Annual Report on the Quality of Healthcare Provided at the
University of Illinois Medical Center
to the
University of Illinois Board of Trustees: May 20, 2010

The Medical Center engages in numerous dynamic programs to improve the quality and safety of care across the organization.   This report briefly describes the overall framework employed to evaluate and improve patient care outcomes across the medical center.   It highlights in more detail the success of selected interdisciplinary medical center teams involved with national "pay for performance" measures established by the Joint Commission and the Center for Medicare and Medicaid Services (CMS).

General Scope and Background:

Key quality initiatives broadly engage physicians, nurses, administrators, other clinicians, as well as safety, quality, and computer information experts.   Some salient features include:

- The Medical Staff consists of 21 Clinical Services while Hospital and Ambulatory Operations have an additional 23 units. Each unit has developed its own Quality Improvement (QI) plans, indicators, and reporting requirements within the overall scope of our program.
- These Medical Staff & Hospital Committees report up through the Hospital Executive Staff on its way through the CEO to Board of Trustees. This report to the Board of Trustees is required by our accrediting bodies.
- A few of the initiatives include:

  o Intensive Care Unit (ICU) Quality Improvement Teams focus on infection reduction.
  o Managed Care programs focus on quality/incentive measures established by health care payers.
  o Core Measure Quality Improvement Teams function across the departmental structures to assure that we address National Quality Alliance goals.   There are financial incentives for participation in such programs.
  o National Patient Safety Goal Teams work across departments and units to meet regulatory requirements established by federal agencies and accrediting bodies.
  o Tracer Teams and Safety Walk-Arounds tools used to identify current practice and policy issues with front line care providers
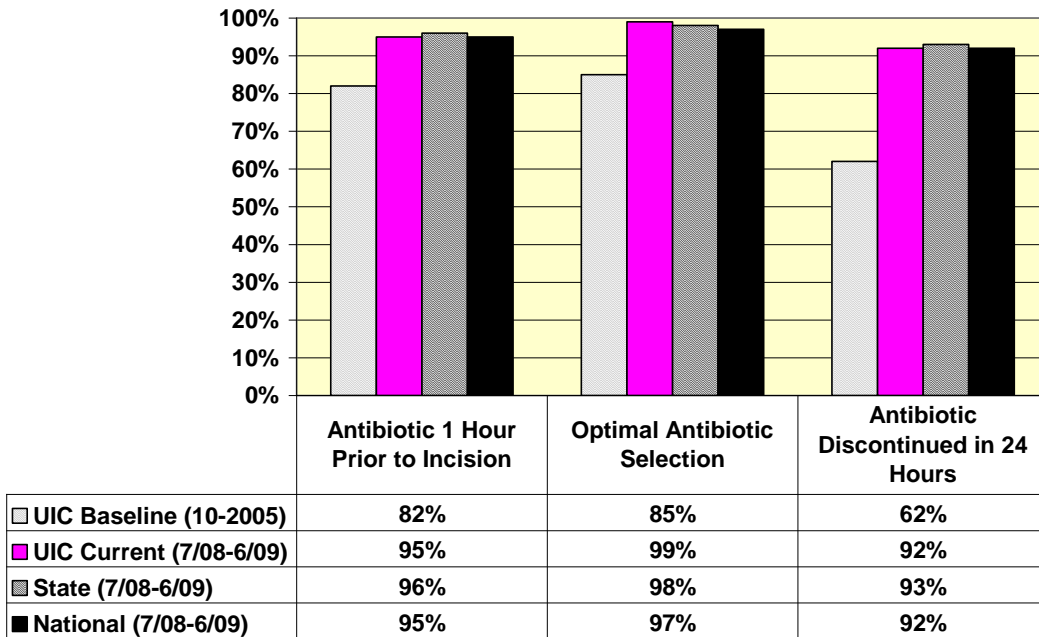
The remainder of this report will highlight the work of the Joint Commission Core Measure Teams, which have implemented significant redesign of patient care delivery processes to meet and exceed national benchmarks:

Surgical Care Improvement (SCIP) Team:

