Benefits from Clinical Integration

The 2007 Value Report

Reporting the 2006 Clinical Integration Results

Advocate Health Partners

Letter from the President

Advocate Health Partners is pleased to present The 2007 Value Report, highlighting another year of tremendous results from Advocate Health Partners' innovative Clinical Integration Program.

As in past years, the 2006 results in this Report demonstrate the continued commitment of Advocate Health Partners and its more than 2,900 physicians to improving care and saving lives. And, once again, Advocate Health Partners' unique approach to better clinical practice has made a significant impact on reducing the overall costs of health care to health plans, employers and patients. By assuring Advocate Health Partners physicians are included in your health plan, you can remain confident that your plan enrollees will continue to benefit from this unparalleled level of care.

In 2006, Advocate Health Partners continued to expand its Clinical Integration Program, both in the number of initiatives it undertook and in setting its clinical quality performance targets. At Advocate Health Partners, we continue to raise the bar on quality, addressing many of the challenges facing the health care delivery system today. The Clinical Integration Program focuses on improvements in five critical areas of health care: Clinical Effectiveness, Cost Effectiveness, Patient Safety, the Patient Experience and Development of Medical and Technological Infrastructure. Within these five areas, we achieve results through monitoring and measuring 24 initiatives that are part of the daily care Advocate Health Partners physicians provide.

The response to Advocate Health Partners' Clinical Integration Program among health plans has been extremely favorable. With the exception of only one carrier, all the major health plans serving the Chicago metropolitan area have actively embraced, and are currently participating in, the Advocate Health Partners Clinical Integration Program. We are as excited about sharing this Report of Advocate Health Partners' successes as we are about continuing to work together on the challenge of providing quality health care and improved patient outcomes at affordable costs for the communities we serve. I value your feedback on the Clinical Integration Program and thoughts on improvements that will enhance its impact in coming years.

Sincerely,

Lee B. Sacks, M.D.
President
Advocate Health Partners

"Advocate Health Partners' support of our eICU® initiative has been a major factor in its success. With their collaboration and support, we have provided patients in all Advocate hospitals with the unparalleled intensivist expertise and advanced monitoring capabilities that lead to improved outcomes."

Michael Ries, MD, MBA
Medical Director, Advocate Health Care eICU®

Through these state-of-the-art treatment approaches, my patients with heart disease are enjoying a better quality of life. As a physician, I am happy to be a part of Advocate Health Partners' Clinical Integration Program, which fosters responsive, effective strategies across a spectrum of conditions."

Vimala Santhanam, MD
Cardiologist, Advocate Health Centers

"The diabetic quality initiative for diabetic management heightens our awareness and attention to the important details of diabetic management. This increased awareness and thoroughness definitely translates into raising the bar for all diabetic care and improving diabetic outcomes."

Barbara B. Loeb, MD, MBA, CPE
President-Elect, Advocate Good Samaritan Hospital Medical Staff

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Executive Summary

Advocate Health Partners' Clinical Integration Program is a collaborative effort by more than 2,900 physicians and the eight Advocate hospitals to drive targeted improvements in health care quality and efficiency through our relationships with virtually every major health plan in the Chicago metropolitan area. For years, the Clinical Integration Program has set the standard for innovative health care through its application of evidence-based medicine, clinical best practices and recognized quality-enhancing technologies. By aligning physician and hospital efforts, the Advocate Health Partners Clinical Integration Program is able to drive improvements in clinical performance that promote better, more cost-effective care, save lives and reduce lost work days. The Program responds to the cost-containment concerns of employers, health plans and health care providers, emphasizing preventive care and health outcomes for patients with a broad range of conditions.

In 2006, the Clinical Integration Program included 24 initiatives focused on advancing the quality and efficiency of care. As in past years, these initiatives were derived from the pioneering work of the Institute of Medicine of the National Academy of Sciences, the National Committee for Quality Assurance, the National Quality Forum, the Leapfrog Group for Patient Safety, the U.S. Department of Health and Human Services and the Joint Commission in defining clinical best practices and evidence-based medicine.

