



“Home blood pressure monitoring should become a routine component of blood pressure measurement in the majority of patients with known or suspected hypertension.... [It] has the potential to improve the quality of care while reducing costs....”

Joint call to action by the American Heart Association, the American Society of Hypertension, and the Preventive Cardiovascular Nurses Association<sup>3</sup>

More than 7 million California adults (about 27%) have hypertension.<sup>1</sup> Approximately 69% of people who had a first heart attack, 77% who had a first stroke, and 74% of those with congestive heart failure had blood pressure greater than 140/90 mmHg.<sup>2</sup> Home blood pressure monitoring is a readily accessible, evidence-based and cost-effective strategy for improving hypertension treatment and control.

**Improved Health and Cost Outcomes with Home Blood Pressure Monitoring**

- Home monitoring in one study reduced the medication needed for blood pressure control, saving \$1198 per 100 patients per month.<sup>4</sup>
- A meta-analysis of 18 randomized controlled trials found that hypertensive people using home monitoring had blood pressure 4.2/2.4 mmHg lower than those with standard office monitoring. Risk of blood pressure above target was also lower in people with home monitoring.<sup>5</sup>
- Home monitoring identifies whether blood pressure is different outside the doctor’s office, which is common for as many as 20% of Americans. These patients are at higher risk for developing sustained high blood pressure (Harvard Newsletter).
- 95% of physicians agreed that home blood pressure measurements were useful in making treatment decisions to manage hypertension patients’ condition.<sup>6</sup>

**Home Monitoring Benefits <sup>8</sup>**

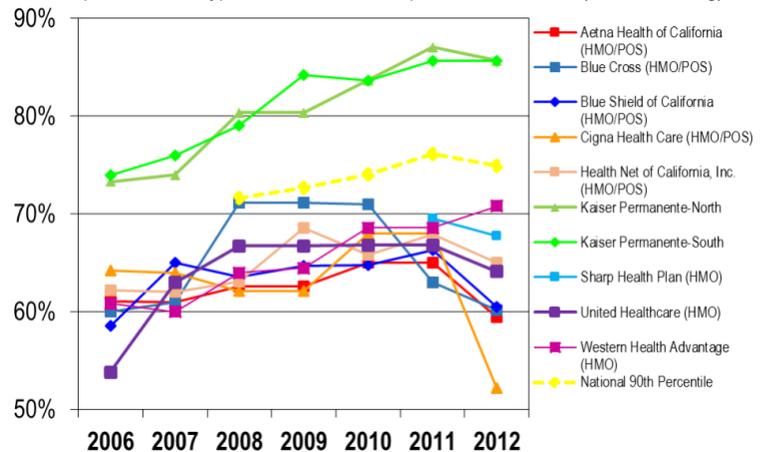
- Promotes better blood pressure control by engaging patients and motivating proactive behaviors—healthy eating, physical activity, proper medication use.
- Cuts healthcare costs—may reduce medications, the total number of doctor or clinic visits, and patients’ travel expenses and lost wages.
- Tracks treatment effects between doctor visits.
- Helps doctors confirm hypertension diagnosis earlier.

**Blood Pressure Control among Critical Right Care Goals**

- The Right Care goal for all California health plans and medical groups is to achieve the national “A grade” of performance on cardiovascular disease and diabetes prevention and treatment measures, particularly for blood pressure and cholesterol control.
- The National Committee for Quality Assurance (NCQA) estimates that controlling high blood pressure alone is estimated to save 619-1,057 lives annually and avoid \$4.5 million in hospitalization costs.

**Blood Pressure Control Trends: Most California Health Plans are Making Progress**

Percent patients with hypertension with blood pressure controlled (<140/90mmHg)



**Home Monitors Increasingly Accurate and Affordable**

- Machines can be purchased over-the-counter at most drugstores and pharmacies.
- Prices range from less than \$50 to about \$100.
- Validated machines are listed at <http://www.dableducational.org/>
- New technology is continually improving the ease and convenience of home monitoring.



## Patient-Directed Blood Pressure Control with Home Monitoring Featured in the American Medical Group Association's *Best Practices in Hypertension Compendium*<sup>11</sup>

This demonstration project showed that patient participation in the control of blood pressure through home monitoring is feasible, effective, requires few extra clinic resources, and leads to better goal achievement.

### Target Population

- Patients with high blood pressure and high risk for adverse cardiovascular outcomes

### Intervention

- Each patient was given a blood pressure goal, a 30-60 minute educational session about blood pressure control importance, information about treatment options, and a home blood pressure monitor.
- Patients measured and recorded their blood pressure and pulse two times per day until blood pressure was at goal or after changes in treatment. Blood pressure readings were phoned/faxed/e-mailed to a clinic nurse. (Wireless versions now available make reporting even easier).
- Patients also evaluated blood pressure personally and, if not at goal, contacted clinic for instructions to improve blood pressure control.

### Outcomes

- 31% of patients in the patient-directed care (home monitoring) group achieved goal in 6 months compared to 13% of patients in the usual care group.

### Lessons Learned

- Physicians committed as a group to implement home monitoring when the project plan was presented at unit meetings.
- Questionnaires, blood pressure tracking sheets and educational materials helped patients better understand their blood pressure goal.

## U.S. & International Guidelines Support Home Blood Pressure Monitoring

- Joint National Committee on Prevention Detection, Evaluation and Treatment of High Blood Pressure
- A Joint Call to Action by the American Heart Association, American Society of Hypertension and Preventive Cardiovascular Nurses Association
- European Society of Hypertension/European Society of Cardiology
- Canadian Hypertension Education Program
- Japanese Society of Hypertension
- British Hypertension Society

## Blood Pressure Categories



BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

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