This team works on issues arising in the perioperative period, and is currently focused on reduction of hospital associated infections in surgical patients. This team has done extremely well with multiple initiatives proven to prevent infections and complications with surgical procedures. Timely administration of antibiotics improved from 82% to 95%; best presumptive choice of antibiotics improved from 85% to 99%, and discontinuance of these prophylactic antibiotics when no longer necessary improved from 62% to 92% over the past year. These rates meet or exceed state and national benchmark comparisons. Strategies the team initiated include:

- Strong leadership communication from Anesthesia, Infection Control, & Chief of Safety to all Surgical Services and the Operating Room Committee
- Standardization of practice via guidelines, order sets, operating room medical record forms, education, and daily clinical operations
- Feedback to individual surgeons on outliers- any case not following protocol
- Use of special gowns that increase patient temperature during certain operations, which is proven to reduce infections
- Initiated instructions to patients for preoperative showers with chorhexadine, a wash which has been demonstrated to reduce subsequent infection rates.
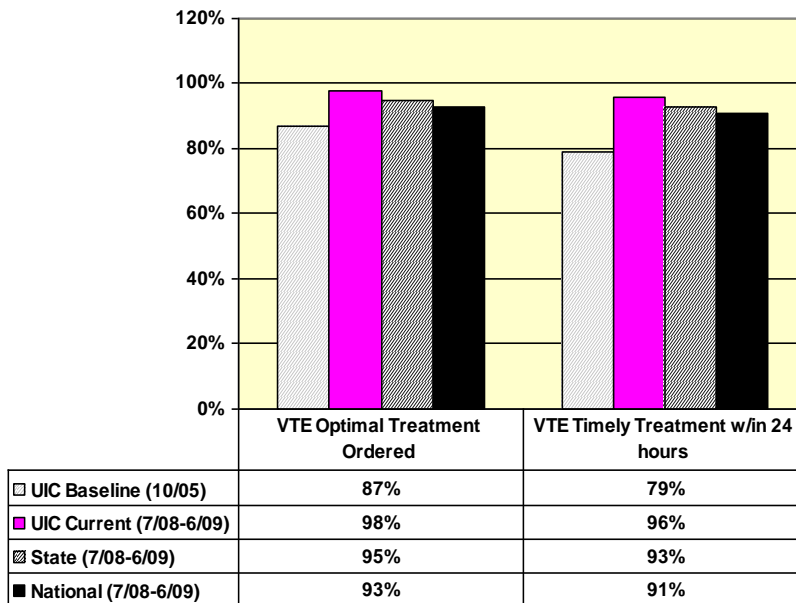
Surgical Care Improvement Project

	Antibiotic 1 Hour Prior to Incision	Optimal Antibiotic Selection	Antibiotic Discontinued in 24 Hours
☐ UIC Baseline (10-2005)	82%	85%	62%
■ UIC Current (7/08-6/09)	95%	99%	92%
▨ State (7/08-6/09)	96%	98%	93%
■ National (7/08-6/09)	95%	97%	92%

Anticoagulation/Venous Thrombosis Embolism (VTE/DVT) Team:

Patients hospitalized and put to bed are at increased risk for developing blood clots in the large, deep veins of their body. Unrelated to the disease, these can cause significant problems, including death when the blood clots break off and flow into the lungs and heart (an embolism). This team focuses on reducing the risk for development of such complications. Their work has improved our care delivery, and subsequently reduced our malpractice risk through the design of a proactive electronic medical record tool that requires the admitting physician to perform a specific screening of all patients admitted to the hospital. The tool assists the physician to identify risks which might cause a patient to develop clots and advises on the best medication to reduce that risk. The improved process resulted in a 32% increase in patients receiving medications to prevent a blood clot, and a consequent 16.6% reduction in patients experiencing embolism. Ongoing audits of timely and optimal prophylactic treatment demonstrate UIMC performs better than state and national benchmarks.   (See table below.)

