention package informed by a literature analysis in combination with internal data. At this time the main interventions being considered have been identified via literature review and include:

1. Strict Discharge Criteria: maintenance of appropriate BP (blood pressure at a goal of <130/90) for 12 hours prior to discharge (1,10).
2. Use of Nifedipine (a blood pressure medication) as the first line treatment for high blood pressure (11,12, 13).
3. Remote Monitoring: Enrollment in a daily remote BP monitoring program with associated guidelines to treat persistently elevated blood pressure (>130/90). This allows better ability to obtain an early post-discharge blood pressure (within 72 hours) and to treat if needed (14, 15).

Further intervention planning will occur after internal data is pulled and analyzed.

Figure 2. Preliminary Approach: Standardizing the Postpartum Discharge Process to Reduce Readmission Risk



Original figure created by the author for this presentation, data for readmission risk and proposed interventions are based on nationally published literature (1,8, 10, 11,12,13,14,15). Please see Methodology for a more detailed breakdown of literature.

Anticipated Results

At this time, we are in Phase 1 of the study and are still completing a chart review to further guide interventions in Phase 2. We have identified some national factors that can reduce readmissions. With implementing the national and local factor changes, we anticipate to show a statistically significant reduction in 42-day readmissions for hypertensive crises following implementation of the protocol.

Conclusion

Per above, we are still in Phase 1 of the study and are still working out exact plans for Phase 2. However, the goal is: implementation of a standardized, multi-modal protocol, developed after identifying readmission risk factors, is expected to be an effective strategy for mitigating post-partum readmissions for hypertensive disorders.

Summary

We are studying why new mothers are readmitted to the hospital for high blood pressure (BP), which often spikes days after delivery. After analyzing our data, we plan to implement a new program using remote BP monitoring, quicker BP treatment, and clear medication plans. This aims to significantly cut down on readmissions and protect maternal health.

Citations

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