The 2006 Advocate Health Partners Clinical Integration Program continued to target some of our nation's most troublesome and costly clinical conditions including asthma, heart disease and diabetes. Additionally, the Clinical Integration Program incorporated an increased number of specialty measures, including: orthopedics, obstetrics and gynecology, and critical care for medical and surgical patients. The scope of the program was increased to include programs such as Childhood Immunizations. The Depression Screening initiative was expanded to include patients with diabetes in addition to those who have had an acute cardiac event.

It is clear the Clinical Integration Program continues to raise the bar and improve quality outcomes for the patients of Advocate Health Partners physicians. Highlights of the 2006 Clinical Integration Program include:

- The Advocate Health Partners Generic Prescribing initiative generated savings conservatively estimated at more than $6 million to the patients, employers and health plans serviced by Advocate Health Partners.
- The Smoking Cessation initiative resulted in an additional 1,291 to 4,132 patients quitting smoking compared to national norms. This resulted in an incremental direct medical savings of at least $2.1 million and incremental indirect costs savings of at least $2.2 million due to increased productivity, compared to national averages.
- Outperforming the national average, Advocate Health Partners' Depression Screening initiative saved a projected $2.3 million in direct and indirect medical expenses and succeeded in reducing an estimated 19,443 lost work days.
- The Asthma Outcome initiative resulted in direct medical cost savings of approximately $1 million, with additional indirect savings of approximately $400,000 compared to Chicago-area averages. The program also resulted in an estimated additional 2,796 days of productivity.
- Through the Diabetic Care Outcomes initiative, the increase in the number of patients with good glucose control will result in more than 6,900 additional years of life over and above national performance. This represents an average of five additional years of life for each affected patient. In addition, exceeding national performance, the initiative realized an annual direct medical cost savings estimated at $700,000 due to avoided medical treatment as a result of better glucose control.
- The Advocate Health Partners Coronary Artery Disease and Congestive Heart Failure initiative resulted in an estimated 354 days of gained productivity, 13 additional lives saved and a medical cost savings of $1.1 to $1.2 million compared to national averages.

The Pay-for-Performance Philosophy

A critical factor in the success of Advocate Health Partners' Clinical Integration Program is a pay-for-performance incentive system that rewards physicians for adoption of better clinical processes and improvements in clinical outcomes. For years, the pay-for-performance model has been widely accepted in the private sector and is increasingly being adopted in the health care field as well. Advocate Health Partners' Clinical Integration Program is a well-developed and nationally recognized Program with proven, documented results for three years running.

Advocate Health Partners' innovative Clinical Integration Program includes performance targets for each of its 24 clinical initiatives based on national best practices, research findings and other recognized benchmarks. The Clinical Integration Program obtains these financial incentives through its relationships with contracted health plans and uses them to encourage physicians to meet or exceed performance targets. The Clinical Integration Program is structured to reward the performance of both the individual physician and the physician's peer group. By including the peer group in the pay-for-performance system, the Advocate Health Partners Clinical Integration Program fosters a culture of excellence.

The Advocate Health Partners Clinical Integration Program also addresses issues of under-performance. Sanctions for non-performance by physicians include forfeiture of incentive payments, enrollment in corrective action programs, remediation efforts and procedures to terminate the physician from the Advocate Health Partners network.

Because they are proven effective, performance management programs such as the Advocate Health Partners Clinical Integration Program are being developed in other areas of the health care industry as well. Most notably, the Centers for Medicare and Medicaid Services (CMS) is conducting the Premier Hospital Quality Incentive Demonstration, through which performing hospitals are rewarded with an increase in payment for Medicare patients. In late 2005, CMS reported that quality of care has improved significantly in more than 260 hospitals that participate in the effort. This success has prompted CMS to begin developing a similar program for rewarding quality improvements among physicians.

The physicians of Advocate Health Partners understand and embrace the pay-for-performance model and use it to drive significant improvements in care for patients and the community.

