



**Illinois Hospital Report Card
and
Consumer Guide to Health
Care**

**2011 Report to the General
Assembly**

**Division of Patient Safety and Quality
Illinois Department of Public Health
Hospital Report Card and Consumer Guide to Health Care**

2011 Report to the General Assembly

This report highlights data published on the Illinois Hospital Report Card and Consumer Guide to Health Care website (www.healthcarereportcard.illinois.gov). It also provides an overview of key related quality and safety initiatives of the Division of Patient Safety and Quality (the Division) at the Illinois Department of Public Health. The Division was established in late 2007 in response to the Illinois Hospital Report Card Act (210 ILCS86) and Illinois Health Finance Reform Act (20 ILCS 2215), and is responsible for publishing the Illinois Hospital Report Card and Consumer Guide website.

The Division of Patient Safety and Quality is dedicated to fostering improvements in health care quality and patient safety, and raising public awareness through transparent reporting of health care quality measures. Putting the spotlight on health care quality issues helps inform public health policy and can activate changes to improve the health and well-being of our communities. High quality health care should result in positive and targeted health outcomes in communities, be guided by evidence-based best practices, and have cost value.

The Division is responsible for the collection of patient discharge data from Illinois hospitals and ambulatory surgery treatment centers. Collecting, measuring and analyzing data are essential components of the Division's work and facilitate the public reporting of health care quality measures. The Illinois Hospital Report Card and Consumer Guide to Health Care website was developed to provide ready access to these reports to consumers. Data is compiled from an array of sources including the discharge data set, the Illinois Annual Hospital and Ambulatory Surgery Center Profile, Illinois nurse staffing data, the Department of Health and Human Services Centers for Medicare and Medicaid, the Centers for Disease Control and Prevention's National Healthcare Safety Network surveillance system, and the Department's Vital Records.

The Illinois Hospital Report Card and Consumer Guide to Health Care (HRCCGH) website has had six releases since its inception in November, 2009. This includes a new feature of the website called the Illinois Public Health Community Map, which was launched in the spring of 2011. This feature examines issues related to quality of health care at the community level. The HRCCGH website currently displays over a 175 indicators of quality, safety, utilization and charges for specific procedures and conditions. The site receives on average over 5000 visitors each month. Approximately 73 percent of visitors are new to the site. This report highlights data published on the HRCCGH since its launch in 2009 and associated patient safety and quality initiatives. For more detailed reports, please visit the HRCCGH web site directly at www.healthcarereportcard.illinois.gov.

Patient Safety: Health Care-associated Infections

Health care-associated infections, or HAIs, are infections that are acquired by patients while receiving treatment for other conditions in a health care setting, such as a hospital, nursing home, or community clinic. According to the Centers for Disease Control and Prevention (CDC), HAIs account for 1.7 million infections and 99,000 deaths annually in the United States, with a cost in excess of 20 billion dollars. Many of these infections are preventable with appropriate health care practices. HAIs are a top patient safety concern being addressed nationally. The Department of Health and Human Services issued an action plan to prevent HAIs in 2009 that set specific 5 year target reduction goals for the top HAIs. Health and Human Services, the CDC and State public health departments have all collaborated to help drive reduction efforts locally across the country.

To combat health care-associated infections aggressively, the Division of Patient Safety and Quality launched a phased implementation of the CDC's National Healthcare Safety Network (NHSN) surveillance system in Illinois hospitals. The NHSN surveillance system provides the most rigorous and valid method for measuring and monitoring information on HAIs, and has recently been embraced by the Centers for Medicare and Medicaid Services as the national reporting tool of choice.

The Division staggered implementation of surveillance reporting for individual HAIs to allow infection prevention staff at hospitals to become familiar with reporting protocols and requirements. Central line-associated bloodstream infection reporting began in January 2009 in three types of adult intensive care units (medical, medical-surgical and surgical). In October 2009, this was expanded to include pediatric and neonatal intensive care units; and in July 2010 to all other types of adult intensive care units. In April of 2010, hospitals commenced reporting surgical site infections data. Effective January 1, 2012, hospitals began reporting *clostridium difficile* (*C difficile*) and methicillin-resistant *staphylococcus aureus* (MRSA) infections.

HAI Surveillance Implementation

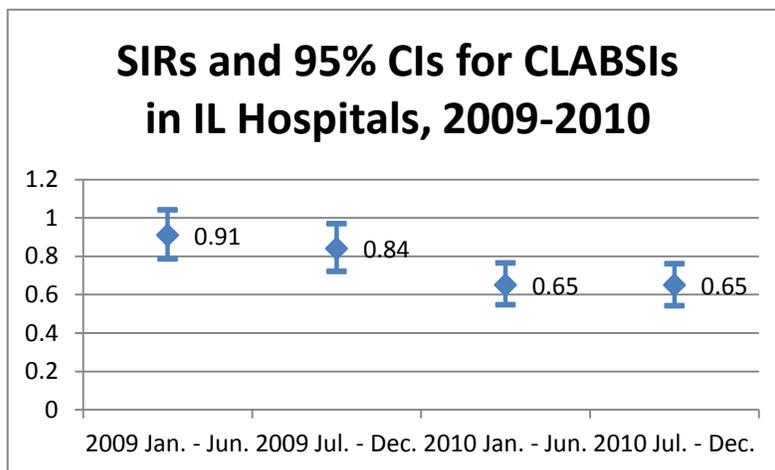
Adult Medical Surgical ICUs	Pediatric and Neonatal ICUs	Surgical Site Infections	All Adult ICUs	MRSA and <i>C. difficile</i>
Jan-09	Oct-09	Apr-10	Jul-10	Jan - 12

