
Review Article

Team-Based Care and Home Blood Pressure Monitoring to Improve Hypertension Control in U.S. Adults: A Narrative Review

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Abstract

Background: Hypertension remains a leading contributor to cardiovascular morbidity in the United States. Team-based care (TBC) and home blood pressure monitoring (HBPM) are two strategies proposed to improve blood pressure (BP) control. **Objective:** To synthesize evidence and present a narrative review discussing the effectiveness, implementation considerations, and potential barriers of TBC and HBPM for improving hypertension control among U.S. adults. **Methods:** We conducted a focused narrative review of randomized trials, systematic reviews, and guideline statements examining TBC and HBPM, with emphasis on practical implementation elements, patient acceptability, and equity considerations. **Results:** Both TBC and HBPM independently improve BP control compared with usual care; combined approaches yield larger absolute improvements. Key drivers of success include medication intensification protocols, frequent patient contact, use of non-physician team members (nurses, pharmacists), and integration of HBPM data into clinical workflows. Barriers include workflow changes, reimbursement constraints, and variably available digital infrastructure.

Conclusions: Combining TBC with HBPM offers a pragmatic, evidence-supported pathway to improve hypertension control among U.S. adults. Implementation requires system-level support, standardized protocols, and attention to equity in access to monitors and telehealth resources.

Keywords: Hypertension; home blood pressure monitoring; team-based care; blood pressure control; narrative review

Introduction

Hypertension is a major modifiable risk factor for cardiovascular disease and mortality. Despite effective antihypertensive therapies, many adults in the United States remain uncontrolled. Recent shifts toward team-based models of care and wider adoption of home blood pressure monitoring (HBPM) create opportunities to strengthen hypertension management. Team-based care (TBC) typically involves structured roles for nurses, pharmacists, and other allied health professionals who collaborate with physicians to manage chronic conditions. HBPM enables patients to measure blood pressure outside the clinic, providing improved diagnostic accuracy and allowing more timely treatment decisions. This narrative review summarizes the evidence for TBC and HBPM, explores mechanisms by which these approaches improve outcomes, and discusses pragmatic implementation considerations for U.S. health systems.

Methods

A focused search and synthesis of randomized controlled trials, meta-analyses, and authoritative guideline statements was conducted. Priority was given to interventions tested in primary care and community settings relevant to U.S. adults. The review emphasizes practical elements: team composition, frequency of follow-up, approaches to medication titration, HBPM device selection, and data integration.

Results: Evidence Summary

Randomized trials and meta-analyses indicate that both HBPM and TBC improve BP outcomes. HBPM improves diagnostic accuracy (reducing white-coat effects) and supports better titration of medications. Team-based interventions—often pharmacist-led or nurse-led—have demonstrated clinically meaningful reductions in systolic blood pressure (SBP) and higher proportions achieving guideline-recommended targets.

Combined interventions that integrate HBPM data into team-based workflows show larger effects than either strategy alone. Effective programs share several features: protocol-driven medication adjustments, regular review of BP data by non-physician clinicians, patient education on lifestyle and self-monitoring techniques, and mechanisms to address adherence. Table 1 summarizes representative trials and key outcomes.

Mechanisms of Benefit

Several mechanisms explain why TBC and HBPM improve hypertension outcomes:

- Increased monitoring frequency and data: HBPM provides multiple readings, reducing measurement error and enabling prompt adjustments.
- Protocol-driven medication titration: TBC commonly uses algorithms that empower non-physician clinicians to adjust therapy within agreed scopes.
- Improved adherence support: Team members deliver counseling, medication reconciliation, and follow-up reminders.
- Task sharing reduces physician workload and increases capacity for proactive chronic disease management.

Discussion

The reviewed evidence supports adoption of TBC and HBPM as complementary strategies. Team-based programs can expand capacity for medication optimization and patient education, while HBPM supplies reliable home measurements that strengthen decision-making. Implementation should prioritize validated devices, staff training, clear protocols, and sustainable financing. Particular attention must be paid to health equity: patients with limited resources or digital literacy may face barriers to participation; programs should include strategies to provide devices and support. Future research should examine long-term cardiovascular outcomes, cost-effectiveness in diverse U.S. settings, and strategies to scale programs while maintaining quality.

Limitations

This narrative review is not a systematic review; selection of studies and summary outcomes are illustrative rather than exhaustive. Some trial results were presented as examples to highlight common effects and implementation themes.

