

**Impact of Outsourcing VA Cardiac Surgery On  
The Cost and Quality of Care  
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**BACKGROUND / RATIONALE:**

Coronary artery bypass surgery (CABG) is an effective treatment for many patients with ischemic heart disease. Although the VA has an ongoing program to assess CABG outcomes, most of the 43 VA hospitals that perform CABG have relatively low patient volumes. No prior studies have compared CABG outcomes in VA and private sector hospitals.

**OBJECTIVE(S):**

The objectives of this study were to compare severity-adjusted mortality and patient perceptions of care in patients in VA and private sector hospitals undergoing CABG, and to provide empirical information for assessing the potential impact of outsourcing cardiac surgery.

**METHODS:**

The study had three phases. Phase 1 involved secondary analysis of clinical data on consecutive males undergoing CABG during 10/93-12/96 in VA hospitals (n=19,266) and private sector hospitals in Northeast Ohio (n=9,696) and New York State (n=44,247). These data were used to develop multivariable models for comparing outcomes in VA and private sector hospitals. Phase II examined the generalizability of Phase I findings to regions other than New York and Northeast Ohio and involved secondary analysis of VA PTF and Medicare claims data of male patients aged 65 years and older undergoing CABG during 1994-1999 in VA hospitals and in all private sector hospitals nationally. Phase III compared perceptions of quality by patients undergoing CABG in VA and private sector hospitals, using a common instrument and data that was previously collected by VA hospitals and by the Picker Institute in concurrent cohorts.

**FINDINGS / RESULTS:**

Phase I identified 11 patient-level independent ( $p < .01$ ) predictors of mortality in the VA, New York, and Ohio databases. Adjusting for these variables, the odds of death was higher in VA patients, relative to patients in both New York and Ohio (OR, 1.86; 95% CI, 1.67 - 2.05;  $p < .001$ ) or relative to patients in only New York (OR, 2.13;  $p < .001$ ) or Ohio (OR, 1.78;  $p < .001$ ). Median hospital volume was lower in VA than private sector hospitals (410 vs. 1,520). Including volume in the risk-

adjustment model decreased the odds of death in VA patients, relative to New York and Ohio patients (OR, 1.34;  $p < .001$ ). In stratified analyses, the odds of death in VA patients were similar in low volume (<500 procedures) hospitals (OR, 0.86;  $p = .39$ ), but higher in moderate volume (500-1000 procedures) hospitals (OR, 1.50;  $p = .01$ ). These findings were relatively insensitive to the potential effect of an unmeasured covariate. Phase II found, using VA and Medicare claims data, higher odds of death in VA patients, relative to private sector patients during 1994-96 (OR, 1.76;  $p < .001$ ) and 1997-99 (OR, 1.71;  $p < .001$ ). Phase III found that perceptions of care (as measured by patient-reported problems with specific dimensions of care) were generally lower in VA than private sector patients. With the exception of 'transition to discharge,' higher ( $p < .001$ ) proportions of VA patients noted one or more problems in each dimension: access (27% vs. 21%); coordination (48% vs. 40%); courtesy (11% vs. 5%); information (50% vs. 40%); emotional support (51% vs. 41%); family involvement (43% vs. 38%); physical comfort (32% vs. 22%); and patient preferences (49% vs. 41%). Results were similar in multivariable analyses, adjusting for age, race, health status, and DRG.

#### **STATUS:**

This project is completed.

#### **IMPACT:**

The study provides important empirical data about outcomes of CABG in VA and private sector hospitals, as well as the impact of hospital volume. The data also provides a basis for initiating aggressive process improvement efforts or examining alternative organizational strategies for delivering CABG to VA patients, such as regionalizing cardiac surgery programs in fewer hospitals to create higher volume centers.

#### **PUBLICATIONS:**

##### **Journal Articles**

1. Fera MI, Sarrazin MV, Rosenthal GE. Perceptions of care of patients undergoing coronary artery bypass surgery in Veterans Health Administration and private sector hospitals. *American Journal of Medical Quality : The Official Journal of The American College of Medical Quality* 2003; 18: 242-250.
2. Hannan EL, Sarrazin MS, Doran DR, Rosenthal GE. Provider profiling and quality improvement efforts in coronary artery bypass graft surgery: the effect on short-term mortality among Medicare beneficiaries. *Medical Care* 2003; 41: 1164-1172.
3. Vaughan-Sarrazin MS, Hannan EL, Gormley CJ, Rosenthal GE. Mortality in Medicare beneficiaries following coronary artery bypass graft surgery in states with and without certificate of need regulation. *JAMA : The Journal of The American Medical Association* 2002; 288: 1859-1866.