NHSN surveillance data is published on the Illinois Hospital Report Card and Consumer Guide to Health Care. Data on central line-associated bloodstream infections is reported for all hospitals with adult, pediatric and/or neonatal intensive care units; and surgical site infection (SSI) data is published for infections associated with coronary artery bypass graft and total knee replacement surgeries. Annual

statewide aggregate reports on rates of infection for MRSA and *C difficile* were published in the fall of 2009, 2010, and 2011 based on Illinois hospital discharge data. The first NHSN surveillance data for MRSA and *C difficile* is anticipated to be published in the fall of 2012. NHSN surveillance data is published on the HRCCGH website both individually on unique hospital profiles, as well as a statewide report.

Illinois Hospitals Reduce Central Line-associated Infections

Annual reports of central line-associated bloodstream infections were published on the HRCCGH website for 2009 and 2010. A comparison of the two years showed that fewer central line-associated bloodstream infections (CLABSI) occurred in Illinois hospitals in 2010 than in 2009, and the state's standardized infection ratio for CLABSIs reduced significantly. In 2009, 383 CLABSIs were reported in adult intensive care units in Illinois; in 2010, only 282 were reported. The standardized infection ratio, or SIR, is a summary measure that can be used to track HAIs at state and national levels over time. The graph below shows that the SIR for 2010 is significantly lower than that observed in 2009. Between 2009 and 2010, the SIR for all Illinois hospitals decreased significantly and remained at this decreased level through the second half of 2010. During the first half of 2009, Illinois hospitals observed 9% fewer infections than expected, but the number of infections observed was not statistically significantly less than the number expected. For the year 2010, Illinois hospitals observed 35% fewer infections than expected, and the difference between observed infections and expected infections was statistically significant.



Illinois hospitals have made significant improvements in preventing CLABSIs during the past several years. Public reporting of infection data on the Illinois Hospital Report Card website and media coverage have raised public attention of this issue. NHSN surveillance provides the ability to monitor for such improvements over time. In 2011, the first annual report of surgical site infections was published, establishing a baseline of Illinois hospital performance.

Hospitals report CLABSI and surgical site infection data themselves, and efforts are underway to conduct validation of the data reported into the NHSN system. In August 2011, experienced professionals began

visiting randomly selected hospitals to ensure that CLABSIs are reported appropriately and accurately. This effort is part of a larger validation project the Division is implementing over several years, pending funding, that includes validation of surgical site infection reporting. The project involves hospital site visits and chart review by infection control experts. Initial results from year one are anticipated mid-year 2012.

Related HAI Activities

Based on hospital discharge data, Illinois has seen *Clostridium difficile* infection rates double in the past decade from 4.5 per 1,000 discharges in 1999 to 9.9 per 1,000 discharges in 2010.

(<http://www.healthcarereportcard.illinois.gov/files/pdf/Cdiffsum.pdf>). This mirrors a national rise in *Clostridium difficile* rates and growing concern about this health care-associated infection across the country. *Clostridium difficile*, or CDI, is a common cause of bacterial diarrhea in hospitalized patients and can range from causing mild to severe inflammation of the intestines. Much of the recent increase in incidence in CDI is attributed to a virulent, resistant strain that is associated with increased morbidity and mortality. It is estimated that CDI onset in hospitals results in added costs of between \$5,042 and \$7,179 per case or \$548 million to \$1 billion nationwide annually (1).

Figure 1. Number of *C. difficile* Infections per 1,000 hospital discharges in Illinois, 1999-2010

