Certificate of Need Regulations and Hospital Mortality

To the Editor: Dr Vaughan-Sarrazin and colleagues found that states with continuous certificate of need (CON) regulations had higher hospital volume and lower mortality rates for coronary artery bypass graft (CABG) surgery. However, the Medicare Provider Analysis and Review (MedPAR) files that the authors used do not include data for patients enrolled in Medicare Part C, which covers almost all Medicare managed care patients. Population-weighted Medicare managed care penetration rates differ considerably by CON status: in December 1999 the penetration rates were 26.4% for states with no CON regulations, 17.6% for those with continuous CON regulations, and 16.9% for those with intermittent CON regulations. Thus, the data may be missing information for as many as 25% of patients undergoing CABG surgery in states without CON. Therefore, the results of Vaughan-Sarrazin et al probably overstate the difference in average volume between states with and without CON regulations. Moreover, the reported mortality differentials between regulated and unregulated states do not include managed care patients.

There is evidence that higher health maintenance organization (HMO) market penetration leads to lower expenditures for all Medicare beneficiaries at the county level. The lower expenditures may lead to worse outcomes for Medicare beneficiaries, although this relationship has not been established. Medicare HMO enrollees have also been found to be younger, to have less disability, and to have lower odds of mortality over a 2-year period than fee-for-service beneficiaries. Therefore, Medicare HMO patients receiving CABG surgery may have lower mortality than fee-for-service patients. Although Vaughan-Sarrazin et al acknowledge the potential for confounding due to missing data for managed care penetration in their study, this weakness should not be discounted. At least some of the differences in hospital volume and mortality that are attributed to CON status instead may be related to increased Medicare managed care penetration during the study period.

Vivian Ho, PhD
Department of Health Care Organization and Policy
University of Alabama at Birmingham

In Reply: We agree with Dr Ho that the absence of information on patients enrolled in Medicare managed care plans in the database used in our study represents a potential methodological limitation. However, we do not believe that the potential impact is as marked as Ho suggests. First, the difference in managed care penetration between states with continuous CON regulation and no CON regulation cited by Ho (26% vs 18%, respectively) is not enough to eliminate the dramatic difference in mean annual hospital volumes for CABG surgery in the 2 groups (191 vs 104, respectively). Even if rates of CABG surgery were the same among managed care and traditional fee-for-service enrollees, mean hospital volumes would still be roughly 70% higher in states with continuous CON. However, the true impact of the missing managed care data is likely to be less, given that managed care enrollees are younger and healthier than fee-for-service enrollees, and are, therefore, likely to have lower rates of CABG.

In addition, Maciejewski et al reported that persons who disenroll from Medicare managed care plans (roughly 3.8% each year), whether by their own initiative or by the plan’s initiation, have a mortality rate that is even higher than that for fee-for-service enrollees. Given the factors that lead to disenrollment, it is likely that managed care enrollees return to fee-for-service care when faced with more serious illness (as may occur when patients require coronary revascularization or other interventions), and thus may be likely to appear in Medicare fee-for-service databases.

Finally, we agree with Ho that Medicare managed care enrollees who undergo CABG surgery are likely to have lower postoperative mortality rates. However, if such patients were included in our analysis, it is also likely that a substantial proportion of their lower mortality would have been captured by our multivariable risk-adjustment model, which included such factors as age, comorbid conditions (eg, congestive heart failure, diabetes, peripheral vascular disease), and higher-risk clinical scenarios (eg, acute myocardial infarction). Thus, the multivariable odds ratios reported in our article are probably subject to less bias due to missing managed care enrollees than are data based on unadjusted mortality rates.

Mary Vaughan-Sarrazin, PhD
Gary E. Rosenthal, MD
Division of General Internal Medicine
Iowa City Veterans Affairs Medical Center
University of Iowa Carver College of Medicine
Iowa City


©2003 American Medical Association. All rights reserved.