

# Modern 'House Call' is Cost-Effective Model for Improving Blood Pressure

October 6 2009

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(PhysOrg.com) -- Combining home-based blood pressure monitoring and telephone counseling significantly improves a person's blood pressure control at a minimal cost, according to a study published online in the *Annals of Internal Medicine* by researchers at Duke University Medical Center.

During a two-year study, people trained to monitor their [blood pressure](#) at home while getting regular phone calls from a nurse lowered their blood pressure by 11 percent compared to a 7.6 percent decrease in blood pressure for the home monitoring group and 4.3 percent for people only getting calls.

Fewer than 40 percent of people with hypertension in the United States have adequate blood pressure control, putting them at risk for heart attack and stroke. Duke researchers said the objective of this study was to identify a tailored and cost-effective intervention that could help prevent the development of more serious cardiovascular disease.

"Given the shortage of primary care physicians and a movement toward redefining primary care, this study demonstrates that we can provide patients with education and support and do it in a cost-effective way," said Hayden B. Bosworth, PhD, the study's lead author and research professor at Duke.

"We've shown that the 'medical home' model does not require a patient to come to the primary care setting -- we can bring the care to them."

Duke has been one of the early innovators of the "medical home" concept. This new model for providing care focuses on meeting patient needs through use of health care teams to help patients navigate all aspects of their health and provide evidenced-based treatment while utilizing the latest health information technology.

This study included 636 people with hypertension who were randomly assigned to either usual care from a primary care physician, the phone intervention, blood pressure monitoring at home, or the phone intervention plus the at-home blood pressure monitoring.

The phone intervention entailed bi-monthly phone calls from a nurse who would discuss information such as medication side effects, nutritional recommendations, exercise tips and smoking cessation advice. The at-home blood pressure monitoring was conducted three times each week and the nurse was not provided with the results.

The researchers said hypertension is a condition that can primarily be managed through lifestyle modification and medication, but adherence is a significant challenge for doctors and patients alike.

"If people are informed about the side effects associated with a given medication and know what to expect, they are more likely to continue taking their medications," Bosworth said.

"The phone calls with the nurse provided a forum to discuss these topics and address other questions that may not have been discussed during a regular office visit."

Bosworth said the phone counseling sessions were tailored to the individual's medical and emotional needs.

"It is the behavior itself we are trying to modify. Whether they were just

getting started or already committed to making a change, we provided support accordingly," he said. Information discussed on the phone was then mailed to the home to reinforce the information they learned.

During the 24-month study, the cost of combining the home monitoring and phone counseling was estimated at \$416 per person compared to \$345 for the phone counseling alone and \$90 for the home blood pressure monitoring.

Bosworth notes that approximately \$400 spent over two years for the changes observed are comparable, if not cheaper, than an individual taking many hypertensive medications. He added, "Full cost savings will be difficult to realize for many years, as we can't ascertain the number of heart attacks and strokes prevented within the two year study."

One limitation of the study was that 73 percent of people had their blood pressure under control upon enrollment. Researchers note that 81 percent were controlled in the combined blood pressure monitoring and phone counseling group when the study concluded, which Bosworth described as a "clinically meaningful improvement."

The Duke team is conducting a series of studies to evaluate how this model can be replicated in other practices, including more patients and in different conditions, such as people with diabetes and those requiring care following a [heart attack](#).

The study was supported by the National Heart, Lung, and Blood Institute, a Pfizer Foundation Health Communication Initiative Award, and an Established Investigator Award from the American Heart Association.

Provided by Duke University ([news](#) : [web](#))

Citation: Modern 'House Call' is Cost-Effective Model for Improving Blood Pressure (2009, October 6) retrieved 27 April 2024 from <https://medicalxpress.com/news/2009-10-modern-house-cost-effective-blood-pressure.html>

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