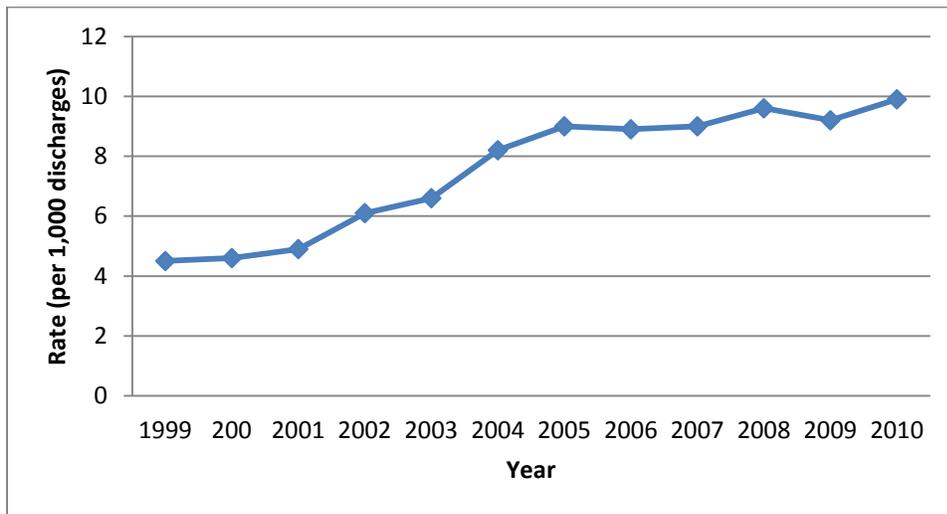


Figure 1 shows the annual *C. difficile* rates (per 1,000 hospital discharges) between 1999 and 2010, and illustrates the steady increase in *C. difficile* rates between 1999 and 2005, after which time the rate remained at this elevated level through 2009, with a slight increase in 2010.

To address this issue, IDPH, in collaboration with IFMC-IL, the State's QIO, developed and implemented two acute care hospital *C. difficile* quality improvement collaboratives. Collaboratives engage hospitals to work together to implement improvements in the delivery of care to patients in specifically identified areas. Each hospital commits a team of health care workers to participate, utilizes specific "best practice" interventions known to facilitate improvement, and evaluates changes in their practices. The first collaborative began in early 2010 in the Chicago area with eleven hospitals, while the second was initiated with nine hospitals at the end of 2010 in central and southern Illinois. Hospitals participating in

the collaboratives used the NHSN module for *C difficile* surveillance, as well as tracking of specific process measures such as hand hygiene, environmental cleaning, and contact precautions compliance as part of the evaluation of effectiveness.

The *C difficile* collaborative was supported with funding from the CDC. Both collaborative groups were completed at the end of 2011 and had monthly decreases in hospital onset *C. difficile* rate. Poisson regression was used to model the monthly decreases in pooled hospital onset *C. difficile* rates over the duration of the collaborative and two months beyond (21 months for the Chicago area group and 14 months for the central/southern group). The Chicago area collaborative had an 18% reduction in *C difficile* which was significant ($p < .02$) while the central/southern collaborative had a 22% reduction, which was not statistically significant ($p < .19$). Final comprehensive evaluation is currently in process examining the relationship between hospital prevention practices implemented and associated changes in hospital onset *C. difficile* rates.

During the *C difficile* collaborative a film was developed entitled “Not Just a Maid Service”. The film provides universal lessons about the value of building a multidisciplinary health care team by demonstrating how two hospitals engaged their environmental service workers as essential members of the quality improvement effort. It highlights the vital role environmental service workers play in protecting patients, staff, and visitors from transmission of healthcare-associated infections. The film is accessible at <http://www.notjustamaidservice.com/> and is targeted towards health care professionals and health care facilities.

The collaborative also spurred the initiation of a statewide campaign to prevent *C difficile*. Funded through an award provided by the Centers for Disease Control and Prevention, the Division has partnered with the Illinois Quality Improvement Organization (IFMC_IL), the Chicago Department of Health, Illinois chapters of the Association of Professionals in Infection Prevention and Control, the Chicago Prevention EpiCenter and other key stakeholders to disseminate best practices in prevention of *C. difficile* and lessons learned from the prevention collaborative across Illinois. Hospitals and long term care facilities are being targeted. A variety of educational webinars and regional conferences are being planned during 2012. As part of this campaign, the film “Not Just a Maid Service” was disseminated to all Illinois hospitals and over 800 nursing homes in December 2011.

Health Care Quality

In March of 2011, the Department of Health and Human Services released the “National Strategy for Quality Improvement in Health Care”, a strategic plan to guide the nation in increasing access to high quality, affordable health care for all Americans. The National Strategy promotes three broad aims and prioritizes national efforts. The three aims are:

1. **Better Care** – Improve the overall quality, by making health care more patient-centered, reliable, accessible and safe

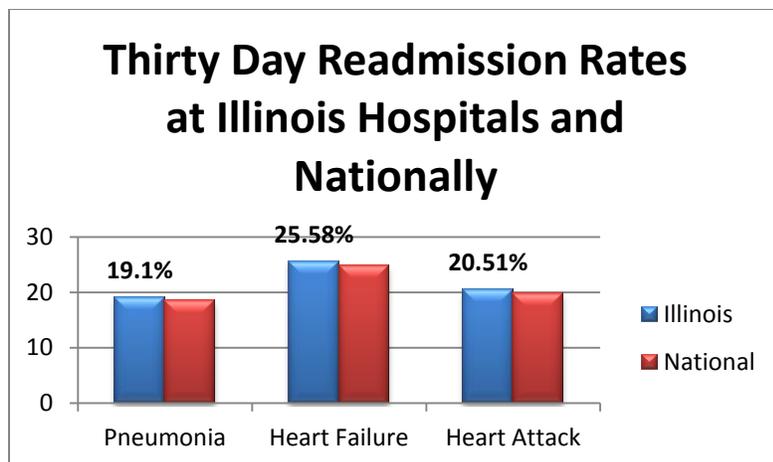
2. **Healthy People/Healthy Communities:** - Improve the health of the U.S. population by supporting proven interventions to address behavioral, social and environmental determinants of health in addition to delivering higher-quality care.
3. **Affordable Care:** Reduce the cost of quality health care for individuals, families, employers, and government.