VTE Compliance

|	VTE Optimal Treatment Ordered	VTE Timely Treatment w/in 24 hours
☐ UIC Baseline (10/05)	87%	79%
■ UIC Current (7/08-6/09)	98%	96%
▨ State (7/08-6/09)	95%	93%
■ National (7/08-6/09)	93%	91%

Pneumonia QI Team:

Pneumonia represents the 5th leading cause of death in the United States in patients 65 years and older. Rapid diagnosis and antibiotic treatment within six hours of patient arrival in the Emergency Department (ED) is a national goal designed to reduce

mortality. Nationally and at UIMC this has been a challenge due to emergency room crowding and the complexity of making this diagnosis in a population that has many co-morbidities. Despite these limitations, the QI team was able to achieve improvement in timely administration of antibiotics from 75% to 90% of all doses administered within six hours of arrival, as well as improvement in the use of pneumococcal vaccine from 29% to 93% of all eligible patients. Overall strategies included:

- Redesign of the ED triage protocol
- Standing electronic medical record orders per a medical staff approved protocol
- Vaccine process triggered by EMR medical record alert to pharmacy
- Process put into place in the ED for antibiotic non-formulary orders to go directly to Pharmacy for faster delivery to ED.
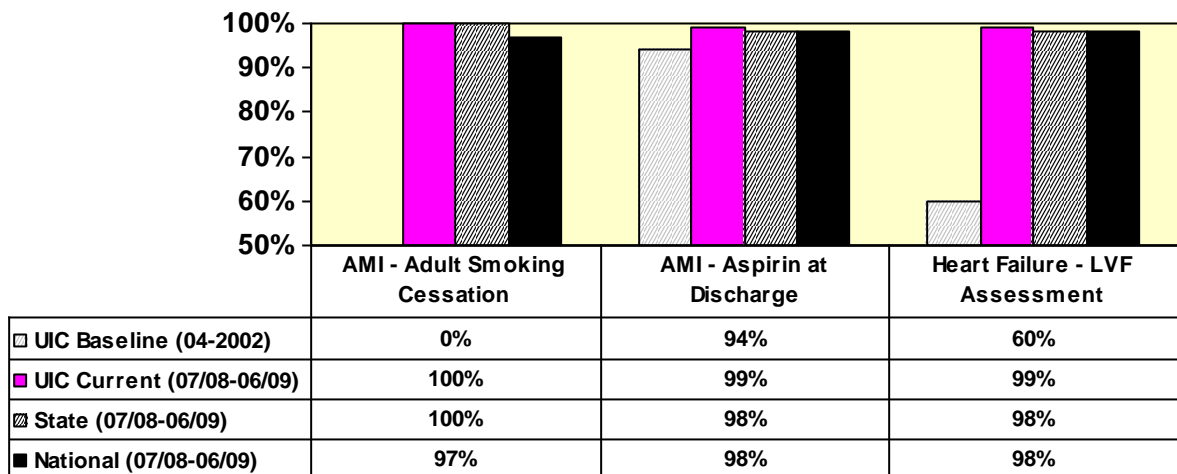
Pneumonia QI Team
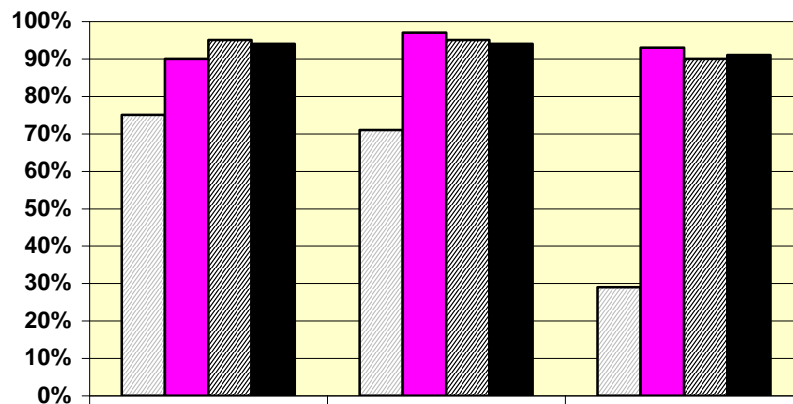
	Antibiotic within 6 hours of arrival	Blood Cultures in ED (Prior to ABX)	Pneumococcal Vaccine
☐ UIC Baseline (3-2004, for abx 6-2007)	75%	71%	29%
■ UIC Current (7/08-6/09)	90%	97%	93%
▨ State (7/08-6/09)	95%	95%	90%
■ National (7/08-6/09)	94%	94%	91%

