From Here to JUPITER: Identifying New Patients for Statin Therapy Using Data From the 1999–2004 National Health and Nutrition Examination Survey

Summary: Current strategies for the primary prevention of cardiovascular disease, based on guidelines from the National Cholesterol Education Panel/Adult Treatment Panel III, focus on lowering low-density lipoprotein (LDL) cholesterol in individuals with increased cardiovascular risk and above-goal LDL values. A new clinical trial, Justification for the Use of Statins in Primary Prevention: An Intervention Trial Evaluating Rosuvastatin (JUPITER), showed improved cardiovascular outcomes in patients without coronary heart disease who had at-goal LDL values but elevated high-sensitivity C-reactive protein values and were treated with a statin medication. We estimate that these findings have the potential to impact ~20% of the adult population of men aged ≥50 years and women aged ≥60 years who would otherwise not be recommended for statin therapy. This translates into an estimated 11 144 000 (95% CI, 10 053 000 to 12 235 000) adults, including 8 071 000 (95% CI, 7 173 000 to 8 969 000) with high-sensitivity C-reactive protein ≥2 mg/L and LDL <130 mg/dL ("strict" JUPITER criteria) and an additional 3 073 000 (95% CI, 2 404 000 to 3 743 000) with high-sensitivity C-reactive protein ≥2 mg/L and LDL between 130 and 160 mg/dL for whom the JUPITER findings might reasonably be extended. Thus, based on existing guidelines and JUPITER’s findings, ~80% of the middle-aged to elderly population in the United States may now have an indication for statin therapy. Expanding recommendations for statin therapy to include individuals with at-goal LDL cholesterol but elevated high-sensitivity C-reactive protein values will pose increasing challenges for health care providers and systems already struggling to reach individuals with a National Cholesterol Education Program/Adult Treatment Panel III indication for statin therapy but offers a potential opportunity for advancing risk-reduction strategies.

Conclusions: JUPITER’s findings have the potential to impact treatment recommendations for ~20% of middle-aged to elderly adults, thus increasing the proportion of this segment of the population with an indication for statin therapy to nearly 80%.1

Statin Cost-Effectiveness in the United States for People at Different Vascular Risk Levels

Summary: We combined randomized controlled trial data from the 20 536-participant Heart Protection Study of statin therapy with medical care costs from the United States to estimate the cost-effectiveness of 40 mg simvastatin daily for people at different levels of vascular disease risk in the United States. During the 5-year study period, we estimated that allocation to simvastatin would reduce US hospital costs for vascular events by about one fifth. At a daily cost of $1 for 40 mg generic simvastatin, the estimated costs of preventing a vascular death during the study ranged from a net saving of $1300 among participants with a 42% 5-year risk of heart attack, stroke, or revascularization procedure (major vascular event; equivalent to a 40% 10-year risk of heart attack or coronary death) to a net cost of $216 500 among those with a 5-year 12% risk (10% 10-year risk of heart attack or coronary death). The costs per life year gained with lifetime simvastatin treatment ranged from $2500 in persons aged 40 to 49 years with 42% 5-year MVE risk to about $11 000 in persons aged above 70 years at 12% risk. Extrapolation beyond the levels of risk studied in HPS suggests that generic simvastatin would be very cost-effective for US adults with annual MVE risks down to 1% (4% 10-year risk of heart attack or coronary death). We conclude that, in the United States, treatment with generic simvastatin appears to be cost-effective for a wider population than that recommended by current guidelines.

Conclusions: Treatment with generic simvastatin appears to be cost-effective for a much wider population in the United States than that recommended by current guidelines.2

Perioperative Complications After Vascular Surgery Are Predicted by the Revised Cardiac Risk Index But Are Not Reduced in High-Risk Subsets With Preoperative Revascularization

