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Online pharmacists helped more patients keep hypertension under control, study shows

By Kyung M. Song, Seattle Times 6/25/08

Two-thirds of Americans with hypertension do not keep their blood pressure in check, despite well-known dangers of strokes, heart attacks and other serious consequences. But in a novel experiment, Seattle's Group Health Cooperative found that **adding an extra level of care — monitoring by a pharmacist over the Web — significantly reduced the number of out-of-control hypertension cases**.

The study, which appeared in Tuesday's issue of the Journal of the American Medical Association (JAMA), may be the first to demonstrate how a **combination of Web-based care and patient access to electronic medical records can improve health without extra physician visits**.

Investigators randomly assigned 778 Group Health members previously diagnosed with hypertension, or high blood pressure, to three groups. One group received the "usual care" with an educational pamphlet. People in this group were told their blood pressure remained too high and were advised to consult their doctors. The second group received the usual care plus a free Omron-brand home blood-pressure monitor and training so they could check their blood pressure at least twice a week. They also were tutored in how to use Group Health's Web site to access their medical records and how to send secure messages to their physicians. The third group was identical to the second, except a pharmacist tracked participants' progress. Every two weeks, patients in this group sent their blood-pressure readings to pharmacists via secure messaging. The pharmacists had prescribing authority to adjust dosages and even to switch medications, if warranted.

Monitoring by pharmacists, it turned out, made a big difference. For patients in this group, the systolic reading — the first number in a blood-pressure reading — had dropped by an average of 14.2 points after one year.

Web tutoring and the free monitor, on the other hand, made little difference. Patients in that group had an average systolic blood-pressure drop of 8.2 points. That was better than the 5.3-point drop in the usual-care group but also could have resulted from chance.

In all, **56 percent of patients in the pharmacist-intervention group got their condition under control**, defined as an average reading of below 140/90. That's compared with **31 percent in the usual-care group** and **36 percent in the tutoring-and-free-monitor group**.

Pharmacists made the biggest relative difference among patients with the highest blood pressure. "What's exciting is that you can provide care without the patient coming into the office," said Dr. Beverly Green, the study's lead investigator and a Group Health family physician.

Investigators aren't sure exactly why pharmacists helped. Their patients took an average of 2.16 medications for high blood pressure daily, compared to 1.69 medications for the typical usual-care patient. **Patients in the pharmacist group also stayed in touch more frequently with their doctors via secure messaging**. An accompanying editorial in JAMA, co-written by the president of the American Heart Association, cautioned that it may be difficult to replicate the Group Health study elsewhere. The co-op operates its own clinics and employs its own doctors, giving it both the integrated health records and financial incentives to manage chronic diseases.

Still, the **editorial called the current "physician-centric model" for blood-pressure treatment inadequate and called the Group Health trial a promise of "significant turn for the better."**

What is hypertension?

THOUGH IT USUALLY HAS NO SYMPTOMS, hypertension — high blood pressure — can cause strokes, heart attacks and other serious problems. It is measured in two numbers:

Systolic blood pressure, the first number in a reading, represents the force exerted by blood against the arterial walls during a heartbeat.

Diastolic blood pressure, the second number, represents the pressure against arterial walls when the heart is at rest.

A reading of:

120/80 or lower is normal blood pressure;

140/90 or higher is high blood pressure;

between 120 and 139 for the top number, or between 80 and 89 for the bottom number, is considered pre-hypertension

Source: National Heart, Lung, and Blood Institute