Medical Home Intervention Improves Hypertension

BY DIANA MAHONEY

MINNEAPOLIS — Hypertensive patients in a medical home intervention were significantly more likely to reach their blood pressure goals by the third year of a 4-year pilot intervention, compared with matched patients seen at a traditional internal medicine clinic.

Based on the findings, Dr. Mary Sue Beran of Park Nicollet Health Services in Minneapolis and her colleagues speculated that the availability of chronic care nurses to manage patient registries and provide regular feedback to providers, and the establishment of a care team to help manage medically complex patients, may have contributed to the results obtained in the medical home setting.

In 2006, one internal medicine clinic within the Park Nicollet organization began reorganizing as a medical home in order to improve the quality of care of patients with complex medical conditions, Dr. Beran said at the annual meeting of the Society of General Internal Medicine.

"This was a phased intervention over time, beginning in 2006 with the addition of one chronic care nurse. By mid-2007, the clinic had four full-time nurses devoted to chronic disease management."

In a 2008 care-team redesign, the clinic formed teams comprising three or four physicians, a department assistant, a medical information nurse, call staff, and a chronic disease nurse who facilitated such things as visit planning to make sure patients' lab appointments were scheduled at the time of their visits. "They also developed an electronic care plan, and had care coordinators available on-site to identify and remove barriers to care," Dr. Beran reported. In early 2009, the phone system was redesigned to improve phone access.

To evaluate whether the medical home intervention improved the quality of care in these patients, compared with a control group of patients from another internal medicine clinic within the Park Nicollet organization, "we used a retrospective cohort study design, analyzing the data that had been collected by electronic medical record over a 5-year period, beginning in 2005, before the intervention and yearly through 2009," Dr. Beran said. Patients in the study were 18 years or older and had at least one chronic health condition: hypertension, type 2 diabetes, coronary artery disease (including peripheral artery disease), or heart failure. Patients had to have been seen at least once annually at one of the sites during the study period.

"The first outcome we looked at was hypertension, and our main outcome measure was whether patients, on their last blood pressure result for a given calendar year, met their outcome goal, which differed depending on medical complexity," Dr. Beran said. For patients with hypertension only, the outcome goal was a blood pressure below 140/90 mm Hg; for patients with concomitant heart failure, coronary artery disease, or type 2 diabetes the goal was below 130/80 mm Hg.

Of the 2,611 patients who met the study criteria, 1,119 were in the intervention group and 692 were in the control group. "The difference in size reflects the difference in the sizes of the clinics," Dr. Beran explained. "There were 14 physicians at the intervention site and 5 at the control site."

At baseline, blood pressures were not significantly different between the intervention and control sites, although adjusted clinical group score, which measures the burden of illness, was slightly higher among the intervention patients.

Most patients were white, the payer group was primarily Medicare or commercial insurance at both sites, and patient age was slightly higher in the intervention group.

In the unadjusted model, "the percentage of patients meeting their blood pressure goals by site over time improved in both groups," Dr. Beran reported. In the adjusted model, which looked at the population overall, women were less likely than men to reach their blood pressure goal, and the likelihood of meeting the goal decreased with increasing age. Patients with hypertension only were significantly more likely to reach the blood pressure goal, she said.

No significant differences in the likelihood of achieving blood pressure goals were observed between the intervention and control sites for 2006, but moderate increases were observed in 2007, Dr. Beran said. "In 2008, there was a statistically significant increase in the likelihood of achieving blood pressure goals in the intervention group, compared with the control group, with an odds ratio of 1.64," she reported.

In 2009, "the differences in the likelihood of reaching the blood pressure goal between the intervention and control patients diminished, although it was still statistically significant, with an odds ratio of 1.26," Dr. Beran said. This trend coincided with significant effort within the organization overall to improve the quality of care and to increase transparency, and with the adoption of care components—such as the use of multiple blood pressure measurements to assess hypertension in at-risk patients—already in place in the medical home model.

"In many ways, the medical home intervention, in effect, raised the bar for quality in the organization," she said, although more research is needed. ■

VITALS

Major Finding: Hypertensive patients in a medical home model of care were more likely to reach their blood pressure goal than were those in a traditional internal medicine clinic (OR 1.26).

Data Source: A retrospective cohort study of 2,611 patients with hypertension at two internal medicine clinics within the same health care organization.

Disclosures: Dr. Beran had no financial conflicts of interest to disclose.

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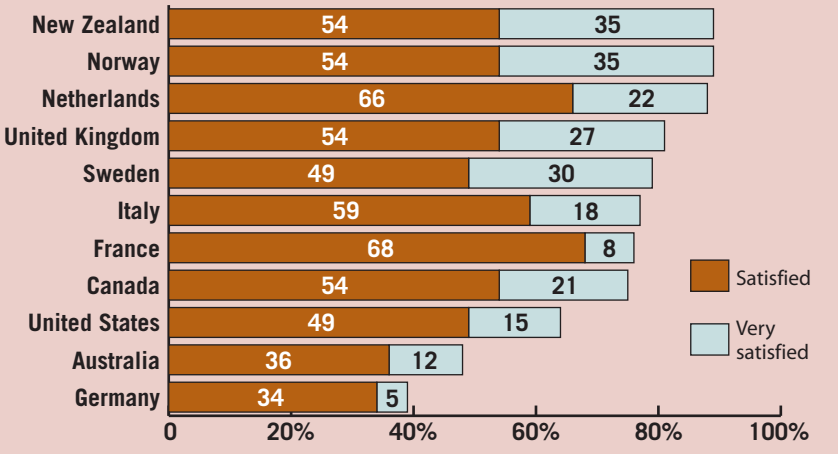

Note: Data collected from 10,320 primary care physicians from February to July 2009.
Source: The Commonwealth Fund

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