Original Research

Association of a Remote Blood Pressure Monitoring Program With Postpartum Adverse Outcomes

Adi Hirshberg, MD, Yifan Zhu, PhD, Aaron Smith-McLallen, PhD, and Sindhu K. Srinivas, MD, MSCE

OBJECTIVE: To use administrative claims data to evaluate the association of a remote blood pressure monitoring program with adverse postpartum clinical outcomes in patients with a hypertensive disorder of pregnancy.

METHODS: This was a retrospective cohort study of Independence Blue Cross members with a hypertensive disorder of pregnancy diagnosis across three obstetric hospitals from 2017 to 2021. Patients who were enrolled in twice-daily text-based blood pressure monitoring for 10 days postpartum were compared with two propensity-score matched cohorts of patients who met the program criteria: an asynchronous cohort (cohort A), consisting of patients at any of the three participating hospitals before remote monitoring program implementation, and a contemporaneous cohort (cohort C), consisting of patients at other hospitals during the same time period as clinical use of the program. Patients with less than 16 months of continuous insurance enrollment before delivery were excluded. Claims for adverse clinical outcomes after delivery discharge were evaluated. Health care service utilization and total medical costs were evaluated.

RESULTS: The 1,700 patients in remote blood pressure monitoring program were matched to 1,021 patients in cohort A and 1,276 in cohort C. Within the first 6 months after delivery, patients enrolled in remote monitoring were less likely to have the composite adverse outcome than those in cohort A (2.9% vs 4.7%; OR 0.61, 95% CI 0.40–0.98). There was no statistically significant difference relative to cohort C (3.2% vs 4.5%; OR 0.71, 95% CI 0.47–1.07). The remote monitoring group had more cardiology visits and fewer postnatal emergency department (ED) visits and readmissions compared with both comparison cohorts. Reductions in ED visits and readmissions drove overall lower total medical costs for the program cohort.

CONCLUSION: Patients enrolled in a remote blood pressure monitoring program were less likely to experience an adverse outcome in the first 6 months after delivery. Reductions in ED visits and readmissions resulted in lower postpartum total medical costs compared with both control cohorts. Broad implementation of evidence-based remote monitoring programs may reduce postpartum adverse outcomes, thereby reducing morbidity and mortality in populations such as the one studied here.

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From the Division of Maternal Fetal Medicine, Department of Obstetrics and Gynecology, University of Pennsylvania, and Independence Blue Cross, Philadelphia, Pennsylvania.

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Corresponding author: Adi Hirshberg, MD, Division of Maternal Fetal Medicine, Department of Obstetrics and Gynecology, University of Pennsylvania, Philadelphia, PA; email: adi.hirshberg@pennmedicine.upenn.edu.

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Hypertensive disorders of pregnancy are associated with significant postpartum morbidity and mortality and are responsible for about 10% of the 700 maternal deaths in the United States every year.[1] Although delivery starts to reverse the consequences of preeclampsia, it can take months for blood pressure to normalize. Blood pressure peaks in the first week after delivery, specifically 3–7 days postpartum,[2] placing postpartum individuals at risk of related morbidity such as stroke and seizure in the days after discharge.[3]

Given this timing of peak blood pressures after delivery and risk of progression to more severe disease, the American College of Obstetricians and

Gynecologists recommends postpartum blood pressure monitoring at 72 hours and again 7–10[4] days. Traditional care delivery involves patients returning to the office for in-person blood pressure checks in this time frame. We developed a postpartum remote monitoring program to capture blood pressure data after discharge and facilitate timely intervention. Through the program, patients receive twice-daily text message reminders to check their blood pressure for 10 days after discharge after a delivery. Patients then check their blood pressure using a hospital-provided monitor and text back their result. Based on a predetermined algorithm, automated feedback is provided to the patient, and health care professionals are simultaneously alerted to values that require intervention. Prior studies show that such programs increase blood pressure ascertainment within 10 days of delivery, reduce racial disparities in postpartum hypertension surveillance, decrease postpartum readmissions, and increase postpartum visit attendance.[5–8]

Although results from these studies are promising, they were unable to evaluate the association of such programs with adverse postpartum clinical outcomes and costs through 1 year postdelivery. An analysis of a different remote monitoring program for postpartum hypertension study showed that a similar program is both cost effective and cost saving from a hospital perspective.[9] However, the aforementioned study was a cost-analysis based on inputs and assumptions extrapolated from literature and was focused on readmission rates. The purpose of the current study was to evaluate the association of a text-message based remote blood pressure monitoring program with adverse postpartum clinical outcomes and costs in patients with a hypertensive disorder of pregnancy. We hypothesized that program enrollment would result in decreased adverse outcomes and health care costs due to the potential for early intervention and improved transitions of care, compared with two matched control groups.

