Public Reporting and Case Selection for Percutaneous Coronary Interventions: An Analysis From Two Large Multicenter PCI Databases

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Background. Prior studies have suggested that public reporting (PR) of CABG mortality might result in case selection bias and in denial of care to or outmigration of high risk patients. There are no data on the potential effect of PR on case selection for percutaneous coronary interventions (PCI). Therefore, we compared demographic data and indications for PCI from a large multicenter PCI database in Michigan (MI, no PR present) with those from a large multicenter database in New York (NY, PR present).
Methods. Baseline demographic, clinical data and indications for PCI were prospectively collected from 10,702 consecutive PCI in a consortium of 7 hospitals in MI, and 10,847 consecutive PCI in a consortium of 5 hospitals in NY from 1998-1999.
Results. Compared to NY, patients in MI were more likely to undergo PCI for acute myocardial infarction (13.7 vs. 10.2 %, p<0.001) and cardiogenic shock (2.5% vs. 0.3%, p<0.001). The MI cohort was also more likely to undergo emergency PCI, and had a higher prevalence of prior CABG, CHF and PVD (Table).
Conclusion. 1) There are significant differences in case mix between patients undergoing PCI in MI compared to NY. 2) These differences suggest a propensity in NY toward not intervening on higher risk patients. 3) A fear of public reporting and a case selection bias in NY is one plausible but unproven explanation for these differences.

Variable	Michigan	New York	p
Age	62.5±12	63.9±11.7	<0.01
Congestive Heart Failure (CHF)%	12.7	11.5	0.005
Peripheral Vascular Disease (PVD)%	14.9	7.4	<0.001
Prior CABG%	17.1	10.7	<0.001
Creatinine > 2.5 mg/dl %	1.85	1.6	ns
Acute MI %	13.7	10.2	<0.001
Cardiogenic Shock %	2.5	0.3	<0.001
Emergency procedure (%)	15	7.9	<0.001

A Simple Quality Improvement Program Improves Cardiovascular Preventive Care Offered by Medical Housestaff at a Large, Urban Hospital Treating a High-Risk Inpatient Population

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BACKGROUND: While cardiovascular disease (CVD) risk factor modification clearly results in lower cardiac morbidity and mortality, great inconsistencies remain in the quality of actual CVD preventive care. Thus, we implemented a simple Quality Improvement Program (QIP) to impact the delivery of preventive CVD care offered by medical housestaff at a large, urban institution.
METHODS: The QIP consisted of a series of housestaff-directed lectures justifying secondary CVD preventive care, a web-based teaching module, pocket guideline cards, discharge checklists, reminder e-mails, patient education handouts, nurse case-manager support, and audit feedback. All patients admitted in the 2-month period before (N=144) and after (N=76) QIP implementation to general medical housestaff services with a new diagnosis or old history of CVD or diabetes were used to assess the efficacy of the QIP. Demographic, clinical, and outcome patient data were gathered by retrospective review of medical record discharge summaries. Compliance with key quality indicators of CVD preventive care was compared between patients in the before- and after-QIP arms.
RESULTS: Compared to the baseline documentation, after-QIP patients were more likely to receive an in-hospital lipid profile assessment (53% vs. 37%, p < 0.03), a physical activity level assessment (41% vs. 15%, p < 0.001), and a formal discharge exercise prescription (22% vs. 10%, p = 0.01). The QIP also increased the likelihood of appropriate patients being discharged on beta-blockers (68% vs. 53%, p < 0.03), angiotensin-converting enzyme inhibitors or angiotensin receptor blockers (76% vs. 60%, p < 0.03), and statins (55% vs. 40%, p < 0.04). No significant changes between the before and after groups occurred with respect to long-term glycemic control assessment, dietary or smoke cessation counseling, or discharge on antiplatelet or hypoglycemic therapy.
CONCLUSIONS: A QIP like the one described here is both easy to implement and an effective means to improve preventive CVD care delivered by medical housestaff at a large, urban teaching hospital. The auditing process of such a program is particularly vital since it identifies areas where improvement is necessary.