Summary: It is unclear whether preoperative coronary revascularization reduces postoperative cardiac complications in high-risk patients undergoing vascular surgery as defined by the Revised Cardiac Risk Index (RCRI). Using preoperative baseline characteristics to determine the RCRI, we validated the RCRI in patients undergoing vascular surgery and evaluated the benefit of preoperative revascularization on death and nonfatal myocardial infarction among patients with varying risk. The postoperative risk of death and nonfatal myocardial infarction after surgery increased according to the RCRI (odds ratio, 1.73; 95% CI, 1.26 to 2.38; P<0.001), with a rate of 1.6% in patients with no risk that increased to 23.4% in patients with ≥3 risks. However, preoperative revascularization was not associated with the incidence of complications in any risk subset (odds ratio, 0.86; 95% CI, 0.50 to 1.49; P=0.60). Therefore, we conclude that the risk of death and nonfatal myocardial infarction is accurately predicted by the RCRI in patients undergoing vascular surgery but is not reduced by preoperative coronary artery revascularization among any RCRI risk subset.

Conclusions: The risk of death and nonfatal myocardial infarction is accurately predicted by the RCRI in patients undergoing vascular
Use of Oseltamivir After Influenza Infection Is Associated With Reduced Incidence of Recurrent Adverse Cardiovascular Outcomes Among Military Health System Beneficiaries With Prior Cardiovascular Diseases

Summary: Few data are available regarding therapeutic use of oseltamivir and the recurrence of adverse vascular events after influenza infection among patients with vascular risk. In a retrospective study of 37,482 cardiovascular patients aged 18 and older who were diagnosed with influenza, the rate of recurrent vascular outcomes (myocardial infarction, angina pectoris, stroke, heart failure, and sudden cardiac death) within 30 days after the influenza diagnosis was 2.6 times lower among those treated with oseltamivir relative to those who were not (odds ratio, 0.417; 95% CI, 0.349 to 0.498). The mean time to recurrent outcome was 12.7 days for treated subjects and 8.1 day for untreated subjects. The exact mechanisms by which oseltamivir protects the cardiovascular patient is not clear, but influenza is believed to trigger acute cardiac events by exacerbating inflammation at the systemic and arterial levels and by increasing prothrombotic factors, hemodynamic stress, and blood viscosity. The relatively short (6 to 10 hour) half-life of the drug’s active metabolite suggests that the drug does not persist in the body much beyond the recommended 5-day treatment regimen, so it is likely that oseltamivir protects the cardiovascular patient by simply reducing the severity and duration of influenza infection, as the drug is intended to do. Given the significant role that oseltamivir is expected to play in the event of a pandemic influenza infection, further prospective study is warranted. Meanwhile, in patients with cardiovascular disease, strict adherence with current practice guidelines for prevention and treatment of influenza is recommended.

Conclusions: Our findings suggests that oseltamivir treatment for influenza is associated with significant decrease in the risk of recurrent cardiovascular (CV) events in subjects with a history of CV disease. These findings merit confirmation in further prospective and controlled studies. Meanwhile, in patients with CV disease, strict adherence with current practice guidelines for prevention and treatment of influenza is recommended.

Understanding Why Patients Delay Seeking Care for Acute Coronary Syndromes

Summary: We found that patients’ negative views regarding the trustworthiness of others as well as increased functional limitations and no previous experiences with revascularization were associated with increased intention to “wait until very sure” before seeking care for an acute coronary syndrome (ACS). In the REACT trial, this increased intention to wait was associated with actual observed and self-reported care delay. This intention to delay was associated with more, not less, frequent angina and was independent of both objective (inducible myocardial ischemia) and subjective (self-reported) assessments of patients’ ACS risk. We are the first to identify patients’ views concerning the trustworthiness of others as a risk factor for ACS care delay. This may provide new guidance for risk-stratification schemes and interventions to reduce delay.

Conclusions: Intention to delay seeking care for acute coronary syndromes is associated with a patient’s view of the trustworthiness of others, previous experience with revascularization, and functional limitations, even after adjustment for objective and perceived acute coronary syndromes risk. These findings provide insight into novel factors contributing to longer delay times and may inform future interventions to reduce delay time.

