

QIO Success Stories: Inpatient Care

QIOs work with hospitals individually and in groups to improve clinical care for heart attacks, congestive heart failure, and pneumonia. Over the past three years, QIOs have been also working with hospitals to reduce surgical site infections—an effort that is expanding this year to address a range of surgical complications including adverse cardiovascular events, deep vein thrombosis/pulmonary embolism, and post-operative pneumonia.

Arkansas

Sparks Regional Medical Center in Arkansas nearly doubles beta-blocker use for AMI. Physicians at Sparks Regional Medical Center in Fort Smith worked with the Arkansas QIO, *Arkansas Foundation for Medical Care*, to promote facility-wide adherence to evidence-based guidelines. One result: increased use of beta-blockers at admission to treat AMI from 56% in January 2002 to 92% in February 2003. Beta-blockers at discharge increased from 53% to 91% in the same period. Contact AFMC at: 479-649-8501.

Georgia

Gwinnett Hospital System in Lawrenceville, Georgia, performs 478 hysterectomies without a single surgical infection. Working with the *Georgia Medical Care Foundation* in 2002, Gwinnett achieved 100% on-time administration of prophylactic antibiotics, 100% of patients with normal body temperature during surgery, and 100% with proper oxygenation during surgery. In 2002-03, Gwinnett performed 81 colon operations without a surgical infection in an eight-month period, and 243 knee/hip arthroplasty cases without a single surgical infection. Contact GFMC at 404-982-0411.

Maryland

Western Maryland Health System boosts discharge-instructions rate for CHF.

Working with the Maryland QIO, *Delmarva Foundation*, the Western Maryland Health System (WMHS) achieved the highest rate in the state on the Maryland hospital report for providing Congestive Heart Failure discharge instructions. CHF care managers at WMHS also improved performance on all CHF quality measures. In 2002-2003, WMHS scored 100% on adult smoking advice and counseling and over 90% in Left Ventricular Function Assessment. Contact Delmarva at 410-822-0697.

Massachusetts

Berkshire Medical Center in Massachusetts makes major gains in cardiovascular care. Over a period of three years, Berkshire Medical Center, increased aspirin at discharge for cardiac patients from 96% to 100%; smoking cessation counseling from 43% to 100%; ACE-inhibitor use from 67% to 88%; lipid treatment from 59% to 92%; and referral to cardiac rehabilitation from 14% to 98%.

Morton Hospital & Medical Center, Taunton, MA, perfects timely Rx to fight infections. Working with the state QIO, MassPRO, in 2004 Morton achieved 100% administration of antibiotics within 1 hour prior to incision, as recommended to prevent surgical site infections. Contact MassPRO at: 781-890-0011.

Michigan

Thirty-three Michigan hospitals perfect heart care processes. A partnership between MPRO, the Michigan QIO and the American College of Cardiology, two local health coalitions (The Greater Detroit Area Health Council and the Greater Flint Health Coalition), joined with 33 hospitals in three AMI Guidelines Applied in Practice (GAP) projects. Interventions included identification of a hospital physician champion and project leader, structured learning sessions, a collaborative learning environment, focused communications, and regular hospital leader reports. For the University of Michigan Medical Center, a hospital collaborator, quality of care measures at admission showed improvement: aspirin on admission went from 88.98% to 100% and beta-blocker on admission went from 75% to 100%. Later quality of care measures evaluated at discharge also improved: aspirin at discharge (85.7% vs. 100%); beta-blocker therapy (60% vs. 100%); dietary counseling (81.8% vs. 96.7%). These improvements in quality of care led to a lower death rate at 30 days and one year for patients treated after the hospitals in the study implemented the GAP guidelines. Contact MPRO at: 248-465-7300.

Mississippi

Mississippi hospital eliminates ventilator-assisted pneumonia. Working with Information & Quality Healthcare (IQH), the Mississippi QIO, Baptist Memorial Hospital-DeSoto in Southaven and Singing River Hospital System in Oceans Springs, *eliminated* ventilator-associated pneumonia, reducing mor-

tality and extended stay costs for intensive care unit patients. IQH helped the facilities conduct root cause analysis and gather data that was reviewed on a monthly basis. The QIO also promoted best practices and initiated system changes that improved patient safety and quality of care. Contact IQH at 601-957-1575.

Missouri

Two Missouri hospitals show big gains in heart care. Through rapid-cycle improvements conducted between July 2002 and June 2003, Hannibal Regional Hospital (Hannibal, Missouri) increased the early administration of aspirin—a crucial step in the care of heart attack patients—to 97%. The key to Hannibal's success in aspirin delivery was early identification of AMI patients in the emergency room where nurses and technicians were trained to recognize AMI patients with tools such as chest pain flow sheets. At Jefferson Memorial Hospital, staff recently achieved a 38% increase in “worsening symptoms” in-

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structions at discharge and a 21% increase in monitoring instructions given at discharge. Without this system change, many heart failure patients would not receive vital information needed to help understand their condition and maintain a good state of health. Both hospitals work closely with the state's QIO, *Primaris*, to improve care in a number of clinical areas.

Truman Medical Center in Missouri speeds antibiotic administration for pneumonia. Working closely with the state's QIO, *Primaris*, the emergency department at Truman Medical Center (Kansas City, Missouri) decreased the average amount of time from patient arrival until antibiotic administration for pneumonia from over seven hours to just under three hours, which reduces length of hospital stay for pneumonia patients. The rate of vaccination of Medicare patients at Truman increased from 15% to 45%, with the hospital now striving to vaccinate at least 90% of eligible patients. Contact *Primaris* at: 573-817-8300.

