



Case Study: Collaborative Cardiac Care Service Collaborative Teams improve Cardiac Care with Health Information Technology

Kaiser Permanente Colorado has significantly reduced the mortality rate for patients with heart disease, which is the nation's number one killer for both women and men. Using team-based medical best practices and computer-supported care registries, doctors and clinical care teams reduced overall mortality by 76 percent and cardiac mortality by 73 percent. CAD is the dangerous buildup of plaque inside the coronary arteries. Cardiac mortality refers to all deaths related to heart events.

The ability of clinical care teams to coordinate their efforts in cardiac care is greatly enhanced by the availability of electronic health information -- which provides instant access to patient information -- and evidence-based clinical care guidelines and protocols.

Chronic Conditions: The Major Health Care Cost Driver

Ten percent of U.S. patients account for 80 percent of all health care costs, and 75 percent of those costs are related to chronic conditions. CAD affects 80 million Americans and is one of the five top chronic conditions that drive the vast majority of health care costs. It remains the leading cause of death in the United States. Poorly managed, CAD too often results in hospitalization and early death. The American Heart Association and the National Heart, Lung and Blood Institute estimate that the total U.S. medical and social costs associated with heart disease and stroke was \$475.3 billion in 2008.

Managing Chronic Conditions: Empowering People with Technology

Clinicians at Kaiser Permanente are working in teams and across departments and using electronic health information to help prevent manageable diseases, like CAD, from becoming life-threatening crises.

The care teams in Colorado tackled CAD by creating a new electronic care registry and support program called the Collaborative Cardiac Care Service. Recognizing the importance of early treatment and intervention, every patient who presented with CAD was enrolled in the program for both short- and long-term care.

Physicians, nurses and pharmacists, using proven CAD risk-reduction strategies, work

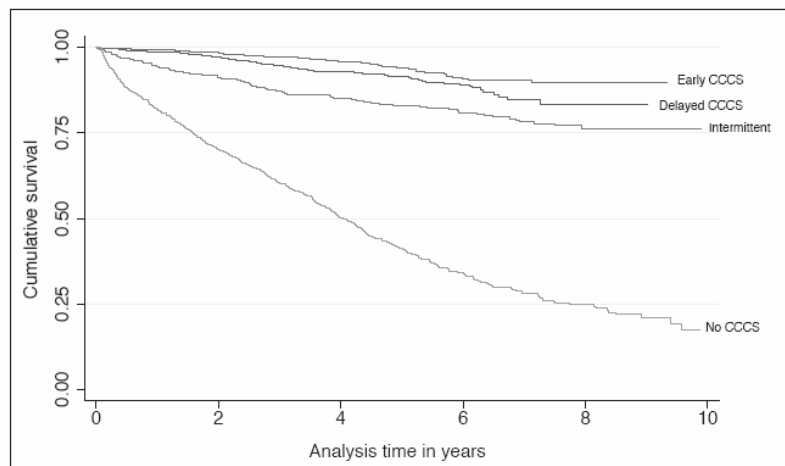


Figure 1. Kaplan-Meier curves for all-cause and cardiac-related mortality by year: All cause. CCCS = Collaborative Cardiac Care Service

collaboratively with CAD patients to coordinate care. Activities such as lifestyle modification, medication management, patient education, laboratory results monitoring, and management of adverse events are all coordinated across a multifunctional team.

The program is driven by agreed-upon, consistent clinical care guidelines and protocols that are integrated into Kaiser Permanente HealthConnect™ as decision-support tools to guide the care teams, at the point of care, as they treated more than 12,000 CAD patients.

Immediate access to reliable, evidence-based information at all points of care enables each care team member to support a given patient's care plan, encourage treatment adherence, and allow disparate care teams – from primary care to pharmacy to rehabilitation centers – to coordinate care, regardless of setting.

Clear Results: Better Survival Rates and Reduced Need for Emergency Interventions

The results were impressive. Nationwide, research indicates that fewer than 20 percent of CAD patients are expected to survive 10 years after their first heart attack. The coordinated, evidence-based care, enabled by KP HealthConnect and an electronic care registry, increased that survival rate dramatically. It is estimated that more than 135 deaths and 260 costly emergency interventions were prevented annually, as a result of improved care.

In addition, the program achieved the following results:

- patients have an 88 percent reduced risk of dying of a cardiac-related cause when enrolled within 90 days of a heart attack, compared to those not in the program
- the number of patients meeting their cholesterol goal went from 26 percent to 73 percent
- the number of patients screened for cholesterol went from 55 percent to 97 percent

Implications for Health Care Policy and the Future of Care Delivery

These early results illustrate how coordinating activities between various health providers throughout the care delivery system, and equipping caregivers with real-time information, can support patient care and improve outcomes. Maximizing information for the clinician means optimizing care for the patient. Done well, a computerized system supports clinicians' efforts to spend more time with patients, have better information about their care and spend less time with traditional paperwork. Health information policy for the United States must include incentives not only for implementing electronic medical records in provider offices, but also for developing the skills of the people who use the tools and for coordinated use of information systems between providers. The value of information technology is directly related to how caregivers and staff use it and whether it supports sharing information between settings of care.

The right information systems and the right delivery system reform will create care teams that are able to coordinate care across every point of service – the physician's office, laboratory, pharmacy, hospital, on the phone, and even online – thus providing patients with affordable, well-informed, customized and compassionate care.

At Kaiser Permanente, we're well on our way to achieving this vision. For more information about the Collaborative Cardiac Care Service, read:

<http://xnet.kp.org/permanentejournal/sum08/cardiac-care.pdf>. To learn more about Kaiser Permanente's use of electronic health information, visit <http://kp.org/future>.