"We are seeing that pay-for-performance works. We are seeing increased quality of care for patients, which mean fewer costly complications—exactly what we should be paying for in Medicare."

Mark M. McClellan, MD, PhD, Retired CMS Administrator

Beyond Disease Management

Chronic disease conditions account for the vast majority of health care spending in the United States. Critics of the national health care delivery system commonly cite the perverse incentives of the current reimbursement system, which offers too little in the way of reimbursement for providing preventive care. A disproportionate amount of health care resources are consumed treating diseases that are already in an advanced stage of development. In many cases, these diseases could have been more cost effectively treated or avoided with appropriate preventive care that proactively addressed these chronic conditions at an earlier stage.

Some health plans have responded to this challenge by offering disease management programs. Traditional disease management programs attempt to identify patients with chronic disease through reviews of claims data to find patients who have already received treatment for symptoms of these disease conditions—often after these diseases are significantly advanced. Typically, these traditional disease management programs provide patients with educational materials and reminders about managing their disease. In some cases, these programs contact the patients' physicians to inform them of the program. All of these are important first steps in managing the health status and avoiding unnecessary health care costs.

Advocate Health Partners goes beyond traditional disease management efforts in a number of important ways. Advocate Health Partners does its own review of claims data submitted by its member physicians. Using proprietary claims review algorithms, Advocate Health Partners has been able to identify over 25,000 patients fitting into its various disease registries. While traditional disease management companies perform similar reviews of physician claims data, the results are typically not shared with the physician, impeding the kind of coordinated care necessary to optimally manage care for the chronically ill patient.

By directing laboratory and other testing services through Advocate-connected provider facilities, Advocate Health Partners gains a second advantage over traditional disease management efforts. Through having electronic access to testing results, Advocate Health Partners can help ensure not only that critically important testing was performed, but also provide feedback to physicians about the results of those tests and the implications for follow up care with the patient. This capability has contributed to the significant successes of Advocate Health Partners Clinical Integration Program initiatives, such as helping those patients with high cholesterol levels to manage to desired lipid levels, ensuring diabetic patients' hemoglobin A1c levels are in "good" control, and in achieving many of the other clinical performance improvements documented throughout this Report.

Another way in which Advocate Health Partners goes beyond traditional disease management is by actively engaging its member physicians in identifying patients with chronic disease conditions. Advocate Health Partners physicians are provided with incentives to appropriately identify these patients and enter them into Advocate Health Partners secure online patient disease registries. The physician is typically much better positioned than a claims-based system to identify the patients with chronic disease in the early stages of the illness—long before an accumulation of claims data would lead to that patient being identified by traditional

disease management system approaches. Early identification of a patient with a chronic disease allows that condition to be managed at an earlier stage, when impact is most critical and long term cost savings through appropriate preventive care can be maximized. Placing the physician at the core of the identification process is essential to early intervention, which strengthens patient compliance and improves outcomes.

Advocate Health Partners' disease management program empowers its physicians by providing them with tools to help identify patients with chronic diseases, treatment protocols and other supports to guide optimal treatment, and financial incentives to reward successful outcomes management. By making the physician the central link in the patient care process, Advocate Health Partners goes beyond most industry disease management programs.