METHODS

We performed a retrospective cohort study of patients across three Penn-Medicine affiliated obstetric hospitals who were diagnosed with hypertensive disorders of pregnancy with a delivery from September 2017 to April 2021 and had medical coverage through Independence Blue Cross (Independence). These patients were diagnosed with gestational hypertension; preeclampsia; chronic hypertension with superimposed preeclampsia; hemolysis, elevated liver enzymes, and low platelet count (HELLP) syndrome; or eclampsia based on American College of Obstetricians and Gynecologists criteria at the time of their delivery admission.[9] We excluded members who had less than 16 months of continuous insurance enrollment before delivery, because continuous coverage allows for better estimates of cost and health care utilization differences. We also excluded patients who incurred more than $12,500 in total medical costs per member per month (PMPM) in the prenatal period, because those outliers in the top 1% of cost do not represent the more typical patient and large variance in cost and potential regression to the mean could dilute estimates of the program effect on cost. Patients with multiple deliveries during the study time frame were only included once.

Program details were previously published[5] but are summarized again here. Enrollment in the remote monitoring program is based on the presence of a hypertensive disorder of pregnancy and consent to partake in Health Insurance Portability and Accountability Act–compliant text-message exchange. Patients in the remote monitoring program receive an automated blood pressure monitor and are instructed on use before discharge. The remote monitoring program involves patients receiving text message reminders at 8 a.m. and 1 p.m. to check their blood pressure and to send a text message of their readings within the two time windows, 8 a.m.–1 p.m. and 1 p.m.–6 p.m., although patients can send in readings any time of day with response. Based on a predetermined algorithm, automated feedback is provided to the patient, and health care professionals are simultaneously alerted to values that require intervention. Immediate patient evaluation by telephone is provided for severe hypertension readings, and patients with blood pressures of 150–159/100–109 receive same-day phone calls. Based on the evaluation, the health care professional will then initiate oral antihypertensive medications, increase a previously prescribed dose, or refer the patient to in-person emergency evaluation. All patients, regardless of discharge day or mode of delivery, complete 10 days posthospital blood pressure monitoring, because the program is triggered to start with the discharge order in the electronic medical record. Although the program is offered as standard of care, enrollment ultimately is voluntary. However, data over the 5 years since implementation suggest that more than 99% of eligible patients enroll. Ninety percent of patients sent a text for at least one blood pressure reading, and more than 80% of patients sent in multiple blood pressure readings over the 10-day period.

The program treatment assignment is based on an individual's baseline characteristics and is not random. To minimize the potential bias in estimating the treatment effect, we created two comparison groups based on a propensity score, where balance was achieved between the control and treatment groups in terms of pretreatment covariates. The asynchronous comparison group (cohort A) included members who met remote monitoring program inclusion criteria at any of the three participating hospitals between August 2015 and August 2017, before the program was implemented. The contemporaneous comparison group (cohort C) was comprised of members who also met the program's inclusion criteria but delivered at hospitals other than the three intervention hospitals during the same time that the program was used as standard clinical care. Balancing the preintervention confounders through propensity scores enabled us to achieve a quasi-randomization. Postpartum blood pressure monitoring timing and frequency in cohorts A and C was at the discretion of the practitioners.