The HRCCGHC web site provides an array of measures that examine the quality and value of health care, and the new Public Health Community Map feature examines issues of health quality at the community level in the context of social determinants of health. A compilation of data that highlights these issues is provided below. Statewide data is provided, and is compared to national benchmarks when possible. Some data can be found on the Centers for Medicare and Medicaid Hospital Compare and other websites, but most of the measures are unique to the HRCCGHC. Publication of the HRCCGHC has facilitated baseline measurement for a variety of quality indicators in Illinois, which will enable showing trends over time and facilitate ongoing performance evaluation. Note that much of the data highlighted below reflects this baseline measurement.

Hospital Readmissions

A recent study in the New England Journal of Medicine found that nearly one in five Medicare recipients discharged from the hospital is readmitted within thirty days (2). This translates into approximately 2.4 million patients. It has been estimated that three quarters of these readmissions could have been prevented, and that the cost to Medicare was \$17.4 billion dollars. Readmissions are associated with a variety of factors including poor coordination of care from the inpatient to outpatient settings, poor communication and medication errors.

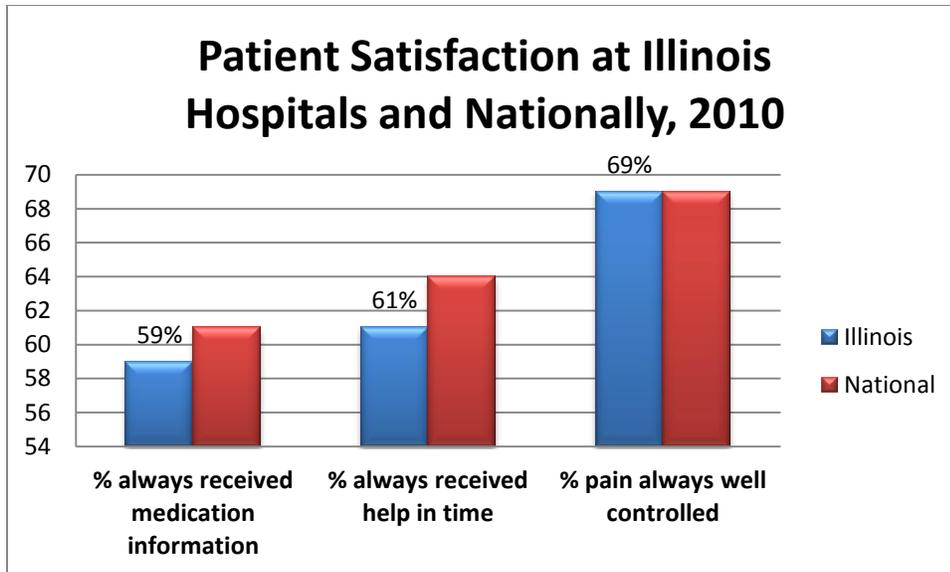
Rates of readmission can give information about whether a hospital is doing its' best to prevent health complications, educate patients at discharge, and ensure patients make a smooth transition to their home or another setting such as a nursing home. A key priority of the National Quality Strategy is to "promote effective communication and coordination of care". National efforts are now underway to reduce hospital readmission rates by 20% by the end of 2013. The graph below shows Illinois readmission rates for three common disorders. These data come from the Centers for Medicare and Medicaid and are based on data from 7/1/07 – 6/30/10. They provide a good baseline to monitor for improvements over time.



Patient Satisfaction

One of six priorities outlined in the National Quality Strategy is to ensure that patients and families are engaged as partners in their health care. Patient-centered care is a dimension of health care quality that highlights the importance of patients being at the center of health care delivery, with emphasis on listening to patient’s perspectives and choices, providing information and support for health care self-management and decision making, collaborating and using a shared decision-making process, and enabling patients to navigate and manage their care effectively. Collaboration with patients and families at an institutional level as well can inform policy, and stimulate relevant, effective program development and implementation. Too often patients are forced to make decisions about their care without adequate knowledge and have difficulty navigating through a fragmented health care system without support. Patient experience of care should be evaluated related to quality and safety to help guide improvements in this arena.