ADVOCATE HEALTH PARTNERS—BEYOND DISEASE MANAGEMENT PROGRAM

	ACTION	BENEFITS TO PAYERS, EMPLOYERS AND PATIENTS
Early Identification	Physicians identify their patients with chronic disease and enter them into disease registries	1. Cycle time to intervention is minimized 2. Immediate opportunity to educate and coach patients
Coordinated Follow-up By Physician and Disease Management Coaches	Both the physician's office and Advocate Health Partners' disease management staff reach out to the patient by mail and/or telephone to encourage compliance	3. Secure web-based disease registries and evidence-based guidelines and techniques optimize patient care and outcomes 4. The physician and disease management coaches address all conditions for those patients with more than one serious condition
Training and Support Materials for Physicians and Office Staff	Training is provided for both physicians and their office staff in the latest advances in management of key chronic disease conditions	5. Physicians office staff prompt and remind patients of compliance through implementation of office systems to track patient treatment 6. Physicians attend mandatory sessions to learn leading-edge developments for treating key chronic diseases
Medication Management	Through the use of disease registries and a database of prescribed medications, suboptimal use of medications is identified and reminders are sent to physicians	7. An Advocate Health Partners pharmacist directs this program and is engaged in individual and group physician counseling on optimal medication use
Consistent Message	Using the latest evidence-based guidelines, written materials and telephonic coaching are used to educate patients thereby creating behavioral change. The messages are reinforced by the patient's physician	8. Delivery of a consistent message by both the disease management staff and the physician is a vital component in achieving patient compliance, one of the key determinants of successful outcomes for patients with chronic diseases
Health Care Information Technology	All Advocate Health Partners physicians have high-speed internet in the office, allowing real-time access to laboratory and other testing results, up-to-date patient education materials and reference to disease registries	9. Advocate Health Partners has developed secure web-based disease registries with linkages to laboratory results that provide physicians and their staff a key tool to follow their patients and identify when interventions are due or patient recall is needed
Sustainability	Physicians receive report cards each quarter highlighting their performance in comparison to peers as well as receive pay for performance incentives	10. Physician recognition through report cards and compensation helps to support the infrastructure needed to manage patients with chronic illnesses

Placing the physician at the core of the identification process is essential to early intervention, which strengthens patient compliance and improves outcomes.

Taking the Lead in the Health Care Information Age

The use of advanced information technology has a transformational impact on the way medicine is practiced. Advocate Health Partners is in the vanguard of adopting emerging health care information technologies. Advocate Health Partners provides its physicians with access to state-of-the-art applications such as electronic medical records, disease registries, electronic data interchange and electronic referral management. Through this commitment to advanced clinical information technology, Advocate Health Partners physicians play a pivotal role in assuring safe, responsive and cost-effective care.

ELECTRONIC MEDICAL RECORD *INCLUDING COMPUTERIZED PHYSICIAN ORDER ENTRY (CPOE)*

CareNet and CareConnection are clinical data repository and electronic medical record technologies that allow Advocate Health Partners physicians to access the most current information about their patients within Advocate hospitals, laboratories, outpatient facilities and ambulatory settings. This includes a state-of-the-art Computerized Physician Order Entry (CPOE) function that studies show dramatically improve the safety of hospitalized patients. These technologies are further discussed in the Computerized Physician Order Entry section of this Report.

ELECTRONIC DATA INTERCHANGE (EDI)

Administrative expenses associated with claims submission add unnecessary and avoidable costs to the health care system. Industry research indicates electronic submission of claims can reduce associated administrative costs by as much as 50 percent. In 2005, Advocate Health Partners began requiring its physicians to submit claims for its HMO patients through electronic data interchange (EDI). EDI usage increased from the community average of 30 percent to 100 percent. Building on this success, in 2006 Advocate Health Partners began providing incentives to physicians who use EDI in their fee-for-service billings to insurance companies. Currently, 63 percent of Advocate Health Partners physicians are submitting claims to insurance companies via EDI. Industry research estimates that the use of EDI can result in a savings of $3.73 per claim compared to the cost of processing claims manually. This means that each 10 percent increase in EDI submission could save insurance companies approximately $500,000 in administrative costs annually for the patients served by Advocate Health Partners physicians.

ELECTRONIC REFERRAL MANAGEMENT APPLICATION (ERMA)

In addition to administrative savings, use of electronic referral management systems has been shown to save patient and provider time, and reduce unnecessary testing through the inclusion of clinical protocols to guide clinical decision making. Advocate Health Partners' proprietary web-based referrals management system allows physicians to facilitate a paperless referral to another physician or testing center. Referral transactions are instantaneous, allowing patients to schedule an appointment right at the time of referral. In 2006, Advocate Health Partners physicians utilized the ERMA system in 98 percent of cases. The evidence-based clinical protocols embedded in the ERMA system have led to clinically appropriate reductions in MRI testing, one of the most expensive outpatient tests, as well as reductions in several other modalities.