We matched the two comparison groups to the treatment group, one-to-one, without replacement, on the following measured pretreatment variables: age, race, ethnicity, delivery month, prenatal total medical cost, DxCG (Diagnostic Cost Group) risk score,[10] and preexisting chronic conditions (hypertension, diabetes, cardiovascular conditions, depression, and anxiety disorder). The DxCG risk score is a commercially available score that estimates financial risk based on demographic characteristics and historical diagnoses and procedures. We chose to include race and ethnicity as variables given a prior study that suggests the blood pressure monitoring program reduced disparities in blood pressure ascertainment[6]; however, this should not be interpreted as a biological determinant of outcomes of interest. We excluded potential colliders and intermediates in the propensity score model because they increase bias.[11] The propensity score was calculated using a logistic regression model where treatment status is regressed on the pretreatment variables. Members were matched using calipers within 0.2 standard deviations of the logit of the propensity score. We optimized the covariate balance while estimating the propensity score using the method proposed by Imai and Ratkovic.[12] Conditional on the propensity score, the treated and comparison cohorts have the same distribution of the baseline covariates. We used the standardized difference to compare the means between the treatment and comparison groups. Standard errors were estimated using a robust variance method proposed by Joffe and colleagues.[13] Appendix 1, available online at http://links.lww.com/AOG/D159, shows the absolute standardized mean difference where covariate-specific balance is achieved. A visualization of the covariate balance test is depicted in Figure 1 for cohort A and Figure 2 for cohort C. The blue lines show the covariate balance postmatching, and the black lines show the covariate balance prematching. All standardized mean differences are within the 0.1 thresholds for both comparison cohorts.

Our goal was to examine the potential effect of the remote monitoring intervention on reducing postpartum adverse outcomes and health care service utilization. Our primary outcome was a composite measure of having any prespecified adverse clinical outcome after delivery discharge, including stroke, disseminated intravascular coagulation, eclampsia, pulmonary edema, HELLP syndrome, myocardial infarction, and cardiomyopathy. Adverse events that occurred postpartum but before hospital discharge were not included in the analysis. Outcomes were identified using International Classification of Diseases, Tenth Revision codes from administrative claims. Claims data were also used to assess our secondary outcomes, including total medical cost and health care service utilization including specialist visits, emergency department (ED) visits, cardiology

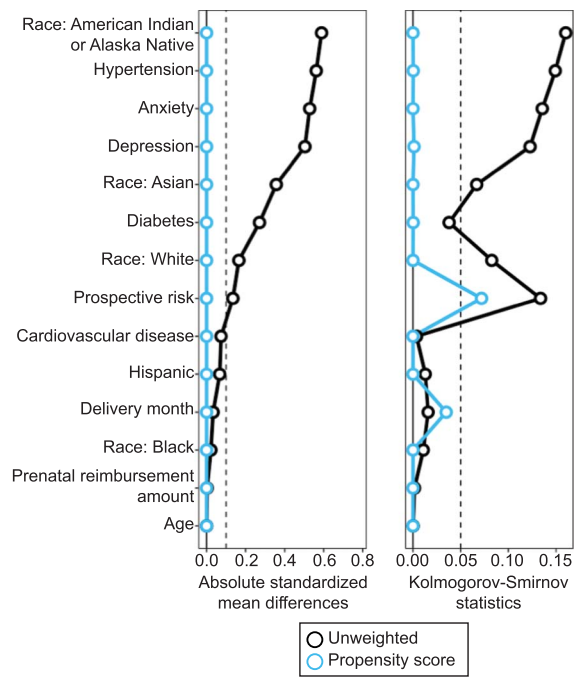

Fig. 1. Covariate balance test for the asynchronous cohort.
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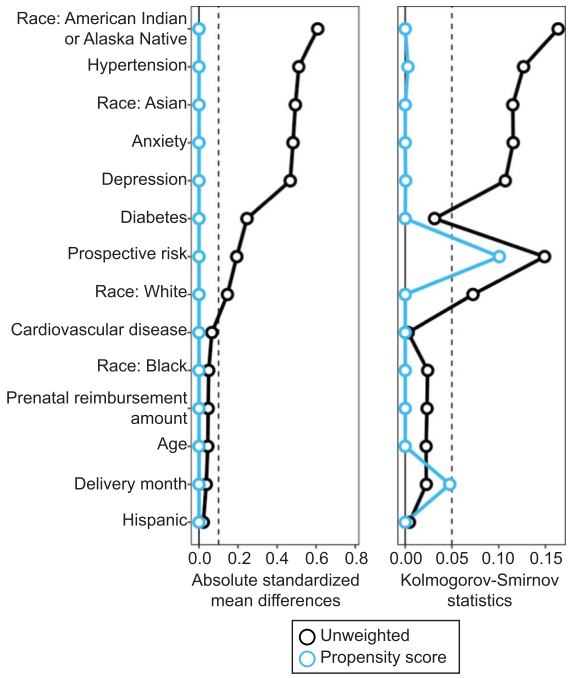

Fig. 2. Covariate balance test for the contemporaneous cohort.