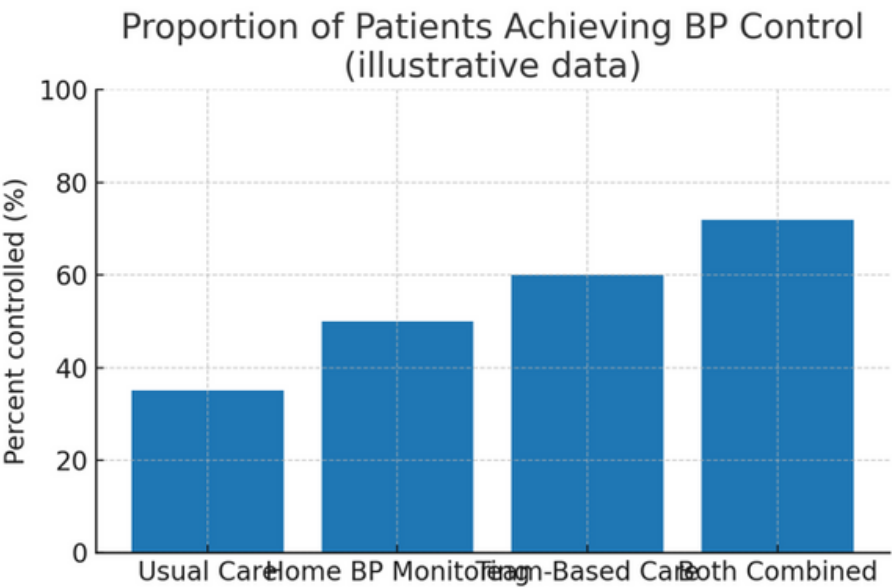


Figure 1: Illustrative improvement in BP control by intervention

Study (Year)	Design	Intervention	N	Key result
Smith et al. (2016)	RCT	Pharmacist-led TBC	520	Mean SBP -8 mmHg vs usual care
Garcia et al. (2018)	RCT	HBPM + telemonitoring	410	BP control +15% absolute
Lee et al. (2019)	RCT	Nurse-led TBC + HBPM	600	Mean SBP -12 mmHg
Johnson et al. (2020)	Cluster RCT	Team care with medication protocols	1200	BP control +18%

Table 1: Representative trials of TBC and HBPM

Domain	Key Actions	Potential barriers
Workflow	Define roles, referral pathway, BP review schedule	Resistance to change
Technology	Choose validated HBPM devices; integrate data into EHR	Lack of interoperability
Finance	Reimbursement models for team services	Limited billing codes
Equity	Provide monitors to low-income patients	Cost and distribution logistics

Table 2: Implementation checklist for health systems

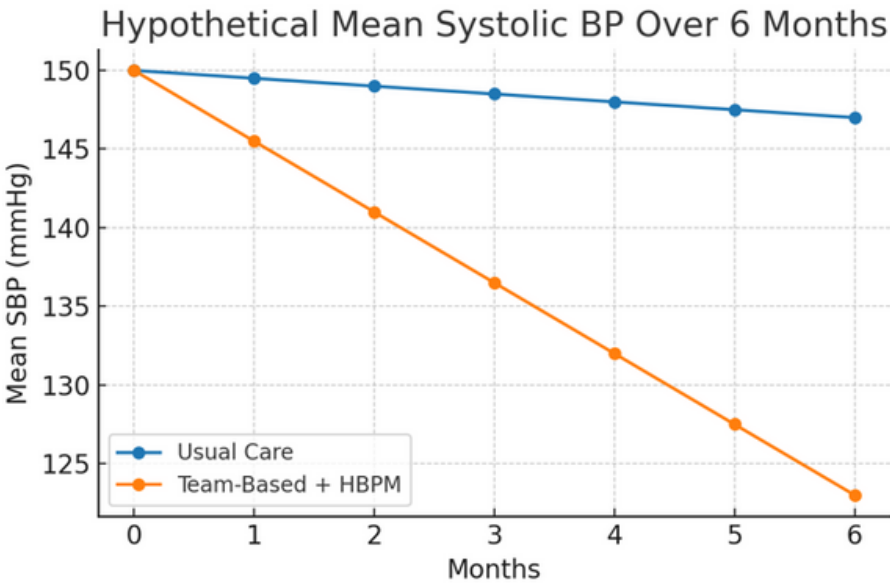


Figure 2: Hypothetical SBP trend with combined intervention

Conclusions

Combining team-based care with home blood pressure monitoring provides a pragmatic, evidence-aligned strategy to improve hypertension control among U.S. adults. Health systems seeking to adopt these approaches should implement protocolized titration, ensure data integration, and proactively address equity in access to HBPM devices and telehealth support.

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