Cardiovascular Risks of Nonsteroidal Antiinflammatory Drugs in Patients After Hospitalization for Serious Coronary Heart Disease

Summary: There is limited information on the cardiovascular safety of individual NSAIIDs and coxibs in patients with serious coronary heart disease. We examined a large cohort of patients recently discharged from the hospital with coronary heart disease, tabulating the rates of subsequent serious coronary heart and serious cardiovascular disease. Five individual drugs were examined: naproxen, ibuprofen, diclofenac, celecoxib, and rofecoxib. The data suggest that in this population naproxen had better cardiovascular safety than diclofenac, ibuprofen, rofecoxib in doses >25 mg/d, and celecoxib in doses >200 mg/d.

Conclusions: In patients recently hospitalized for serious coronary heart disease, naproxen had better cardiovascular safety than did diclofenac, ibuprofen, and higher doses of celecoxib and rofecoxib.

The Impact of a Multidisciplinary Information Technology–Supported Program on Blood Pressure Control in Primary Care

Summary: Although hypertension is a leading mortality risk factor, effective programs to address poor blood pressure (BP) control are lacking. We hypothesized that a primary care information technology–supported management program could help improve BP control. Our IT-supported multidisciplinary management program significantly improved BP levels and control in primary care. These results were achieved through regular automated patient contact, nursing support as needed, and monthly feedback to physicians and pharmacists, which led to more medication dosage adjustments, changes or additions, a larger number of antihypertensive classes at study end, and a trend toward improved adherence. Our results clearly support the need for further investigation on innovative approaches that can improve the management of hypertension and other chronic diseases.

Conclusions: This multidisciplinary information technology–supported program that provided feedback to patients and healthcare providers significantly improved blood pressure levels in a primary care setting.

Quantitative Results of Baseline Angiography and Percutaneous Coronary Intervention in the COURAGE Trial

Summary: Angiographic features of the treatment arms in COURAGE were well matched, and rates of percutaneous coronary intervention (PCI) success and complete revascularization were high and not substantially influenced by health care system or gender. As in other cardiovascular trials, women were underrepresented in COURAGE. Unexpected differences in disease burden between men and women underscore the imperative that future trials of this nature should recruit a more equal balance between genders. Additionally, such trials should be limited to patients with at least moderate to severe degrees of angiographic burden of disease and ischemic jeopardy in whom complete revascularization is feasible.

Conclusions: PCI success and completeness of revascularization did not differ significantly by health care system or gender and were similar to contemporary practice. Angiographic burden of disease affected overall event rates but not response to an initial strategy of PCI plus optimal medical therapy or optimal medical therapy alone.

A Qualitative Study to Identify Barriers to Local Implementation of Prehospital Termination of Resuscitation Protocols

Summary: This is the first study to use qualitative methodology to examine the barriers and facilitators to the local implementation of
national American Heart Association guidelines for the termination of resuscitation efforts in cases of unsuccessful out-of-hospital cardiac arrest. We identified 3 distinct groups whose current policies or perceptions may impede efforts to adopt national termination of resuscitation guidelines: payers who incentivize transport; legislators who create state mandates for transport and allow only narrow use of do-not-resuscitate orders; and communities in which cultural norms are perceived to impede termination of resuscitation. Our participants suggested that national organizations, such as the American Heart Association and American College of Emergency Physicians, may serve as potential facilitators in addressing these barriers by taking the lead in asking payers to change reimbursement structures; encouraging legislators to revise laws to reflect the best available medical evidence; and educating the public that rapid transport to the hospital cannot substitute for optimal provision of prehospital care.

Conclusion: We have identified 3 influential groups who will need to work with national organizations to overcome current policies or prevailing perceptions that may impede implementing national termination of resuscitation guidelines.

Patterns of Hospital Performance in Acute Myocardial Infarction and Heart Failure 30-Day Mortality and Readmission

Summary: These findings illuminate national hospital performance for acute myocardial infarction (AMI) and heart failure (HF) mortality and readmission over a recent 3-year period, coincident with public reporting of similar data at the hospital level. In particular, the readmission rates are quite high and may represent a marked opportunity for improvement. The publication of these studies and the recognition of patterns of performance should lead to efforts to better understand the key determinants of performance and to improve patient outcomes.