Nebraska

BryanLGH Medical Center in Lincoln, Nebraska, hits 100% prophylactic antibiotic use. Working with the state's QIO, *CIMRO of Nebraska*, BryanLGH increased the percentage of cardiac surgical patients who receive prophylactic antibiotics 60 minutes prior to surgery from 50% to 100%. Contact *CIMRO* at: 402-476-1399.

New Mexico

Eighteen New Mexico hospitals collaborate to improve care for surgical wounds. The New Mexico QIO, *New Mexico Medical Review Association (NMMRA)*, brought together teams from 18 hospitals from throughout the state to form the New Mexico Surgical Infection Prevention Collaborative, which was conducted between January and October 2003. The collaborative's overall goal was to reduce infections related to surgery by ensuring that all eligible patients receive appropriate and timely prophylactic antibiotics. Overall results showed significant improvement on three key process indicators: surgical cases with on-time prophylactic antibiotic administration went from 68.4% to 80.8%; surgical cases with selection of appropriate prophylactic antibiotics improved from 87.3% to 95.0%; and surgical cases with prophylactic

antibiotics discontinued on time increased from 18.5% to 76.6%. Contact *NMMR* at: 505-998-9898.

Oklahoma

Mercy Health Center, Oklahoma City, OK, reduces its surgical site infection rate by 78% in patients receiving cardiac bypass, orthopedic, colon, and hysterectomy surgery. Mercy Health Center went from 100 surgeries between infections to more than 400 at the end of a one-year collaborative; achieved 100% on-time antibiotic administration to the target population; achieved 100% of patients who had prophylactic (preventive) antibiotics discontinued within 24 hours of surgery; achieved 100% of patients with normal body temperature during surgery. Contact the Oklahoma Foundation for Medical Quality at 405-840-2891.

Pennsylvania

Regional hospital improves heart care. When DuBois Regional Medical Center a 239-bed facility serving patients in rural Western Pennsylvania wanted to improve care for acute heart attack (AMI) patients, it turned to the state's QIO, *Quality Insights of Pennsylvania*, to help implement system change. Of patients entering the ER with AMI, 62% received appropriate care within 120 minutes in fiscal year (FY) 2004 -- by the 1st quarter of FY 2006, 100% of patients received such care.

Puerto Rico

Dr. Cayetano Coll y Toste hospital, Puerto Rico, triples early antibiotics for pneumonia. Dr Cayetano Coll y Toste hospital increased initial antibiotic dose administration within eight hours of hospital arrival for dual Medicare-Medicaid beneficiaries from 33.3% to 100% compliance during an 18 month quality improvement project (2001-2002) un-

dertaken in partnership with *QIPRO*, the QIO for Puerto Rico. Contact *QIPRO* at 787-641-1240.

Tennessee

University of Tennessee Medical Center revamps process for treating heart patients. The University of Tennessee Medical Center, Knoxville, increased the administration of ACE inhibitors for treatment of heart failure/AMI by 32% and the administration of smoking cessation counseling by 60%. Working with QSource Center for Healthcare Quality, the Tennessee QIO, UT Knoxville developed a clinical pathway, created corresponding standing orders, and instituted a formal smoking cessation education packet. QSource assisted by teaching rapid cycle improvement strategies and holding workshops for sharing innovative ways to encourage process improvements.

QSource helps hospital administer antibiotics on time all the time. As part of a collaborative with QSource, Memorial Healthcare System, Inc. in Chattanooga, improved its performance delivering antibiotics in a timely manner for those with pneumonia from 67.4% to 100%. Contact QSource at: 901-682-0381.

Virginia

Lewis Gale Medical Center, Salem, VA, significantly improves heart care. Working with the *Virginia Health Quality Center* (VHQC), the Virginia QIO, Lewis Gale Medical Center implemented system changes to increase the early administration of beta blockers by 37%, beta blockers at discharge by 33%, and smoking cessation counseling by

59% over approximately 18 months. The hospital experienced a significant decrease in one-day stays and average-length-of-stay for patients admitted with cardiac diagnoses.

Montgomery Regional Hospital in Blacksburg vastly improves heart care. Working with VHQC during the first half of 2004, the hospital achieved 100% in its medication administration measures, including beta blockers at arrival (increased from 83% in 2003), aspirin prescribed at discharge and > 92% in ACE inhibitors at discharge for heart failure (increased from 81% in 2002). The hospital also achieved 100% in Left Ventricular Function (LVF) assessments for heart failure and was in the national top 10 percentile for pneumonia vaccinations.

CJW Medical Center, in Richmond, VA, increases flu and pneumococcal screening. With help from VHQC, the Virginia QIO, CJW increased flu screening by 48% and pneumococcal screening by 43% in 18 months. Leading up to the 2001 flu season, CJW began screening all patients—not just high-risk patients—to find those who needed flu and pneumonia vaccines. Contact VHQC at: 804-289-5320.

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successful QIO work
with hospitals,
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The American Health Quality Association is dedicated to improving the safety and effectiveness of health care. AHQA represents the national network of Quality Improvement Organizations (QIOs) that work with hospitals, medical practices, health plans, long-term care facilities, home health agencies, and employers to encourage the spread of best clinical practices and improve systems of care delivery.