ONLINE PATIENT DISEASE REGISTRIES

Using a proprietary electronic claims review software application, Advocate Health Partners is able to populate its various disease registries for patients with diabetes, asthma, coronary artery disease and other chronic disease conditions. Disease registry information is then provided to the treating physician over Advocate Health Partners' secure website. Physicians can then access these disease registries in their offices, helping ensure their patients in these registries receive optimal care for the ongoing management of these chronic diseases.

ELECTRONIC INTENSIVE CARE UNIT (eICU®) USAGE

In 2006, all Advocate Health Partners physicians participated in the Advocate Health Care eICU® program, which electronically connects the 17 adult intensive care units across all of Advocate's hospitals and enables around-the-clock clinical oversight from a central command center. Eighty-five percent of Advocate Health Partners physicians participated in the eICU® at the highest levels, allowing critical care physicians and staff at the eICU® command center to instantly modify the patient's care plan as the need arises.

HIGH-SPEED INTERNET ACCESS

In 2004, Advocate Health Partners recognized that only one out of every five of its physician members utilized the internet in their offices. In 2005, Advocate Health Partners made high-speed internet access in the physician's office a requirement of membership. As a result, currently all Advocate Health Partners physicians have implemented this technology in their offices, and now use it for access to the latest clinical pathways and protocols, rapid consultations with their colleagues, practice management tools and up-to-date health plan information.

Generic Prescribing Initiative

Definition

Generic medications are those drugs that are not brand name medications, but by law must have the same active ingredients as the brand name medication and are subject to the same standards of manufacture and distribution as their brand name counterparts.

The History

According to an article published by the Kaiser Family Foundation, prescription drug spending is projected to increase from $188.5 billion in 2004 to $446.2 billion in 2015, an increase of 137 percent in an 11-year span.[1] Although prescription drug spending is approximately 10 percent of overall health care spending in America, it has been one of the fastest growing components, consistently increasing at double-digit rates over the past decade. This slowed in 2005 when prescription drug spending increased just 5.8 percent.[2] The Centers for Medicare and Medicaid Services (CMS) projects prescription drug spending will continue to increase at a rate of approximately 8 percent per year until 2015.

Three key factors are generally thought to contribute to the growth in pharmaceutical spending. These include: (1) changes in utilization of existing drugs; (2) changes in cost per prescription; and (3) introduction of new medications to the market.[3] According to the 2005 Drug Trend Report issued by a leading national pharmacy benefit manager, more than half, or 52.5 percent of its pharmacy trend growth in 2005 was a result of increased utilization followed by increases in the cost per prescription. This accounted for 42.5 percent of the pharmacy growth. The remaining 5 percent was due to the introduction of new medications.

ECONOMIC AND MEDICAL IMPACT

- It has been estimated that every 1 percent increase in generic drug use results in $1.16 billion in savings for payers.
- According to the Congressional Budget Office, generic drugs save consumers an estimated $8 to $10 billion a year.

ADVOCATE HEALTH PARTNERS CASE FOR IMPROVEMENT

The rewards of a successful generic drug promotion strategy can be substantial in today's environment. Between 2006 and 2008, drugs with annual revenues totaling over $40 billion are expected to lose patent protection, creating opportunities for payers and consumers to reap significant cost savings by increasing generic drug utilization. For Advocate Health Partners, branded medications losing patent protection in 2006 accounted for almost 7 percent of the overall prescription volume. Similarly, in 2007, brands that will become available generically make up approximately 4 percent of the total prescription volume.

Generic medications represent one of the most cost-effective interventions in health care. Many of the available, or soon to be available, generics have extensive amounts of data demonstrating their effectiveness in patients. In addition, all generics have long-term safety data that is often not available with newer, branded medications. The availability of new generic medications, along with the increased use of existing generic medications by Advocate Health Partners physicians, should continue to result in significant savings.