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visits, and all-cause inpatient readmissions in the first 6 months after delivery.

For our primary outcome, differences in the probability of having any prespecified adverse clinical outcome between groups were assessed using χ^2 tests. Statistical significance was set at $P<.05$. Multivariable logistic regression was also performed to adjust for covariates that were imbalanced after matching. Differences in our secondary outcomes were assessed using generalized linear models. A log link function and negative binomial distribution was used to test differences in the total number of adverse events and the number of health care visits. A log link and a gamma distribution were used to test differences in total incurred medical costs. Covariates for all regression models include age, risk score, comorbidities (hypertensive disorder, cardiovascular conditions, diabetes, asthma, obesity [body mass index], anxiety disorders, depression).

The study met eligibility criteria for IRB review exemption at the University of Pennsylvania, because the research involved no more than minimal risk to the privacy of individuals who were the subjects of the protected health information and the research could not be conducted without the waiver to access and use the protected health information.

RESULTS

The 1,700 patients who were Independence members were enrolled in the remote blood pressure monitoring program in the study period. They were matched to 1,021 individuals in cohort A and 1,276 individuals in cohort C. Table 1 provides descriptive statistics for the 1,700 patients enrolled in remote monitoring and the prematched cohorts. Program participants had an average age of 32.2 years. More than 57.1% of the cohort were from predominantly White Census blocks, and 34.8% were from predominantly Black or African American Census blocks. The most common chronic conditions within the cohort were anxiety disorders (15.3%) and depression (14.8%). Additionally, 9.3% of patients were diagnosed with preexisting hypertension and 3.2% had diabetes. Fewer than 1% had chronic cardiovascular conditions. The average prenatal total medical cost PMPM among the cohort was $873.30, and the average DxCG risk score was 4.3.

Compared with both comparison cohorts, remote monitoring program members tended to have a higher average age, consist of a higher proportion of patients from predominantly Black or African American Census blocks, and have a higher risk score before matching. The prenatal total medical cost PMPM presented a large variation across three cohorts.

Chi-square analysis showed that significantly fewer program participants had any adverse clinical outcome relative to cohort A (2.9% vs 4.7%; OR 0.61, 95% CI 0.40–0.98) and no significant difference relative to cohort C (3.2% vs 4.5%; OR 0.71, 95% CI 0.47–1.07). Tables 2 and 3 show the frequency of adverse outcomes observed, both composite and for each component adverse clinical outcome included in our composite measure, among patients enrolled in the remote blood pressure monitoring program and the two comparison cohorts during the first 6 months after delivery. One additional adverse outcome occurred in cohort A in months 7–12 after delivery. Multivariable logistic regression analyses, controlling for confounders, also show that patients enrolled in the remote blood pressure monitoring program were less likely to experience any adverse clinical outcome compared with patients in cohort A (2.3% vs 4.5%; OR 0.54, 95% CI 0.33–0.87) and cohort C (2.9% vs 4.9%; OR 0.59, 95% CI 0.40–0.88).

Tables 4 and 5 show results of secondary outcomes comparing cardiologist, specialist, ED visits, and inpatient readmissions for each cohort during the first 6 months after delivery. Compared with both

Table 1. Demographic Characteristics of Participants in the Remote Blood Pressure Monitoring Program and the Control Cohorts Before Matching

Variable	Program (n=1,700)	Cohort A (n=1,591)	Cohort C (n=2,163)
Prenatal total medical cost PMPM ($)	873.30±538.41	795.94±472.67	949.62±543.73
Age (y)	32.22±5.18	30.29±6.03	29.73±5.23
DxCG risk score*	4.36±3.57	4.13±3.81	4.32±4.09
Race and ethnicity†			
Asian	96 (5.65)	92 (5.78)	89 (4.12)
Black	592 (34.82)	450 (28.28)	699 (32.31)
White	971 (57.12)	950 (59.71)	1,203 (55.62)
Additional races	41 (4.18)	27 (4.53)	98 (3.42)
Hispanic	71 (2.41)	72 (1.69)	74 (4.53)
Chronic condition			
Hypertension	158 (9.29)	126 (7.89)	210 (9.71)
Pregestational diabetes	55 (3.24)	72 (4.51)	65 (3.01)
Depression	251 (14.76)	199 (12.51)	247 (11.42)
Anxiety	260 (15.29)	182 (11.44)	278 (12.85)
Other cardiovascular conditions‡	16 (0.94)	16 (1.03)	27 (1.25)