Conclusions: In a recent 3-year period, 30-day risk-standardized mortality rates for AMI and HF varied among hospitals and across the country. The readmission rates were particularly high.

Improved Clinical Outcome After Acute Myocardial Infarction in Hospitals Participating in a Swedish Quality Improvement Initiative

Summary: Our results strongly suggest that participation in a quality improvement program, in which the whole care process is revised and optimized in a way that durable improvements are achieved, might not only increase the adherence to guidelines but also lead to an improved clinical outcome. With the combination of an interactive, real-time feedback generating national quality registry and a systematic quality improvement collaborative, it was not only possible to significantly improve the adherence to national acute myocardial infarction guidelines in patients hospitalized for acute myocardial infarction, but also to improve clinical outcome. Our findings are in line with those from other studies, but because our study included a matched control group of hospitals, it is likely that the improvements in mortality and cardiovascular readmissions are a result from the intervention and not from ongoing secular trends. The 2.7 and 9.1 per 100 patient-years fewer deaths and events of the combined end point, respectively, seen in hospitals in the intervention group compares favorably with what can be seen in most current randomized clinical trials of new drugs.

Conclusions: With a systematic quality improvement initiative aiming to increase the adherence to acute myocardial infarction guidelines, it is possible to achieve long-term positive effects on clinical outcome.

A Randomized Clinical Trial to Reduce Patient Prehospital Delay to Treatment in Acute Coronary Syndrome

Summary: This was the first randomized clinical trial of an educational intervention for patients at high risk for acute coronary syndrome (ACS). The intervention did not result in reduced prehospital delay or increased emergency medical services use, but resulted in increased aspirin use by patients before hospital admission. The decision to seek care promptly with the onset of ACS symptoms and use of EMS rather than other modes of transportation continues to be a significant public health challenge. Further research is required to determine how best to encourage patients who experience symptoms of ACS to seek care promptly.

Conclusions: The education and counseling intervention did not lead to reduced prehospital delay or increased ambulance use. Reducing the time from onset of ACS symptoms to arrival at the hospital continues to be a significant public health challenge.

Trends in the Use of Evidence-Based Treatments for Coronary Artery Disease Among Women and the Elderly: Findings From the Get With the Guidelines Quality-Improvement Program

Summary: The authors suggest that quality-improvement programs can improve adherence to guidelines among women and the elderly nearly eliminating treatment gaps. Improvement in adherence to guidelines, including pharmacological and nonpharmacological management, for the treatment of coronary artery disease (CAD) was demonstrated in younger and older women as well as younger and older men over a 5-year period among Get With The Guidelines-Coronary Artery Disease participating hospitals. These patterns differ from prior studies showing reductions in evidence-based therapy in relation to age and sex among CAD patients, and thereby suggest that clinicians may have become more adherent with guideline-based therapeutic recommendations for their older and women patients, particularly in the framework of a guideline-based performance improvement program. Small treatment differences observed between men and women less than age 75 years and between younger and older patients irrespective of sex were not eliminated, however, over the study period. Further study to determine whether these small remaining treatment differences are clinically relevant is warranted.

Conclusions: Among hospitals participating in Get With the Guidelines–CAD, guideline adherence has improved substantially over time for both women and men and younger and older CAD patients, with only slight age and sex differences in some measures persisting.

Regional Variation in Carotid Artery Stenting and Endarterectomy in the Medicare Population

Summary: Rates of overall carotid revascularization have fallen by more than 15% in Medicare patients over the last decade. Even though carotid endarterectomy (CEA) was used 30% less often in 2007 than in 1998, the use of carotid artery stenting CAS has grown more than 4-fold. This growth has occurred largely because CAS has been used as a substitute for CEA. Although regional variation in the use of CEA has remained fairly constant, regional variation has increased in the use of CAS. Before this variation grows any further, careful examination of the efficacy and cost-effectiveness of CAS is necessary to ensure this new procedure measures up to its well-studied predecessor.

