

Comparing Pharmacist-Led Telehealth Care and Clinic-Based Care for Uncontrolled High Blood Pressure: The Hyperlink 3 Pragmatic Cluster-Randomized Trial

The following is a synopsis of “Comparing Pharmacist-Led Telehealth Care and Clinic-Based Care for Uncontrolled High Blood Pressure: The Hyperlink 3 Pragmatic Cluster-Randomized Trial” published in *Hypertension* in October 2022.



What is already known on this topic?

Hypertension, also known as high blood pressure, affects almost half of all U.S. adults (47.3%, or 116 million people).¹ Over time, unmanaged hypertension can increase the risk of heart attack, stroke, and heart failure, some of the leading causes of death in the United States.²

A systematic review by the Community Preventive Services Task Force (CPSTF) found strong evidence that a team-based care approach is effective at reducing systolic blood pressure (SBP) and diastolic blood pressure (DBP).³ Team-based care is an organizational intervention whereby a multidisciplinary team shares responsibility for patient care. Each care team consists of the patient, the patient's primary care provider, and other healthcare professionals such as nurses, community health workers, and pharmacists, who work together to provide coordinated and comprehensive care.³

What is added by this article?

Although evidence suggests that team-based care is an effective way to improve blood pressure control, studies comparing different team-based care models are lacking. The Hyperlink 3 study compared the impact of two team-based care interventions on systolic blood pressure in 3,071 adult patients with moderately severe hypertension ($BP \geq 150/95$ mm Hg). Researchers also looked at patients' current anti-hypertensive medications and their pharmacological class or classes. Classifications for medication are determined by the Food and Drug Administration according to chemical structure, physiologic effect, and mechanism of action.⁴ Patients received either 1) face-to-face, clinic-based care with physicians and medical assistants or 2) telehealth care with home blood pressure telemonitoring and phone visits by a pharmacist or nurse practitioner. Both the clinic and telehealth-based interventions aligned with then-current best practices and national guidelines.

During the one-year follow-up, blood pressure decreased significantly in both the clinic-based (157/92 to 139/82 mm Hg) and telehealth-based (157/91 to 139/81 mm Hg) groups, with no significant difference in SBP change between the groups overall (-0.8 mm Hg [95% CI, -2.84 to 1.32]). SBP and DBP changes in the telehealth group compared to the clinic-based arm did not significantly differ across patient

subgroups (including sex, age, race, insurance type, and comorbidities). However, the change in SBP significantly differed by the number of medication classes at baseline. Patients with two or less medication classes experienced a greater reduction in SBP when receiving telehealth care (-2.5 [-4.9 to -0.05] mm Hg) while those with 3-6 medication classes had a greater reduction in SBP when receiving clinic-based care (4.1 [-0.04 to 8.2] mm Hg).

Although patients in the telehealth group reported that self-measuring BP at home was more burdensome than having BP measured during a clinic visit, they reported more frequent BP self-monitoring, a decrease in the burden of scheduling BP visits, and significantly higher satisfaction with hypertension care as compared to patients in the clinic-based group. From the care team perspective, those in the telehealth arm reported significantly less burden in scheduling visits and attending phone visits.

What are the implications of these findings?

Telehealth that utilizes a patient-centered, team-based care approach is a safe and effective alternative to clinic-based care for improving hypertension care and control, particularly for patients with two or fewer anti-hypertensive medication classes. Patients reported greater convenience and flexibility with telehealth, which may have implications for increasing access to care for populations who face barriers to accessing clinic-based services. Opportunities for future research include comparing different virtual care team models (e.g., telemonitoring by a provider and a medical assistant or RN) and including a usual care group to help distinguish between the impact of best practices and modality of care.



Resources

American Heart Association
[BP Improvement program | Target:BP](#)

Centers for Disease Control and Prevention
[Heart Disease | CDC](#)

Centers for Disease Control and Prevention
[Best Practices for Heart Disease and Stroke: A Guide to Effective Approaches and Strategies](#)

References

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Citation

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