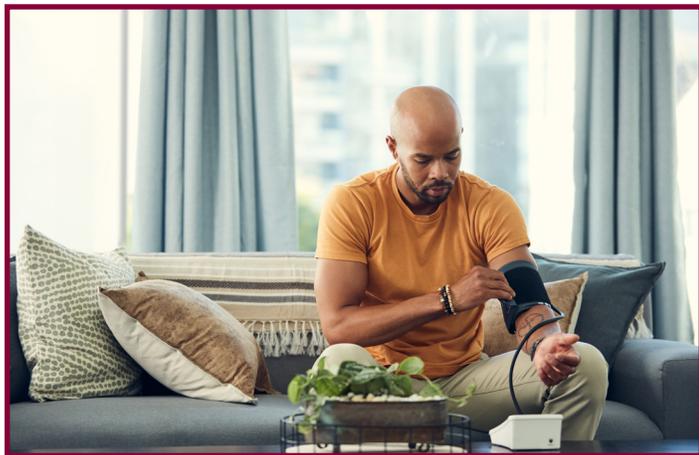


Cardiovascular Events and Costs With Home Blood Pressure Telemonitoring and Pharmacist Management for Uncontrolled Hypertension

The following is a synopsis of “Cardiovascular Events and Costs With Home Blood Pressure Telemonitoring and Pharmacist Management for Uncontrolled Hypertension,” published in October 2020 in *Hypertension*.



What is already known on this topic?

Nearly half of all adults in the United States, or 108 million people, have high blood pressure ($\geq 130/80$ mm Hg), also called hypertension.¹ High blood pressure is a major risk factor for heart disease and stroke. Fewer than half of people with high blood pressure have it under control, and national control rates have declined recently.² Given this, Surgeon General Jerome Adams, MD, released *The Surgeon General's Call to Action to Control Hypertension*.³ The *Call to Action* emphasizes optimizing patient care for hypertension control by utilizing standard treatment approaches, team-based care, and the empowerment of patients to use self-measured blood pressure monitoring and medication adherence strategies.³

The Community Preventive Services Task Force (CPSTF) recommends self-measured blood pressure monitoring interventions, used alone and combined with additional support, to improve blood pressure outcomes.⁴ The CPSTF also recommends team-based care, which utilizes multidisciplinary teams, including pharmacists, nurses, and other professionals collaborating with primary care providers and patients, to improve blood pressure control.⁵

What is added by this article?

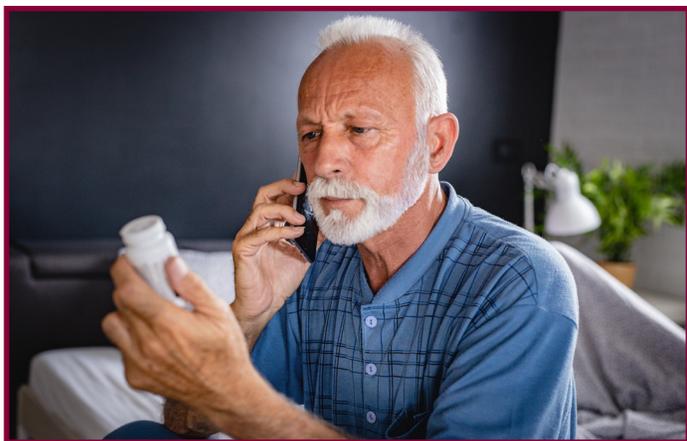
In this article, the authors build on previously released results from a study that randomized 450 primary care patients with uncontrolled hypertension at 16 clinics to either usual care or home blood pressure telemonitoring with pharmacist care management.^{6,7} Patients under pharmacist care management had telephonic visits with pharmacists every 2 weeks until blood pressure control was sustained as defined by study protocol (blood pressure $< 140/90$ mm Hg, or $< 130/80$ mm Hg if diabetes or kidney disease was present). Patients then continued intensive pharmacist care management with monthly visits for 6 months, followed by 6 months of telephonic visits every 2 months. Under a collaborative practice agreement with the primary care physicians, pharmacists were able to prescribe and adjust doses of hypertension medications according to a standardized protocol. Earlier results from the study had demonstrated reductions in blood pressure at the end of the 12-month intervention compared with the usual care group, and these reductions persisted up to 24 months.^{6,7}

Though the results did not reach statistical significance over the 5-year follow-up period, home blood pressure telemonitoring with pharmacist care management



reduced the primary endpoint of composite cardiovascular events, which included myocardial infarction, stroke, heart failure, and cardiovascular death, by nearly 50% compared with usual care.

The cost of the intervention was \$1,511 per patient (in 2017 dollars). The health care costs for cardiovascular events were estimated from the [Medical Expenditure Panel Survey](#) data. The intervention was found to save more than \$1,200 per patient, for a return on investment of approximately 82% over the 5 years of follow-up. With the secondary composite endpoint, which included coronary revascularization in addition to the other cardiovascular events, the net savings was \$2,006 per patient, for a return on investment of 119%.



What are the implications of these findings?

Home blood pressure telemonitoring with pharmacist care management leads to reductions in blood pressure and may reduce cardiovascular events and may be cost-effective over 5 years. Programs to control hypertension may consider combining effective strategies, such as team-based care and self-measured blood pressure monitoring. Understanding the long-term impact of intensive short-term interventions on cardiovascular events and related health care costs is important to help inform program development and evaluation. The cost of similar interventions may be lower as

technology becomes less expensive and more patients have access to low or no-cost home blood pressure monitors. Additional research is needed to understand whether this type of intervention would work in more diverse populations of patients with uncontrolled hypertension.

Resources:

Million Hearts®/National Association of Community Health Centers: [SMBP Implementation Toolkit](#)

Centers for Disease Control and Prevention: [Advancing Team-Based Care Through Collaborative Practice Agreements: A Resource and Implementation Guide for Adding Pharmacists to the Care Team](#)

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Citation

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