Cohort A, asynchronous comparison group; Cohort C, contemporaneous comparison group; PMPM, per member per month; DxCG, Diagnostic Cost Group.
Data are mean±SD or n (%).
* The DxCG risk score estimates financial risk based on demographic characteristics and historical diagnoses and procedures.[14]
† Race and ethnicity variables are derived from Census data at the Census block level, not the individual patient level.
‡ Other cardiovascular conditions include acute myocardial infarction, atrial fibrillation, heart failure, ischemic heart disease, and stroke or transient ischemic attack.

cohorts A and C, program participants had fewer total adverse events and more postdelivery specialist visits, driven primarily by more cardiologist visits. Specifically, program members had 31.9% more cardiologist visits compared with cohort A and 41.7% more than cohort C. Members in the program also had 44.0% fewer postnatal ED visits than cohort A and 42.9% fewer than cohort C. Hospital readmissions were also 50.0% lower for the program group than cohort A and 56.7% lower than cohort C. Reductions in the number of ED visits and hospital readmissions led to significantly lower total medical costs in the first 6 months after delivery for the program group compared with cohort A ($32.20 PMPM, 95% CI $24.90–39.50) and cohort C ($29.40 PMPM, 95% CI $25.90–32.90).

We also performed three different robustness checks for all outcome variables across both comparison groups, including a doubly robust estimator, and covariate-adjusted regression and covariate-adjusted difference-in-difference on the unmatched samples. Results from the three robustness checks are reported in Appendices 2 and 3, available online at http://links.

Table 2. Adverse Event Counts and Percentages 6 Months Postdischarge, Program Participants Compared With Those in the Asynchronous Comparison Cohort

Outcome	Program (n=1,021)	Cohort A (n=1,021)	Difference (% Difference)	*P*	OR (95% CI)
Composite adverse outcome	30 (2.9)	48 (4.7)	−18 (38)	.038	0.61 (0.40–0.98)
Individual outcomes					
Stroke	2 (0.20)	4 (0.39)	−2		
DIC	1 (0.10)	3 (0.30)	−2		
Eclampsia	3 (0.30)	6 (0.59)	−3		
Pulmonary edema	5 (0.49)	9 (0.88)	−4		
Renal injury or liver failure	8 (0.78)	10 (0.10)	−2		
HELLP syndrome	4 (0.39)	7 (0.69)	−3		
Myocardial infarction	3 (0.30)	4 (0.39)	−1		
Cardiomyopathy	4 (0.39)	5 (0.49)	−1		

Cohort A, asynchronous comparison group; OR, odds ratio; DIC, disseminated intravascular coagulation; HELLP, hemolysis, elevated liver enzymes, and low platelet count.
Data are n (%) unless otherwise specified.

Table 3. Adverse Event Counts and Percentages 6 Months Postdischarge, Program Participants Compared With Those in the Contemporaneous Comparison Cohort

Outcome	Program (n=1,276)	Cohort C (n=1,276)	Difference (% Difference)	*P*	OR (95% CI)
Composite adverse outcome	41 (3.2)	57 (4.5)	−16 (28)	.099	0.71 (0.47–1.07)
Individual outcomes					
Stroke	4 (0.31)	5 (0.39)	−1		
DIC	1 (0.08)	2 (0.16)	−1		
Eclampsia	3 (0.24)	8 (0.63)	−5		
Pulmonary edema	7 (0.55)	8 (0.63)	−1		
Renal injury or liver failure	10 (0.78)	12 (0.94)	−2		
HELLP syndrome	8 (0.63)	11 (0.86)	−3		
Myocardial infarction	3 (0.24)	4 (0.31)	−1		
Cardiomyopathy	5 (0.39)	7 (0.55)	−2		

Cohort C, contemporaneous comparison group; OR, odds ratio; DIC, disseminated intravascular coagulation; HELLP, hemolysis, elevated liver enzymes, and low platelet count.
Data are n (%) unless otherwise specified.

lww.com/AOG/D159. All three checks demonstrated similar results in both direction and magnitude.

