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Hypertension improvement program associated with increase in blood pressure control rates

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Implementation of a large-scale hypertension program that included evidence-based guidelines and development and sharing of performance metrics was associated with a near-doubling of hypertension control between 2001 and 2009, compared to only modest improvements in state and national control rates, according to a study in the August 21 issue of *JAMA*.

"Hypertension affects 65 million adults in the United States (29 percent) and is a major contributor to cardiovascular disease. Although effective therapies have been available for more than 50 years, fewer than half of Americans with hypertension had controlled blood pressure in 2001-2002. Many quality improvement strategies for control of hypertension exist, but to date, no successful, large-scale program sustained over a long period has been described," according to background information in the article.

Marc G. Jaffe, M.D., of the Kaiser Permanente South San Francisco Medical Center, South San Francisco, Calif., and colleagues conducted a study to examine the results of a hypertension program in Northern California and to compare rates of hypertension control in that program with statewide and national estimates. The Kaiser Permanente Northern California (KPNC) hypertension program included a multifaceted approach to blood pressure control. Key elements of the program include establishment of a comprehensive hypertension registry, development

and sharing of performance metrics, evidence-based guidelines, medical assistant visits for blood pressure measurement, and single-pill combination pharmacotherapy. Patients identified as having hypertension within an integrated health care delivery system in Northern California from 2001-2009 were included.

The comparison group comprised insured patients in California between 2006-2009 who were included in the Healthcare Effectiveness Data and Information Set (HEDIS) commercial measurement by California health insurance plans participating in the National Committee for Quality Assurance (NCQA) quality measure reporting process. A secondary comparison group was included to obtain the reported national average NCQA HEDIS commercial rates of hypertension control between 2001-2009 from health plans that participated in the NCQA HEDIS quality measure reporting process.

Between 2001 and 2009, the KPNC hypertension registry increased from 349,937 to 652,763. Among hypertension registry members, the average age was 63 years. More than half of registry members were women, and the proportion was similar across study years.

The researchers found that the NCQA HEDIS commercial hypertension control rate within KPNC increased after implementation of the hypertension program from 43.6 percent in 2001 to 80.4 percent in 2009. "In contrast, the national mean NCQA HEDIS control rate increased from 55.4 percent to 64.1 percent between 2001 and 2009. California-wide control rates were available since 2006 and were similar but slightly higher than the national average (63.4 percent vs. 69.4 percent from 2006 to 2009)," the authors write.

Following the study period, the NCQA HEDIS hypertension control rate within KPNC continued to improve, from 83.7 percent in 2010 to 87.1 percent in 2011.

The authors also found that the rate of lisinopril-hydrochlorothiazide single-pill combination (SPC) prescriptions in KPNC increased from 13 to 23,144 prescriptions per month from 2001 to 2009. During this period, the percentage of angiotensin-converting enzyme (ACE) inhibitor prescriptions dispensed as an SPC (in combination with a thiazide diuretic) increased from less than 1 percent to 27.2 percent

"In summary, implementation of a large-scale hypertension program was associated with improvements in hypertension control rates between 2001 and 2009," the researchers conclude.

In an accompanying editorial, Abhinav Goyal, M.D., M.H.S., and William A. Bornstein, M.D., Ph.D., of the Emory School of Medicine, Atlanta, comment on the findings of this study.

"The transition to value-based models in all sectors of U.S. health care and the looming growth of accountable care organizations and shared savings models provides a framework wherein health care organizations have the flexibility to implement care models optimized to deliver the best outcomes at the lowest cost, without being constrained to face-to-face physician encounters to drive reimbursement. In this context, studies such as the one by Jaffe et al on the science of health system-level quality improvement are particularly powerful and hopefully will prompt hypertension guidelines and perhaps other guidelines to include recommendations about system-level approaches to managing risk factors."

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