Acute Myocardial Infarction (AMI) and Heart Failure QI Team:

This team focuses on the treatment of heart attacks and heart failure, a condition brought on by a heart weakened by disease that can no longer keep up with the body's needs. Due to improvements implemented by this team, all measures for these conditions have achieved 94-100% compliance. We have two continuing issues: 1). patients are frequently discharged without documentation that they have been properly instructed on their disease and 2). Catheterization and non operative intervention for heart attack does not always occur within 90 minutes of admission to the hospital. The latter problem is related in large part to lack of consistent pre-hospital care processes amongst the city ambulances to alert hospitals of the arriving patient with a myocardial infarction We are working closely with the Metropolitan Chicago Healthcare Council and the Chicago Fire Department to establish the necessary training and equipment in the prehospital setting. As to the discharge instructions, we know by follow up phone audits that 100% of patients are receiving written instructions when they leave the hospital; however, the team identified the need to improve coordination between all disciplines to assure consistency of information focusing particularly on written records documenting the discussion. A special taskforce on Discharge Coordination was assigned by senior leadership, and this group convened to perform a gap analysis for this and other discharge related issues. They are currently in the process of designing a new "DEPART" module in the electronic medical record to support the flow of decision making between physicians, nurses, pharmacy, and other disciplines that occur at discharge. On the other hand, as you can see on the chart below, we perform extremely well educating people about smoking cessation, assuring all patients are discharged with instructions to take aspirin and assessing the function of the heart during hospitalization.

Cardiovacular Benchmarks

	AMI - Adult Smoking Cessation	AMI - Aspirin at Discharge	Heart Failure - LVF Assessment
□ UIC Baseline (04-2002)	0%	94%	60%
■ UIC Current (07/08-06/09)	100%	99%	99%
▨ State (07/08-06/09)	100%	98%	98%
■ National (07/08-06/09)	97%	98%	98%

Stroke QI Team:

This team has achieved certification from the Joint Commission as a center of excellence in primary stroke care. All quality measures are at a sustained level of 90-100% compliance except for documentation of patient education. To address this, a standardized stroke packet based on AHA (American Hearth Association) literature was established, and documentation options were streamlined in the electronic medical record to support nurse efforts to efficiently record the dialogue and information exchange with the patient. A phone survey of stroke patients and caregivers was developed internally to help the Stroke Team focus on what areas of education are important to our patients. Finally, the team implemented a Stroke Code Pager system of "C-V-A"(Cerebrovascular) to assemble the response team as soon as a stroke patient arrives in the emergency room, since minutes count in effective treatment.

Other Benchmark Issues:

The Hospital has initiated evaluation of our record for 'unnecessary' readmissions following discharge from the hospital. That is, given the nature of the many chronic diseases which we treat, a patient's readmission to the hospital for exacerbations of their problem occurs frequently. Over one-third of our yearly hospital admissions are 'repeaters', that is, they have been with us within the last year. An evolving marker for quality has become the rate and interval at which these readmissions occur. We are consistent outliers on this measure, that is, our rates are higher than expected given our patient population. Some of this is understandable given the large numbers of diseases like Sickle Cell Anemia that we treat for frequent pain crises. The readmission problem is complex but we have enjoyed some successes at reducing rates of readmission with certain diagnoses. The Cardiovascular Team has piloted several efforts to reduce heart failure readmissions, including a new scheduling process to arrange follow-up appointments within 7 days of discharge, and case management of select patients with a follow-up nurse phone call after discharge. Their efforts have been reflected in a readmission rate within 30 days which at 19% is well below the national average of 24%. Their goal is to drive this rate significantly lower.