The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) is a national, standardized survey of hospital patients. The survey asks a random sample of recently discharged patients about important aspects of their hospital experience. The data is collected by the Center for Medicare and Medicaid. Below are highlights of several of the survey results for Illinois hospitals and nationally that demonstrate a need for improvement. Health care facilities are being challenged to redesign care in ways that are authentically patient-centered. Annual results of the HCAHPS survey will be one avenue to evaluate improvement in this arena over time, and will continue to be monitored on the HRCCGHC web site.



Women's Health Issues

Cesarean section (C-section) delivery of newborns has risen significantly across the country over the past ten to fifteen years. Based on examination of hospital discharge data, the C-section delivery rate in Illinois grew from 19.3 percent in 1997 to 30 percent in 2007 - reaching an all time high (<http://www.healthcarereportcard.illinois.gov/files/pdf/c-section-trends.pdf>). Although C-section can be a life saving procedure, it must be recognized as major surgery that carries risks for both mothers and babies, risks that are not present in a vaginal birth. The World Health Organization recommends optimal C-section rates between 5 percent and fifteen percent. Rates above this may cause more harm than good. Health care that promotes better care should also reduce the burden of unnecessary, inappropriate or excessive care.

Using Agency for Health Care Research and Quality measures, in 2010 the Illinois C-section rate remained high - at close to 28%. The 2010 median hospital charge (the list price before applying any discounts) for an uncomplicated c-section in Illinois was \$15, 668.77. There were 31, 117 uncomplicated c-sections performed. If optimal c-section rates were achieved, there could be significant potential for associated cost savings.

Breast feeding has been shown to provide important benefits for both mother and baby. Breast milk contains antibodies that protect infants from bacterial and viral infections, and breast fed infants are at lower risk of certain chronic diseases including diabetes, obesity and asthma. Research indicates that women who breast feed may also have lower risk of some health problems, including certain breast and ovarian cancers, obesity and diabetes. Based on data submitted to the Illinois Department of Public Health Vital Statistics, 76.5 percent of newborns were breast fed at least once before release from Illinois hospitals during the reporting period 2/1/11 and 7/31/11. This is similar to the national rate.

However, national studies indicate that only 15 percent of women exclusively breast feed six months later. Overall it has been shown that a longer a woman breast feeds, the greater the protective benefit.

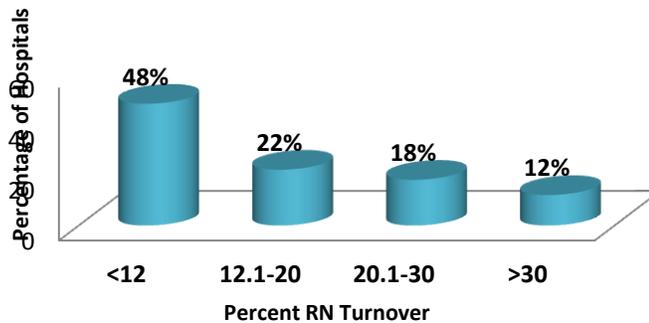
One of the National Quality Strategy's priorities is to promote wide use of best practices to enable healthy living. Success with breast feeding can be supported in a variety of ways and settings. One way is for health care institutions to adopt policies that foster effective breast feeding. The World Health Organization, the Centers for Disease Control and Prevention, Healthy People 20/20 and the U.S. Surgeon General have all released initiatives to increase the percentage of "baby friendly" hospitals. The Healthy People 20/20 goal is to increase "baby friendly" designated hospitals from less than 5 percent to 8.1 percent. Two Illinois hospitals currently have the WHO baby friendly designation (www.babyfriendlyusa.org). The HRCCGHC website will continue to provide C-section rates and breast feeding practices, and will begin to identify "baby friendly" designated hospitals and lactation support services. In addition, the Division will support quality improvement initiatives amongst providers focused on improving C-section and breast feeding practices across the State.

Nursing Turnover

The Illinois Hospital Report Card Act states that patients, their families, and the general public have a right to access the nurse staffing and training information in a hospital. Nurses provide around the clock, direct care for patients in hospitals. As such, they play a key role in ensuring the safety and quality of care for patients. Researchers have linked several measures of nurse staffing to improved patient outcomes.

Nursing turnover reflects the rate at which nurses leave a hospital staff position. High turnover can represent nurse job dissatisfaction. A high turnover rate may impact a hospital's productivity, delivery, and quality of care if skilled and experienced nursing staff is lost. The information below is based on data submitted from hospitals to the Illinois Department of Public Health. National benchmarks for nursing turnover are not publicly available. However, a number of investigators consider a turnover rate of less than 12% among hospital staff as most optimal (3). Hospitals with official "Magnet Designation" report overall R.N. turnover rates of 9.77%. Magnet recognition is a formal designation of the American Nurses Credentialing Center, a subsidiary of the American Nurses Association, which recognizes health care organizations that demonstrate excellence in nursing practice and quality patient care as a driving force (<http://www.nursecredentialing.org/CharacteristicsMagnetOrganizations.aspx>). In Illinois, 52% of hospitals reported a turnover rate higher than is considered optimal in medical/surgical units for the year 2010.