Conclusions: Even though CEA was used less frequently in 2007 than 1998, the use of CAS has grown significantly. Although regional variation in the use of CEA has remained fairly constant, regional variation has increased in the use of CAS. Given these changes in practice patterns, careful examination of the efficacy and cost-effectiveness of CAS is necessary.
A Validated Risk Score for In-Hospital Mortality in Patients With Heart Failure From the American Heart Association Get With the Guidelines Program

Summary: The validated Get With The Guidelines-Heart Failure (GWTG-HF) risk score uses routinely collected clinical data to predict the risk of in-hospital mortality for patients hospitalized with heart failure (HF). Age, systolic blood pressure, and blood urea nitrogen (BUN) are the admission variables most predictive of in-hospital mortality, with admission heart rate, serum sodium, presence of chronic obstructive pulmonary disease (COPD), and nonblack race contributing modestly. Application of the risk score could influence the quality of care provided to patients hospitalized with HF by informing clinical decision-making.

Conclusions: The GWTG-HF risk score uses commonly available clinical variables to predict in-hospital mortality and provides clinicians with a validated tool for risk stratification that is applicable to a broad spectrum of patients with heart failure, including those with preserved left ventricular systolic function.18

Costs of Inpatient Care Among Medicare Beneficiaries With Heart Failure, 2001 to 2004

Summary: Patients with heart failure tend to have a large number of comorbid conditions. In clinical trials, a large proportion of hospitalizations are for non–heart failure–related diagnoses. Given that the majority of inpatient costs incurred in the care of patients with heart failure are for non–heart failure admissions, treatment strategies need to target outcomes beyond heart failure to have a significant impact on health care costs. The movement within clinical trials to focus on heart failure end points may provide positive results for the study but could mislead policy makers into believing that overall health care costs will be reduced through the implementation of a treatment or care strategy.

Conclusions: The costs of inpatient care for patients with heart failure are high, but most subsequent inpatient costs are attributable to noncardiovascular and non–heart failure admissions. Further research is needed to identify predictors of costs, so that patients can be stratified according to risk, and to evaluate strategies that target primary cost drivers for patients with heart failure.16

Twelve-Year Follow-Up of American Women's Awareness of Cardiovascular Disease Risk and Barriers to Heart Health

Summary: Awareness of cardiovascular disease (CVD) risk has been linked to taking preventive action in women. The purpose of this study was to assess contemporary awareness of CVD risk and barriers to prevention in a nationally representative sample of women and to evaluate trends since 1997 from similar triennial surveys. Overall knowledge of this fact has doubled in white women since 1997 and tripled in black women, suggesting that the gap is beginning to close but still persists. The survey responses suggest that sustained educational efforts are needed to raise awareness, particularly among vulnerable populations. More emphasis should be placed on raising awareness of the symptoms of heart disease and informing women of the importance of calling 9 to 1-1. Many misperceptions remain about how to lower CVD risk; programs are needed to help women take action and should incorporate evidence-based prevention education.

Conclusions: Awareness of CVD as the leading cause of death among women has nearly doubled since 1997 but is stabilizing and continues to lag in racial/ethnic minorities. Numerous misperceptions and barriers to prevention persist and women strongly favored environmental approaches to facilitate preventive action.17

Evaluation of the American Heart Association Cardiovascular Disease Prevention Guideline for Women

Summary: In the Women’s Health Initiative, a large, diverse cohort of postmenopausal women, prediction of cardiovascular risk by the American Heart Association guidelines did not differ from Adult Treatment Panel III modified Framingham categories of <10%, 10% to 20% and >20%, but the American Heart Association guidelines were less accurate than the Framingham categories of <5%, 5% to 20% and >20% (P<0.0001).