ADVOCATE HEALTH PARTNERS OBJECTIVE

The goal of Advocate Health Partners is to increase the use of generic medications in the outpatient setting. Specifically, Advocate Health Partners established its target for overall generic drug utilization at 55 percent or better for 2006.

ADVOCATE HEALTH PARTNERS METRICS / RESULTS

In 2006, Advocate Health Partners physicians increased the use of generic drugs to 56 percent, exceeding the target. In 2003, Advocate Health Partners' generic utilization rate was approximately 41 percent. In just three years, this rate has grown more than 36 percent, translating to an average annual improvement of 11 percent each year.

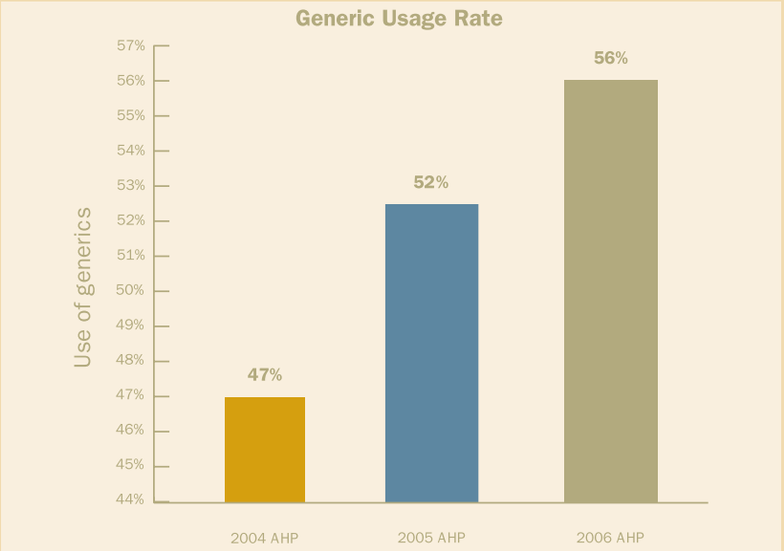


Table 1. Advocate Health Partners Generic Usage Rate

ADVOCATE HEALTH PARTNERS IMPACT ON QUALITY AND COST

Advocate Health Partners' increased use of generic drugs from 2005 to 2006 resulted in savings of approximately $6 million. For the three-year period from 2004 to 2006, the cumulative increase in the use of generic medications has yielded annual savings of more than $25 million to the payers, employers and patients served by Advocate Health Partners' physicians.

Smoking Cessation Education Program

Definition

A program designed to encourage a smoker to stop smoking by providing the individual smoker or groups of smokers with education, counseling, medications and other ongoing supports.

The History

Currently, nearly 25 percent of adult Americans smoke, and an estimated 3,000 children and adolescents become regular smokers every day.[1] While 70 percent of smokers say they would like to quit, only a fraction are able to do so on their own because the nicotine found in tobacco products is so highly addictive. [2]

ECONOMIC AND MEDICAL IMPACT

- Tobacco is the single greatest cause of disease and premature death in the United States. It is responsible for more than 430,000 deaths each year.
- The societal costs for tobacco-related disease and premature death approach $100 billion each year.[3]
- In 1999, the average annual cost of lost productivity per smoker was $1,760 and the average annual excess medical expense per smoker was $1,623.[4]

ADVOCATE HEALTH PARTNERS CASE FOR IMPROVEMENT

Despite the reality that smoking-related deaths are preventable, most clinicians under-perform in helping smokers quit. While it is estimated that at least 70 percent of smokers see a physician at least once in a given year, published data suggest that only 21 to 44 percent of smokers recall being advised by their physician to quit smoking.[5] A recent large study of smokers seen by a physician indicated that only 59 percent had been counseled to stop smoking.[6] Yet there is substantial evidence that even brief advice given to smokers by their physician can increase their quit rates by 2.5 to 8 percent.[7]

ADVOCATE HEALTH PARTNERS OBJECTIVE

Advocate Health Partners' objective is to increase the number of patients who receive smoking cessation counseling from their physician.