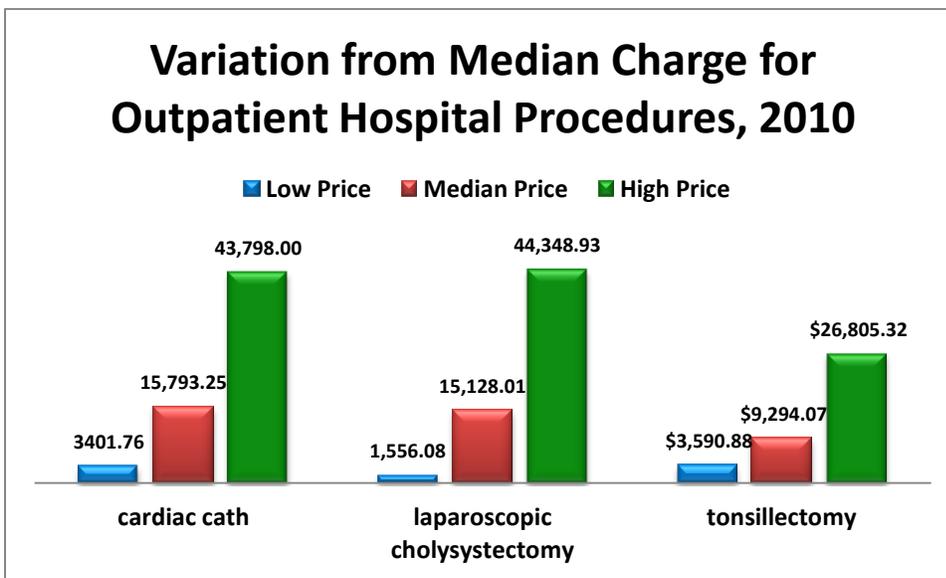
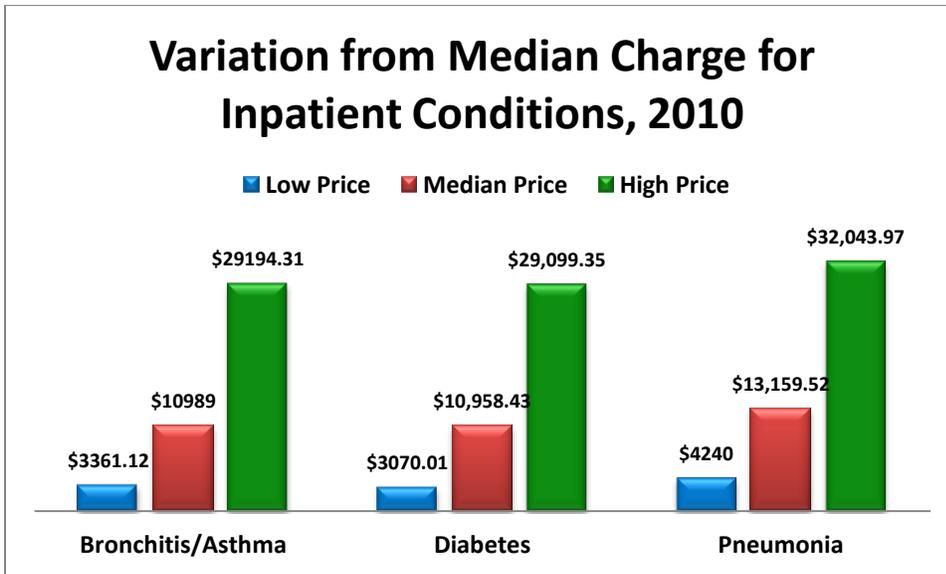
Average Medical/Surgical Unit RN Turnover Rate Illinois Hospitals, 2010



Hospital and Ambulatory Surgery Center Charges for Procedures and Conditions

Costs of health care continue to rise in the United States. According to the Centers for Medicare and Medicaid, national health expenditures grew 4 percent in 2009 to \$2.5 trillion dollars and accounted for 17.6% of the gross national product – the highest among industrialized nations in the world (https://www.cms.gov/NationalHealthExpendData/25_NHE_Fact_Sheet.asp). Over the past decade, pace of health care spending has grown faster than inflation and national income (<http://www.kaiseredu.org/Issue-Modules/US-Health-Care-Costs/Background-Brief.aspx>). This growth is expected to continue to increase without intervention. An essential aim of the National Quality Strategy is to reduce the cost of quality health care for individuals, families, employers, and government.

The Illinois Health Finance Reform Act states that public and private sector purchasers of health care need health care cost and utilization data to enable them to make informed choices among health care providers in the market place. The Illinois Department of Public Health, through publication of the Consumer Guide to health Care provides utilization and charge data for a variety of inpatient and outpatient conditions and procedures. Below are highlights in variation of charges for several inpatient conditions and outpatient procedures. Note that charges are list prices established by hospitals each year, not actual dollar amounts received in payment. All patients are charged the same list price for the same services before applying any discounts. Cost data is not available in the discharge data set.