DISCUSSION

Patients enrolled in a postpartum remote blood pressure monitoring program were less likely to experience an adverse clinical outcome in the first 6 months after delivery, compared with patients in either comparison cohort. Program participants also had reduced ED visits and readmissions, resulting in lower postpartum total medical costs compared with both comparison cohorts.

We conducted an administrative claims data analysis showing long-term postpartum clinical and cost outcomes related to a remote monitoring program for postpartum hypertension. Although we report improvements in clinical outcomes, utilization patterns and medical costs in the first 6 months after delivery, we observed that the positive outcomes persisted over 12 months.

Nearly 50% of maternal morbidity and mortality occurs postdelivery discharge through 1 year postpartum, making the postpartum period a critical time to reduce overall maternal morbidity and mortality.[1] The finding that enrollment in a remote monitoring program was associated with a significant reduction in postnatal adverse events has significant implications on the overall effects of this program and others of its kind on a population level. Although we were not powered to detect program effects within each of the eight clinical categories, we did observe fewer postnatal adverse outcomes in the intervention group in each of the eight clinical categories, with the largest differences observed in pulmonary edema, eclampsia, and HELLP syndrome. The greatest reduction occurred in the first 6 months, with only one adverse outcome in the second half of the first postpartum year. Although the program is 10 days of blood pressure monitoring, the ascertainment of blood pressures and resultant treatment lead to reduction in every adverse outcome evaluated within the 6 months postdelivery, including complications that are known sequelae of preeclampsia, but not directly mediated by severe hypertension. This is a critical observation

Table 4. Health Care Utilization and Cost Outcomes 6 Months Postdischarge, Program Participants Compared With Those in the Asynchronous Comparison Cohort

Outcome	Program (n=1,021)	Cohort A (n=1,021)	Difference (% Difference)*	*P*	OR (95% CI)
Cardiologist visits	122 (11.9)	93 (9.1)	29 (31.9)	.037	1.35 (1.02–1.08)
Specialist visits	802 (78.5)	725 (71.0)	77 (10.6)	<.001	1.50 (1.22–1.83)
ED visits	14 (1.4)	26 (2.5)	−12 (−44.0)	.055	0.53 (0.28–1.02)
Inpatient readmissions	12 (1.2)	23 (2.2)	−11 (−50.0)	.060	0.52 (0.26–1.04)

Cohort A, asynchronous comparison group; OR, odds ratio; ED, emergency department.
Data are n (%) unless otherwise specified.
* The % difference shows the percentage differences in the number of visits between the treatment and comparison cohorts.

Table 5. Health Care Utilization and Cost Outcomes 6 Months Postdischarge, Program Participants Compared With Those in the Contemporaneous Comparison Cohort

Outcome	Program (n=1,276)	Cohort C (n=1,276)	Difference (% Difference)*	*P*	OR (95% CI)
Cardiologist visits	152 (11.9)	108 (8.4)	44 (41.7)	.004	1.46 (1.13–1.90)
Specialist visits	869 (68.1)	783 (61.4)	86 (10.9)	<.001	1.34 (1.14–1.58)
ED visits	21 (1.6)	36 (2.8)	−15 (−42.9)	.044	0.58 (0.33–0.99)
Inpatient readmissions	17 (1.3)	38 (3.0)	−21 (−56.7)	.005	0.44 (0.25–0.78)

Cohort C, contemporaneous comparison group; OR, odds ratio; ED, emergency department.
Data are n (%) unless otherwise specified.
* The % difference shows the percentage differences in the number of visits between the treatment and comparison cohort.

and underscores the importance of this program and the effects beyond the timeframe of the direct care. Additionally, the increase in cardiology visits in the first 6 months after delivery that persisted for 12 months after delivery shows that the remote monitoring program, as part of a larger postpartum hypertension bundle, improves transitions of care. Given the association of preeclampsia with long-term cardiovascular health, these increased visits suggest improved patient engagement, education, and referral, thereby facilitating another point of early intervention to decrease associated morbidity in the long term.

