Hypertension Self-Management
A Home Run for Patients and Payers

David J. Magid, MD, MPH; Steven A. Farmer, MD, PhD

“People … operate with beliefs and biases. To the extent you can eliminate both and replace them with data, you gain a clear advantage.”

—Michael Lewis, Moneyball: The Art of Winning an Unfair Game

The book Moneyball tells the story of Billy Beane, the general manager of the Oakland Athletics, who collected detailed data and applied advanced statistical techniques to identify high-value baseball players.1 Beane’s data-driven, evidence-based approach to evaluating players ran counter to traditional baseball scouting techniques, which relied on subjective assessments (a batter’s swing, a pitcher’s mechanics) and time-honored performance measures (batting average, stolen bases) that correlate poorly with the ultimate outcome of winning games.

Article see p 269

Like traditional baseball scouts, the Centers for Medicare and Medicaid Services (CMS) often rely on subjective assessments rather than robust data to guide coverage decisions.2,3 By law, CMS must cover reasonable and necessary health services for Medicare beneficiaries.4 However, Congress did not define reasonable and necessary in the legislation that established Medicare. Further, CMS excludes consideration of cost or effectiveness in coverage decisions.5 Because healthcare expenditures continue to grow, we need a more evidence-based and cost-conscious way to make coverage decisions.6

One low-cost effective treatment that is not currently covered by CMS is hypertension self-management (HSM). HSM, in which patients measure their own blood pressure (BP) in nonclinical settings, has been shown in multiple studies to be superior to traditional office-based hypertension management.7–11 HSM results in more frequent BP measurement and BP control, whereas the benefits of reduced hypertension sequelae and an associated decrease in overall costs will take years to materialize.12,13 In addition, the generalizability of clinical trials results to routine practice is always an issue. However, multiple studies from a variety of settings have found improved BP outcomes with HSM.

The study by Maciejewski et al12 provides further evidence supporting this approach. The Hypertension Intervention Nurse Telemedicine Study (HINTS) was a randomized trial of patients who received care at Durham Veterans Affairs Medical Center primary care clinics. Patients were assigned to usual care or 1 of 3 intervention groups: nurse-administered behavioral management, nurse-administered, physician-directed medication management, or a combination of the 2. All intervention patients received home BP telemonitors that transmitted patient BP measurements to a clinic-based nurse. The behavioral management intervention promoted medication adherence and healthy behaviors. The medication management intervention had nurses, guided by hypertension treatment guidelines and physician oversight, adjust antihypertensive therapy based on the home BP data. Study outcomes included BP control and change in systolic BP.

In an earlier study, the investigators reported improvements in BP outcomes for intervention patients compared with control patients at the end of the 18 month study.10 The current report assessed persistence of BP outcomes after an additional 18 months. Compared with usual care, BP control at 18 months after trial completion (36 months after randomization) was 17% higher in the behavioral arm and 20% higher in both the medication management and combined intervention arms. These findings are consistent with prior studies documenting sustained improvements in BP outcomes ≤18 months after an HSM intervention.13

This report by Maciejewski et al12 adds to the growing evidence that HSM is safe and effective. Indeed, HSM is being implemented in integrated and capitated healthcare systems because it improves BP control and patient satisfaction while preserving office visits for patients who need an in-person assessment. However, CMS does not currently reimburse for HSM. Lack of Medicare coverage is a major impediment to the diffusion of HSM in fee-for-service practice because most private payers follow CMS guidance in determining coverage for health services.14

The results of the study by Maciejewski et al12 offer a new opportunity for CMS to review its coverage policy. As with many national coverage determinations, there are additional factors to consider. In the short term, the cost of HSM is likely to be higher than conventional office-based hypertension management, whereas the benefits of reduced hypertension sequelae and an associated decrease in overall costs will take years to materialize.15 In addition, the generalizability of clinical trials results to routine practice is always an issue. However, multiple studies from a variety of settings have found improved BP outcomes with HSM.

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From the Institute for Health Research, Kaiser Permanente Colorado and Colorado Permanente Medical Group, Denver, CO (D.J.M.); Colorado School of Public Health, University of Colorado, Denver (D.J.M.); Office of Clinical Practice Innovation, Washington, DC (S.A.F.); and Division of Cardiology, School of Medicine and Health Sciences, The George Washington University, Washington, DC (S.A.F.).

Correspondence to David J. Magid, MD, MPH, Institute for Health Research, 10065 E, Harvard Ave, Suite 300, Denver, CO 80231. E-mail david.j.magid@kp.org

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Furthermore, several healthcare trends support adoption of HSM into routine practice including implementation of the Patient-Centered Medical Home and adoption of electronic health records.\(^\text{16,17}\)

Potential concerns about HSM should be weighed against the tremendous need for innovation in US healthcare delivery. The American healthcare model is by far the most costly in the world, yet quality is middling.\(^\text{18}\) Despite effective treatments, fewer than half of Americans with hypertension reach guideline-based BP targets.\(^\text{19}\) HSM takes advantage of the convenience and efficiencies of the internet, leverages national investments in health information technology, and can be delivered by pharmacists or nurses, extending the reach of primary care physicians. HSM allows for frequent, low-cost interactions between providers and patients that reinforce behavioral change while facilitating early intensification of medication treatment for patients who do not reach their BP goal. CMS needs to identify areas where medical care can be delivered more effectively and efficiently, and HSM is one place to start.

American health care is like a baseball team that spends lavishly on players but does not perform as well as the economical Oakland A’s. Using objective data to find high-value medi cation treatment for patients who do not reach their BP goal. CMS should take a similar approach by designating a new treatment reason-able and necessary when objective data demonstrate improved patient outcomes, especially if the treatment, such as HSM, has the potential to reduce costs. It is time for CMS to step up to the plate and designate HSM a covered practice.

Disclosures

None.

References


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