Doctor–pharmacist team care improves blood pressure control

Background:

High blood pressure affects over 1 billion people in the world. Uncontrolled high blood pressure contributes to about 7 million deaths worldwide each year. Controlling blood pressure can reduce the risk of heart failure by more than 50%, stroke by 35-40%, and heart attack by 20-25%. In 2003-2004, blood pressure was controlled in only about 37% of the 65 million Americans with high blood pressure. Educating people and health care providers about blood pressure control can lead to improved control, but more needs to be done. Using teams of different types of providers who collaborate on patient care has shown promise for controlling blood pressure.

Goals of the study:

To evaluate the ability of a doctor–pharmacist collaborative care model to improve blood pressure control.

Who was included in this study?

Men and women 21 to 85 years old with poorly controlled blood pressure could participate in the study. People with diabetes were not included. Participants were 61 years old on average. All were seen in outpatient medical clinics with faculty doctors from the University of Iowa. The final study groups included 101 patients in the collaborative care group and 78 patients in a "usual care" control group.

What was the study design and intervention?

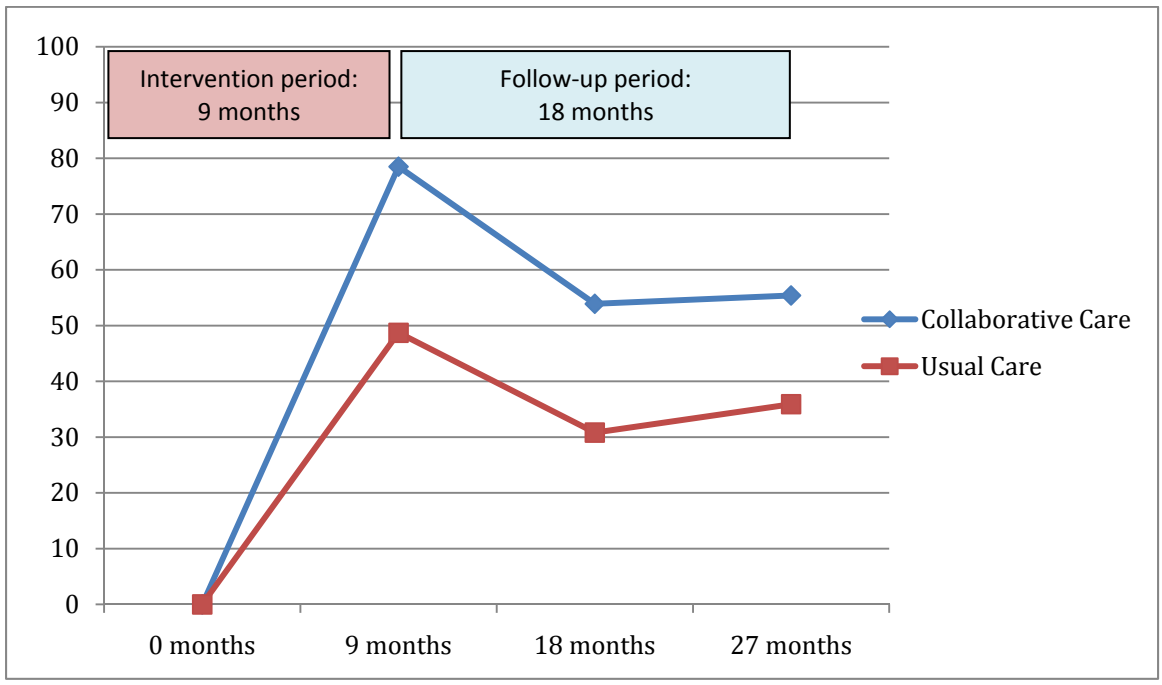
The study randomly assigned clinics to provide collaborative care or usual care for 9 months. Providers at all sites received educational lectures on controlling blood pressure. The collaborative care intervention took place in 2 clinics and included 5 pharmacists. The doctors and pharmacists in the collaborative care clinics went through team-building exercises and discussed different ways to improve blood pressure control in patients. Two 90-minute training sessions were conducted with the pharmacists to make sure that their approach was consistent. Pharmacists met with patients at the first visit. They made sure treatment was delivered according to guidelines for treating hypertension, recommended medication changes to help quickly decrease blood pressure to the goal, and worked with patients to ensure medications were being taken as prescribed. Pharmacists were encouraged to attend the patients' follow-up clinic visits with doctors at 2, 4, 6, and 8 months, and to make further contact with patients if blood pressure remained uncontrolled.

What did we find?

At the end of the 9-month study, blood pressure was at goal in 89% of patients in the collaborative care group and 53% of patients in the usual care group. The figure below shows results for a group of patients who were included in a follow-up study. No further pharmacist care was provided, but differences in blood pressure control rates were maintained for the 18 months following the study. This suggests that the collaborative care model had a lasting effect. However, the decrease in blood pressure

control over time raises the question of whether continued collaborative care might have done a better job of keeping the blood pressure controlled. It was also interesting that blood pressure control also improved in the usual care control group.

% of Patients with Blood Pressure at Goal at the End of the Intervention and During Follow-up



Conclusions:

- Patients' blood pressure was better controlled when pharmacists worked with doctors to provide care, compared to when doctors worked on their own, during the 9-month study.
- After the 9-month study ended, blood pressure control decreased in both groups. This may mean that some patients would have been helped if pharmacists had kept working with the doctors for longer than 9 months.
- The collaborative care patients had better blood pressure control than the usual care patients for 18 months after pharmacists stopped working with them. This suggests the doctor–pharmacist collaboration had lasting effects.

The summary above is based on studies by Barry Carter, PharmD, and colleagues at the University of Iowa. The full articles appear in J Clin Hypertens 2008;10(3):1-12 and Pharmacotherapy 2010:30(3):228-35. This work was supported by the National Heart, Lung, and Blood Institute (HL069801); the Center for Research in Implementation of Innovative Strategies in Practice, Department of Veterans Affairs, Veterans Health Administration, Health Services Research and Development Service (HFP 04-149); and an Agency for Healthcare Research and Quality (AHRQ) Centers for Education and Research on Therapeutics cooperative agreement #5 U18HSO16094 (the Iowa Older Adults CERT).