



CASE STUDY WOMEN'S HEALTH



# Improving Detection and Management of Postpartum Hypertension

**203%** INCREASE in hypertension screening

**55%** DECREASE in 30-day readmissions

**49%** REDUCTION in readmissions among Black women

**91%** Patient engagement

## CLINICAL PRIORITY

Clinical leaders at ChristianaCare sought to improve early detection of postpartum hypertension by overcoming low attendance for follow-up office visits. Women with high blood pressure comprised the majority of postpartum readmissions, and there was a notable racial disparity — Black women were readmitted twice as often as Caucasian women.

The team evaluated historical data to understand barriers associated with a 30% postpartum office visit rate. Patients reported challenges with the time and resources required to travel to appointments, feelings of exertion associated with the effort, and perceived low benefit from the visit.

## APPROACH

ChristianaCare deployed Twistle by Health Catalyst's remote patient monitoring platform to engage new mothers after discharge. Patients receive a five- to ten-minute overview of the program and a tutorial on remote patient monitoring equipment prior to discharge. Educational messages and assessment forms are automatically sent to each patient's mobile phone on a prescribed schedule.

Automated replies for responses that are in a normal range offer immediate reassurance. Abnormal responses are escalated to the care team for follow-up, providing an opportunity to titrate medication before the patient requires admission for hypertensive crisis. Open bi-directional texting solidifies engagement, builds trust, and helps the care team identify other concerns, such as lactation issues.

*The program works because of the radical convenience. Our patients love the ability to monitor their blood pressure from the comfort of their own homes, and without having to leave their newborn for a simple blood pressure check. We have had so much positive feedback from patients, doctors, and staff.*

Matthew Hoffman, MD, MPH, FACOG  
MARIE E. PINIZZOTTO, M.D., ENDOWED CHAIR  
OF OBSTETRICS AND GYNECOLOGY AT CHRISTIANACARE

ChristianaCare is a minority investor in Twistle.

*Nighttime automatic notifications have literally saved women's lives by telling them to report immediately to the hospital for an abnormally high blood pressure. That's one example of how our mission drives superior women's health.*

**Kate Rudolph, MS**  
CORPORATE DIRECTOR, MEDICAL GROUP OPERATIONS, WOMEN'S HEALTH

## STUDY DESIGN

The team implemented a text-based remote monitoring program modeled after a University of Pennsylvania study<sup>1</sup>, which concluded that text-based monitoring is more effective in obtaining blood pressures and meeting current clinical guidelines in the immediate post-discharge period.

A total of 800 patients were enrolled in the ChristianaCare postpartum hypertension monitoring program from February 2019 through May 2020.

## RESULTS

The program has successfully reduced post-partum hypertension-related readmissions and eliminated long-standing racial disparity.

While only 30% of patients attended postpartum office visits, the remote monitoring program drove 91% of new mothers to submit at least one blood pressure reading (a 203% increase), and 70% of patients to engage in the full 10-day protocol. ChristianaCare has expanded the duration of the home monitoring program from 10 days to 42 days based upon patient feedback. The additional time supports each patient's care transition to their primary physician group, or the identification of a primary care provider for those without one. The goal of long-term management of high blood pressure is to reduce the incidence of stroke and death in women.

The remote monitoring program has enrolled an average of 42 mothers per month and reduced readmissions by 55%, from an average of 6 each month to 2.7. Among Black women, the readmission rate has dropped from 61% to 31%, a 49% decrease.

<sup>1</sup>Comparing standard office-based follow-up with text-based remote monitoring in the management of postpartum hypertension: a randomized clinical trial. Hirshberg A, et al. *BMJ Qual Saf* 2018;27:871-877. doi:10.1136/bmjqs-2018-007837



## ABOUT CHRISTIANACARE

Headquartered in Wilmington, Delaware, ChristianaCare is one of the country's most dynamic health care organizations, centered on improving health outcomes, making high-quality care more accessible and lowering health care costs. ChristianaCare includes an extensive network of outpatient services, home health care, urgent care centers, three hospitals (1,299 beds), a free-standing emergency department, a Level I trauma center and a Level III neonatal intensive care unit, a comprehensive stroke center and regional centers of excellence in heart and vascular care, cancer care and women's health. ChristianaCare is a nonprofit teaching health system with more than 260 residents and fellows. With the unique CareVio data-powered care coordination service and a focus on population health and value-based care, ChristianaCare is shaping the future of health care.

## ABOUT TWISTLE BY HEALTH CATALYST

Twistle automates patient-centered, HIPAA-compliant communication between care teams and patients to transform the patient experience, drive better outcomes, and reduce costs. Twistle offers "turn-by-turn" guidance to patients as they navigate care journeys before, during, and after a care episode. Patients are engaged in their own care and follow best practices, communicate as needed with their care teams, and realize measurably better outcomes. Twistle integrates sophisticated automation with multi-channel communication, engaging patients through secure text messaging, interactive voice response, patient portals, or the health system's digital applications.