Broad implementation of evidence-based remote monitoring programs can significantly reduce postpartum adverse outcomes, thereby significantly reducing morbidity and mortality. This analysis also confirms secondary findings from a randomized trial comparing a remote blood pressure monitoring program to traditional office visit blood pressure checks.[5] An increase in cardiology visits and a decrease in postnatal ED visits and inpatient hospital readmissions in the remote monitoring program cohort, compared with both cohorts A and C, shows the ability of the program to improve early postpartum care after delivery discharge, intervene early for elevated blood pressure to reduce the need for ED visits or hospitalization. In both cohort comparisons, reductions in ED visits and readmissions drove overall lower total medical costs for the remote monitoring program cohort.

These cost-saving findings are overall consistent with Niu et al,[14] which, to our knowledge, is the only cost-effectiveness analysis of a remote blood pressure monitoring program in the postpartum period. With a cost-saving of $93 per patient and an estimated 333,253 pregnant individuals with hypertension in the United States each year, postpartum remote blood pressure monitoring could reduce health care costs in the United States by approximately $31 million per year using their decision tree and probabilities of readmission based on findings from their primary study. As noted, those savings are likely an underestimate because they do not account for other societal costs such as caregivers and transportation. In contrast to this other study, which focused on inputs and assumptions, our study uses real claims data from patients at multiple centers and looked at adverse clinical outcomes that may have long term effects beyond the postpartum period and expands beyond readmissions. Importantly, our study also did not take into account program or social costs but further shows a decrease in health care costs per patient in the first year after delivery, mostly driven by the decrease in ED and inpatient readmissions across multiple sites compared with two matched control groups. These cost savings should be considered when evaluating payment structure and advocating for reimbursement for telemedicine models of care.

Our study expands on the currently available literature showing benefits of a postpartum remote blood pressure monitoring program. We searched for articles on PubMed published between 2016 and 2023 with the key words "postpartum," "remote blood pressure monitoring," "preeclampsia," "costs," and "outcomes"; to our knowledge, this is the first study to assess the long-term adverse outcomes and costs for patients enrolled in such a program. Another strength of the study is the consistent findings across two different comparison groups, because this helped control different confounding biases in estimating the treatment effect and multiple specifications of the outcomes analysis. Cohort A worked as time-fixed effects, and cohort C controlled for variations across hospital facilities.

Residual bias from unobserved confounders remains a challenge in the study. The study is limited by the analysis of only one payer. However, as opposed to hospital-specific studies where outcomes can only be captured if patients return to the same hospital and therefore have the potential for underestimation of utilization, we were able to capture all utilization postdischarge by partnering with the payer thereby providing a more accurate assessment. As a

result, the demographics presented are not necessarily representative of our overall obstetric population. Another limitation is that it is likely that not all diagnoses make it to claims documents; there could have been under-reporting of the adverse outcomes using International Classification of Diseases, Tenth Revision codes and health care resource utilization. Additionally, we evaluated only outcomes related to hypertensive disorders; however, these are the most pertinent to the intervention being evaluated. Lastly, we do not have individual-level data regarding patient adherence to blood pressure monitoring for those enrolled in the program and therefore cannot know with certainty the effect on adverse outcomes; however, based on historical data, compliance is high, at more than 90%, suggesting most patients do, in fact, send in blood pressure data during the needed time period. Our study shows that a 10-day postpartum remote blood pressure monitoring program is associated with a decrease in hypertension-related adverse outcomes in the year after delivery. Additionally, this administrative claim analysis confirms decreased ED visits and inpatient readmissions with the program, resulting in decreased medical costs. Increased cardiology visits after delivery suggest that such programs not only offer early postpartum benefits in decreasing morbidity but also improve transition of care with potential for long-term benefits, as well. Future research should further investigate short and long-term costs and utilization and the potential for such programs to reduce racial health disparities. The indirect effect of the program on other aspects of postpartum or interpregnancy care, such as contraception and pregnancy spacing, breastfeeding rates, and maternal mental health, should be evaluated. Future efforts should also focus on developing reimbursement strategies for these remote monitoring programs given these findings to assist in widespread implementation and sustainability.

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