Healthy People/Healthy Communities

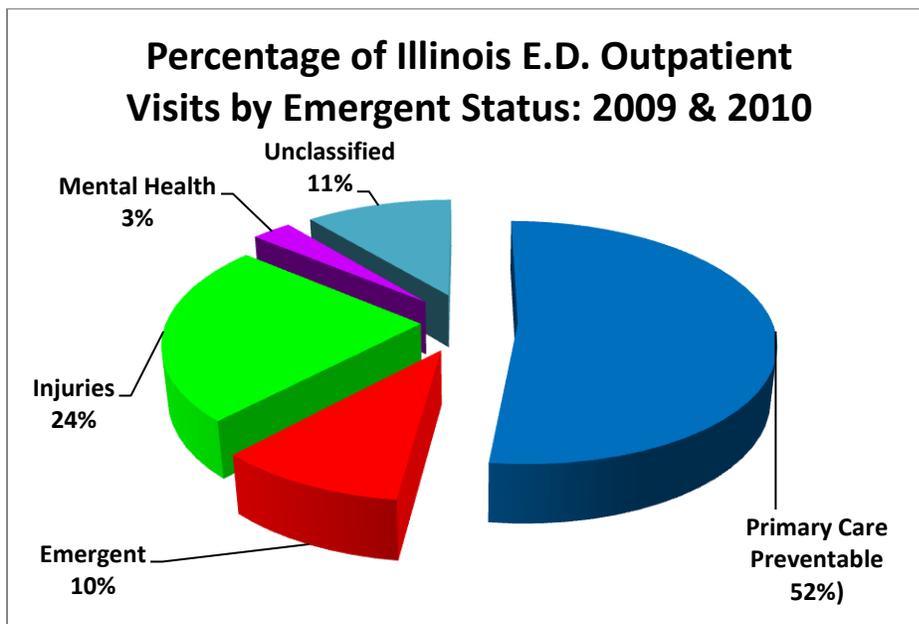
The Illinois Public Health Community Map of the HRCCGHC web site is a new feature added in 2011 that is intended to be expanded and grown. (http://www.healthcarereportcard.illinois.gov/map_info). The purpose of this feature is to make information about the quality of health in communities available to the public, and highlight socioeconomic and racial/ethnic disparities that may exist. Data is presented and displayed geographically by Illinois region, county and sub-regions for Cook county and Chicago. This initial release of the feature focuses on access to health care. Information about potentially preventable hospitalizations and emergency department use are presented as two views of this issue.

They serve as a screening tool for problems involving access to primary care and other quality issues. Below are highlights of this data. These data are a unique view of Illinois health care issues at the community level.

Preventable Emergency Room Visits in Illinois

Emergency department (E.D.) visit volume has surged in recent years, and many people are using these services as a primary means of obtaining medical care. When access to healthcare is compromised inappropriate emergency department use is more likely to occur – an expensive alternative. Healthy People 20/20 describes four essential components for understanding the issue of access to care: 1) adequate health insurance coverage; 2) having a usual and ongoing source of care with a primary care provider; 3) timely provision of health care when needed; and 4) having an adequate workforce of primary care physicians. Ensuring access to high quality health care, reducing inappropriate care and decreasing costs are key aims of the national quality agenda.

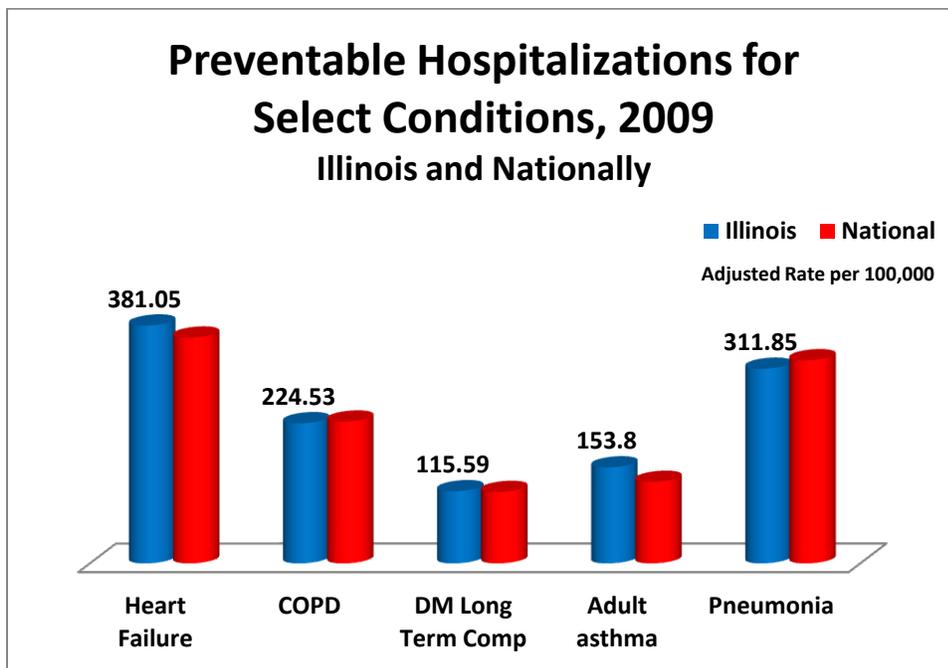
Illinois emergency department discharge data was examined using an algorithm developed by New York University Center for Health and Public Service Research which categorizes emergency department visits according to primary care preventable versus emergent visits. The algorithm also categorizes visits by mental health (psychiatric, alcohol or drug abuse) and injury visits. Data is displayed on the Illinois Public Health Community Map feature of the HRCCGH website. For years 2009 and 2010 combined, there were 7.9 million emergency room visits in Illinois for a total of 17.2 billion dollars in visit charges. As the graph below depicts, 52 percent of visits were categorized as primary care preventable with an associated 8.1 billion dollars of charges. (Note that charges are list prices established by hospitals each year, not actual dollar amounts received in payment. See description above.)



