A decade of change—risk profiles and outcomes for isolated coronary artery bypass grafting procedures, 1990–1999: a report from the STS National Database Committee and the Duke Clinical Research Institute. Society of Thoracic Surgeons

Ferguson TB Jr, Hammill BG, Peterson ED, DeLong ER, Grover FL; Society of Thoracic Surgeons National Database Committee

Society of Thoracic Surgeons National Database Committee, Chicago, Illinois, USA

Background: The Society of Thoracic Surgeons National Adult Cardiac Database is the largest voluntary clinical database in medicine. Using this database we examined changes in the risk profile of patients undergoing isolated coronary artery bypass grafting (CABG) and their outcomes during the decade 1990 to 1999.

Methods: Trends in 23 preoperative risk factors were tracked for CABG cases during this decade. Using a multivariate logistic risk model, we also determined the degree to which operative risk and risk-adjusted operative mortality changed during this 10-year interval.

Results: Between 1990 and 1999, 1,154,486 patient records were harvested by the Society of Thoracic Surgeons National Adult Cardiac Database for isolated CABG procedures performed at 522 Society of Thoracic Surgeons participant sites in the United States and Canada. Over time, CABG patients were more likely to be older (mean age 63.7 in 1990, 65.1 in 1999), of female gender (25.7% women in 1990, 28.7% in 1999), and have a history of smoking, diabetes mellitus, renal failure, hypertension, stroke, chronic lung disease, New York Heart Association functional class IV, and three-vessel disease ($p < 0.0001$). Patients' predicted operative risk increased by 30.1%, from 2.6% in 1990 to 3.4% in 1999. Despite higher risk, observed operative mortality decreased by 23.1%, from 3.9% in 1990 to 3.0% in 1999 ($p < 0.0001$). During the decade, a Medicare-aged subset ($n = 629,174$) experienced similar increases in risk and declines in mortality.

Conclusion: Patients referred for isolated CABG are significantly older, sicker, and have a higher risk than a decade ago. Despite this, CABG mortality rates have declined substantially. These results highlight the excellent progress in the care of CABG patients achieved during the past decade.

Annals of Thoracic Surgery. 2002 Feb;73:480–489; discussion 489–490.