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## Title

Results of a Team-Based Remote Monitoring Program Serving Patients with Hypertension

Priority 1 (Research Category)

Hypertension

## Presenters

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## Abstract

Context P1000 is a team-based telemonitoring program for poorly managed hypertension. Patients are referred by primary care physicians (PCPs) through EHR, given a Bluetooth-enabled blood pressure device that sends data to the EHR through a smartphone app, and supported by a digital health specialist. Care managers monitor a daily dashboard and adjust per protocol to help patients reach their target blood pressure. Despite its effectiveness in improving hypertension control, telemonitoring remains uncommon in most clinical practices.

Objectives Evaluate the effectiveness of P1000 while assessing adoption and adherence variations based on Healthy Place Index, age, and race.

Study Design and Analysis Observational study in an academic health system, using an event study design which assesses how outcomes after PCP referrals deviate from the baseline trend prior to referral.

Dataset Demographic information, SBP measurements at different time points, and details on patient enrollment and adherence.

Population studied 2,512 patients referred by PCPs to a hypertension management program.

Intervention Referral to P1000.

Outcome Measures Evaluate the outcomes of patients referred by to this program and assess heterogeneity in adoption and adherence by HPI, age, and race.

Results During 2020-2022, 53% of 2,512 patients referred by PCPs enrolled. Age and HPI influenced enrollment, with older and lower HPI patients being 10% and 17% less likely to enroll, respectively. Adherence at 6-month follow-up was 45% among older adults vs 32% in younger adults. Systolic BPs decreased 11mmHg from a baseline of 134mmHg, resulting in an 11 percentage point increase in

reaching normal SBP levels from a baseline of 24 percentage points. Average SBP reductions vary by subgroup: -7.03 (SE=0.6891, p<0.001) for white patients, -4.89 (SE=1.5770, p<0.001) for black patients, -4.24 (SE=1.1277, p<0.001) for Hispanic patients, -4.76 (SE=1.0549, p<0.001) for lower HPI group, -6.94 (SE=0.5394, p<0.001) for upper HPI group, -5.11 (SE=0.7896, p<0.001) for those <65 years, -6.80 (SE=0.6258, p<0.001) for those >65 years, -5.95 (SE=0.8136, p<0.001) for males, and -6.55 (SE=0.6213, p<0.001) for females.

Conclusions Team-based telemonitoring improves clinical outcomes across diverse groups. Enhancing patient engagement and retention can further enhance the program's impact. Scaling up this intervention can improve population health, reduce cardiovascular risks, and enhance health system performance.