Advocate Health Partners uses resources to promote smoking cessation at three levels within its health care system. At the practice level, physicians provide patient instructional materials and evidence-based practice guidelines on methods of counseling and pharmacological treatment. At the system level, Advocate Health Partners maintains automated tracking registries to provide reminders to clinicians to implement the guidelines and offers online links to additional quit-smoking resources. At the organizational level, Advocate Health Partners offers financial incentives to physicians who clearly document their efforts to counsel patients to quit smoking. These efforts in the ambulatory setting are complemented by the Advocate hospital programs to counsel high-risk inpatients about techniques to quit smoking.

ADVOCATE HEALTH PARTNERS METRICS / RESULTS

Table 1 illustrates the 2006 results showing 96 percent of Advocate Health Partners' patients who were current or recent smokers were given smoking cessation education in their physician's office. This level of intervention compares favorably to the recently reported 59 percent of patients in a national study.

In addition, 93 percent of patients admitted to an Advocate hospital who were current or recent smokers were given smoking cessation education facilitated by an Advocate Health Partners physician.

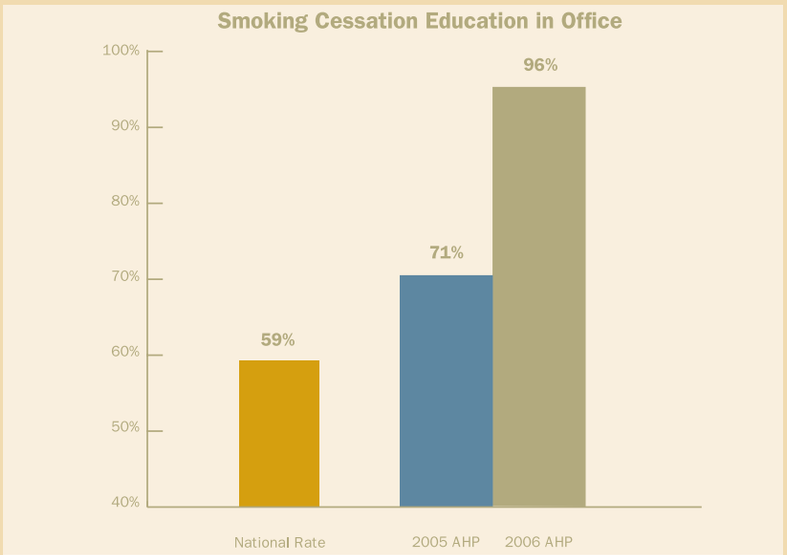


Table 1. Percentage Of Patients Given Smoking Cessation Education In Office

ADVOCATE HEALTH PARTNERS IMPACT ON QUALITY AND COST

In 2006, Advocate Health Partners' Smoking Cessation initiative resulted in an additional 1,291 to 4,132 patients quitting smoking compared to national norms. This resulted in an incremental direct medical savings of at least $2.1 million and incremental indirect cost savings of at least $2.2 million due to increased productivity, compared to national averages. Cumulatively since 2004, this initiative has resulted in direct medical cost savings of at least $4.9 million and indirect cost savings of at least $5 million compared to national performance.

Definition

Depression is a disorder that involves a person's body, mood and thoughts which can adversely impact the afflicted individual's ability to function in work, social and personal (including self-care) settings.

The History

Depression is a common illness and a major cause of poor compliance with medical care, diminished quality of life, increased absenteeism and reduced "presenteeism." Patients most vulnerable to depression are those with a chronic disease or a major life event such as an illness with life-threatening or life-changing potential. One in five outpatients with coronary artery disease has depression. Prevalence increases to 50 percent in those who have had an acute coronary event such as coronary artery bypass graft surgery.[1] In people with diabetes, the prevalence of depression at any single time is estimated at 33 percent.