Conclusions: Risk stratification as proposed in the 2007 AHA guideline is simple, accessible to patients and providers, and identifies cardiovascular risk with accuracy similar to that of the current Framingham algorithm.18

Representation of Women in Randomized Clinical Trials of Cardiovascular Disease Prevention

Summary: Overall, women represented 30% of patients enrolled in randomized clinical trials (RCTs) supporting the 2007 American Heart Association guidelines for cardiovascular prevention in women. The proportion of women in RCTs differed by clinical indication, prevention type, and location of trial conduct. Only one third of the trials specifically reported results for women. Although enrollment of women has increased over time, their inclusion in RCTs remains low relative to their representation in affected patient populations. Causes of low female enrollment are difficult to ascertain, thus undermining attempts to develop specific corrective actions. In addition to further study to discern the underpinnings of and obviate disparities in female representation in clinical trials, a plan for adequate representation of women and reporting of sex-specific results should be a key requirement in the design and publication of RCTs that will serve as part of the evidence base for treatment recommendations.

Conclusions: Enrollment of women in randomized clinical trials has increased over time but remains low relative to their overall representation in disease populations. Efforts are needed to reach a level of representation that is adequate to ensure evidence-based sex-specific recommendations.19

Future Cardiovascular Disease in China: Markov Model and Risk Factor Scenario Projections From the Coronary Heart Disease Policy Model–China

Summary: In this computer modeling study, unfavorable trends in systolic blood pressure, total cholesterol, and diabetes from 2010 to 2030 were projected to increase cardiovascular disease events by approximately 14% above and beyond the increase expected due to aging and population growth, even if active cigarette smoking continues the recent rate of decline. Population-wide risk reduction policies, screening for cardiovascular disease risk factors, and scaling up of successful local risk factor prevention and treatment programs should be included in China’s health system reform. Even if other adverse risk factor trends continue unabated, national policy targeted toward aggressive tobacco control policy or blood pressure lowering could save 2.9 to 5.7 million lives during the next 20 years.

Conclusions: Aging and population growth will increase cardiovascular disease by more than a half over the coming 20 years, and projected unfavorable trends in blood pressure, total cholesterol, diabetes, and body mass index may accelerate the epidemic. National policy aimed at controlling blood pressure, smoking, and other risk factors would counteract the expected future cardiovascular disease epidemic in China.20
Delays in Filling Clopidogrel Prescription After Hospital Discharge and Adverse Outcomes After Drug-Eluting Stent Implantation: Implications for Transitions of Care

Summary: We found that 1 in 6 patients delayed filling their initial clopidogrel prescription after hospital discharge and this delay was associated with increased risk of adverse events. These findings highlight potential opportunities to improve the care of patients after stent implantation in the transition from hospital discharge to the outpatient setting to avoid gaps in clopidogrel therapy.

Conclusions: One in 6 patients delay filling their index clopidogrel prescription after hospital discharge after drug-eluting stent implantation. This delay was associated with increased risk of adverse outcomes and highlights the importance of the transition period from hospital discharge to outpatient setting as a potential opportunity to improve care delivery and patient outcomes.

Characteristics, Performance Measures, and In-Hospital Outcomes of the First One Million Stroke and Transient Ischemic Attack Admissions in Get With The Guidelines-Stroke

Summary: Using data collected as part of the Get With The Guidelines-Stroke, the present study has characterized the demographics, performance measures, and in-hospital clinical outcomes in a very broad cohort of 1 million acute stroke and transient ischemic attack (TIA) hospitalizations from every state in the country. Performance measures showed small to moderate differences by cerebrovascular event type. Among hospitals participating in this large quality improvement effort, there were substantial improvements over time in performance measures, overall and for each cerebrovascular event type. Temporal improvements in length of stay and risk-adjusted in-hospital mortality for ischemic stroke and TIA were also observed. The present study demonstrates the ongoing value of GWTG-Stroke as an integrated stroke and TIA national registry providing national surveillance, supporting vigorous efforts to improve evidence-based stroke/TIA care, and fostering innovative research.

Conclusions: With more than 1 million patients enrolled, GWTG-Stroke represents an integrated stroke and TIA registry that supports national surveillance, innovative research, and sustained quality improvement efforts facilitating evidence-based stroke/TIA care.