Association of Medical School Training and Quality of Myocardial Infarction Care

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Background. We sought to determine if treatment of acute myocardial infarction (AMI) is associated with where the physician attended medical school.
Methods. We used the Cooperative Cardiovascular Project Database to identify Medicare beneficiaries admitted with an AMI from 1994 to 1995. Detailed clinical information from chart review were used to determine ideal candidates for aspirin and beta-blocker use. The top 20 U.S. medical schools were determined based on mean MCAT score of students from 1994-2001. The fraction of physicians from a top 20 school for each 3-digit zip code was determined using the AMA Physician Masterfile.
Results. The mean age of 175,109 patients with confirmed AMI was 74+/- 9 years and

47% were female. Use of recommended treatments was higher for patients residing in areas with more physicians that went to highly ranked medical schools (Table). After adjustment for patient characteristics, mean income, education level, hospital teaching status and physician specialty, the quartile with the highest fraction of physicians from top schools (relative to the lowest quartile) had greater use of aspirin (odds ratio 1.3, 1.1-1.4)and beta-blockers (OR 1.1, 1.0-1.3) during hospitalization.
Conclusions. Elderly AMI patients residing in areas with a high proportion of physicians from highly ranked medical schools received care that is more in compliance with guidelines than did patients residing in areas with fewer physicians from highly ranked schools.

AMI Treatment among Ideal Candidates	Percent of Local Physicians from Top 20 Medical Schools			
	>18%	13%-18%	8%-12%	<8%
Aspirin Inpatient (%)	85.3	82.2	83.6	81.6
Aspirin Outpatient (%)	78.1	76.4	76.1	75.3
Beta-Blocker Inpatient (%)	57.2	52.4	55.1	47.4
Beta-Blocker Outpatient (%)	49.1	44.1	47.4	40.9

POSTER SESSION

1048   Outcomes Assessment After Cardiothoracic Surgery

Sunday, March 17, 2002, Noon-2:00 p.m.
Georgia World Congress Center, Hall G
Presentation Hour: 1:00 p.m.-2:00 p.m.

Perioperative Creatine Kinase Elevation Is a Strong Predictor of Early and Late Mortality After Coronary Bypass Grafting

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Background: The significance of myocardial creatine kinase (CK-MB) elevation after coronary artery bypass grafting (CABG) remains unclear.
Methods: We studied 3009 patients who underwent isolated CABG at our institution in 1994 and 1995. Clinical and laboratory findings(including CK and CK-MB%) were prospectively collected. Five-year mortality was tracked using the social security death index. The impact of CK-MB on mortality was examined using Cox regression models, after adjusting for the preoperative severity score and cardiopulmonary bypass time. The preoperative severity score is a previously validated index that includes predictors of mortality following CABG.
Results: After correcting for the preoperative severity score and bypass time, CK-MB% was an idependent predictor of early and late mortality. Values of 3 and 4% were associated with higher mortality (hazard ratios of 1.35 and 1.72 respectively). When CK-MB exceeded 5 or 9%, hazard ratios were higher (1.84 and 2.55, respectively). Kaplan-Meier survival curves for quintiles of patients are shown.
Conclusions: Perioperative CK-MB elevation was a strong predictor of mortality after CABG. This effect was independent of known predictors of mortality, and consistent from 1st to 5th year. Even minor elevations carried a higher risk of death. Although the mechanism of this association is unclear, CK-MB elevation after surgical revascularization carried the same prognostic implications described with percutaneous interventions.
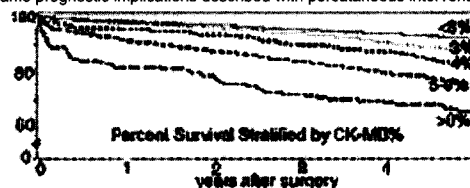
Sex Differences in Quality of Life Six Months After Coronary Artery Bypass Surgery

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Background. Whether coronary artery bypass grafting (CABG) is associated with more unfavorable outcomes in women than in men is unclear, and few studies have examined patients' perspectives.
Methods. We compared cardiac symptoms, quality of life (QOL), depressive symptoms and rehospitalization rates between 294 women and 787 men who underwent first CABG consecutively at Yale-New Haven Hospital between 2/99 and 1/01. QOL was measured by means of the SF-36 Health Survey and 2 summary scales, the Physical (PCS) and Mental (MCS) Component Scales, were computed. Participants were followed for 6 months after hospital discharge. Patients <30 years and those who underwent combined surgeries were excluded.
Results. Women were older than men (70 versus 64 years) and more often had a history of diabetes, hypertension, unstable angina and renal insufficiency, but there were no differences in prior history of MI. At baseline women had lower PCS and MCS scores and more depressive symptoms. They also had higher NYHA angina class and were more likely to have heart failure and undergo emergent or urgent CABG, despite fewer number