(Note that charges are list prices established by hospitals each year, not actual dollar amounts received in payment.)

Preventable Hospital Admissions in Illinois

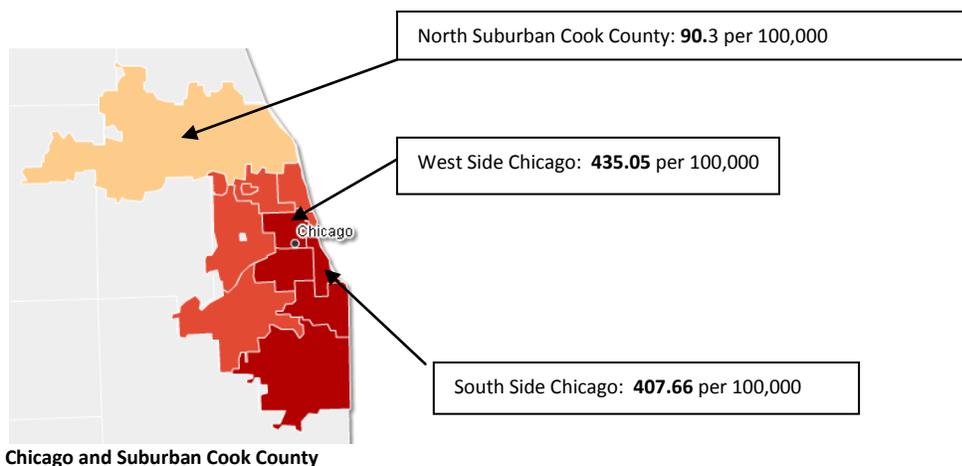
The question of access to high quality care can also be assessed by examining hospital admissions for conditions that could have been prevented with effective primary care and outpatient disease management. The Prevention Quality Indicators (PQIs) developed by the Agency for Health Research and Quality, are measures that can be used with hospital inpatient discharge data to identify “ambulatory care-sensitive conditions”. These are conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent health complications or severe disease. The PQIs were developed after comprehensive literature review, analysis of ICD-9-CM codes, implementation of risk adjustment, and empirical analysis (2). Below are highlights of top Illinois hospital admissions for select ambulatory care-sensitive conditions.



Disparities in Rates of Preventable Asthma Hospital Admission

Asthma is one of the most common reasons for preventable hospital admission and emergency room care in Illinois. Most cases of asthma can be managed with proper ongoing therapy on an outpatient basis. An examination of adult preventable asthma admissions found significant variation across metropolitan Chicago and suburban Cook County areas. Note the differences highlighted below on the map of metropolitan Chicago. The Illinois average preventable asthma admission rate is 153.8 per 100,000 population. Areas with higher rates are displayed in dark red. North suburban Cook County has a preventable asthma admission rate that is better than average at 90.3, compared to the west and south sides of Chicago with rates of 435.05 and 407.66 respectively. Associated differences in area demographics by socioeconomic status and race/ethnicity are outlined in the table below the map.

Disparities in Rates of Preventable Adult Asthma Admissions in Metropolitan Chicago, 2009 (Illinois State Benchmark: 153.8 per 100,000 population)



Demographics by Area

Area	North Suburban Cook County	West Side Chicago	South Side Chicago
Preventable Asthma Admission Rate	90.3	435.05	407.66
% Median Household Income < \$40,000	34%	67%	69%
% White	75%	12%	9.03%
% African American	3.51%	48%	81.20%
% Hispanic	11%	37%	2.48%
% Asian	9%	2.21%	5.83%

Note: U.S. Census data, 2007

The data on access to care and disparities on the Illinois Public Health Community Map are important data to reveal and can inform policy and planning for public health and health care service delivery. The next update of this feature will provide more in-depth data about diabetes and asthma and associated lifestyle behaviors and environmental issues.

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