Rosuvastatin for Primary Prevention Among Individuals With Elevated High-Sensitivity C-Reactive Protein and 5% to 10% and 10% to 20% 10-Year Risk: Implications of the Justification for Use of Statins in Prevention: An Intervention Trial Evaluating Rosuvastatin (JUPITER) Trial for “Intermediate Risk”

Summary: In primary prevention patients with low LDL cholesterol and elevated hsCRP who are at 5% to 10% or 10% to 20% 10-year risk using either the Framingham or Reynolds risk scores, rosuvastatin 20 mg significantly reduces the risk of future cardiovascular events. These data provide evidence-based support for recommendations from the Canadian Cardiovascular Society that “intermediate risk” individuals with elevated hsCRP be considered for statin therapy, even if LDL cholesterol levels are low to normal.

Conclusions: Consistent with recent evidence-based Canadian Cardiovascular Society guidelines for primary prevention, the JUPITER trial demonstrates that rosuvastatin 20 mg significantly reduces major cardiovascular events among men and women with elevated hsCRP and “intermediate risk” defined either as 5% to 10% or 10% to 20% 10-year risk.

National Patterns of Risk-Standardized Mortality and Readmission for Acute Myocardial Infarction and Heart Failure: Update on Publicly Reported Outcomes Measures Based on the 2010 Release

Summary: Examination of the most recent outcomes measurement of the nation’s hospitals reveals continued variation in the quality of care provided to patients with acute myocardial infarction (AMI) and heart failure (HF). This year’s publicly reported measure update supports the need for continued efforts to reduce rates of rehospitalization and mortality after AMI and HF and provides evidence that such improvements are possible.

Conclusions: High risk-standardized readmission rates (RSRRs) persist for AMI and HF and clinically meaningful variation exists for risk-standardized mortality rates and RSRRs for both conditions. Our results suggest continued opportunities for improvement in patient outcomes for HF and AMI.

Comparative Effectiveness of ST-Segment–Elevation Myocardial Infarction Regionalization Strategies

Summary: While expansion of hospital percutaneous coronary intervention (PCI) capability can be cost-effective for improving quality-adjusted survival after STEMI, a strategy of emergency medical service (EMS) transport to existing PCI-capable hospitals was dominant in a regional hospital system with 30% baseline access to PCI. Further inquiry is needed into the relation of regional health system characteristics and optimal strategies for increasing access to PCI, and we have begun a 5-year research project funded by the Agency for Healthcare Research and Quality to explore these relations. Our results suggest that regional planners should consider EMS strategies for increasing access to PCI before adopting strategies involving new construction or increased staffing of PCI hospitals.

Conclusion: Our results suggest that new construction and staffing of PCI laboratories may not be warranted if an emergency medical services strategy is both available and feasible.

Trends in Mortality of Acute Myocardial Infarction After Discharge From the Hospital

Summary: The postdischarge mortality of patients who were hospitalized for a first AMI has increased over the last 2 decades. This is due to increasing NCVD mortality, especially in the older age groups. Attention to comorbidities during hospitalization or soon after discharge and preventive and/or therapeutic strategies for diabetes, cancer, and respiratory and renal disease should become a routine part of post-AMI patient care and may result in better long-term outcomes. We cannot make firm inferences for the causes of the observed trends, based on the administrative data presented in the present study. Information from registries or controlled trials would be useful in examining the reasons for the increased NCVD mortality and in evaluating whether diagnostic, preventive, or therapeutic interventions for NCVD may further improve long-term outcomes of AMI patients.

Conclusions: Postdischarge mortality of patients with acute myocardial infarction is increasing, primarily because of higher noncardiovascular mortality in the older age groups.

Geographic Variation and Trends in Carotid Imaging Among Medicare Beneficiaries, 2001 to 2006

Summary: From 2001 through 2006, there was a substantial increase in the use of carotid imaging among Medicare beneficiaries, includ-
ing a sharp rise in the use of carotid magnetic resonance angiography (MRA), and a concurrent decrease in the use of carotid revascularization procedures. Geographic variations were substantial and were present in the subset of patients with a recent history of vascular disease. These findings highlight the need for clinical guidance regarding the appropriate use of carotid imaging.

Conclusions: From 2001 through 2006, there was substantial growth and variation in the use of carotid imaging, including a marked increase in the use of MRA, and a decrease in the overall rate of carotid intervention.27

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