Depression Screening for the Chronically Ill

ECONOMIC AND MEDICAL IMPACT

- Employers lose an average of 8.2 hours per week every year for each employee with depression.[2]
- Medical bills for patients with depression are 70 percent higher than those of patients who do not have depression.[2]
- For patients with coronary artery disease, the average annual additional cost of care is $6,936, and for patients with diabetes, the additional cost is $5,700.[3]
- With an estimated 200 million lost work days, the indirect medical cost of depression in the U.S. is $44 billion.[4]

ADVOCATE HEALTH PARTNERS CASE FOR IMPROVEMENT

There is strong evidence that treatment of depression is less expensive than treatment of its long-term effects. Further, treatment can reduce the risk of both recurrent heart attack and all-cause mortality by 43 percent.[5] It is well documented that although the efficacy of treatment for depression has improved greatly in recent years, a large number of patients with this condition will go undetected and untreated. Studies show that following a heart attack only 25 percent of patients with depression are diagnosed. Of those, only 50 percent are treated. Similarly, two of every three patients with diabetes and depression do not receive antidepressant medication.

ADVOCATE HEALTH PARTNERS OBJECTIVE

Advocate Health Partners' objective is to increase professional screening for depression so that patients can be appropriately identified and treated. In recent years, Advocate Health Partners' efforts have been focused on patients who have had an acute cardiac event. Because of the prevalence of depression in patients with diabetes, in 2006 the Depression Screening initiative was expanded to include this population as well.

Advocate Health Partners provided mandatory training sessions for physicians on the importance of screening for depression in these particularly high-risk groups and on related evidence-based management of depression. To aid in the diagnosis and treatment of major depression, Advocate Health Partners also provided protocols and patient questionnaires for use in the physician office. Throughout Advocate Health Partners, the staff in the physician's office is instructed in the use of these tools. In addition, Advocate Health Partners has developed disease registries to provide physicians with lists of high-risk patients who need to be screened, as well as reminders to contact these patients. As an incentive, Advocate Health Partners provides financial rewards to physicians who complete the screening of high-risk patients.

ADVOCATE HEALTH PARTNERS METRICS / RESULTS

The tools used by Advocate Health Partners physicians to screen patients have been proven 96 percent effective in diagnosing patients with depression. As illustrated in Table 1 below, Advocate Health Partners physicians provide screenings for high-risk patient populations at twice the national average rate.

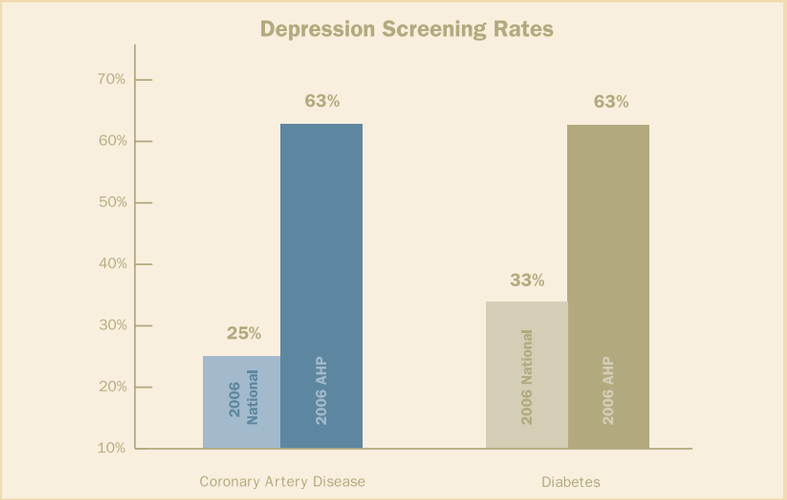


Table 1. Advocate Health Partners Identification Rate for Depression in Coronary Artery Disease and Diabetes

ADVOCATE HEALTH PARTNERS IMPACT ON QUALITY AND COST

In patients who had a cardiac event or diabetes, Advocate Health Partners' increase in screening and subsequent treatment of depression translated in to 19,443 fewer lost work days overall compared to national average screening levels. This increase also resulted in medical cost savings of approximately $2.3 million compared to national performance.

Definition

Asthma is a chronic, inflammatory lung disease characterized by recurrent breathing problems usually triggered by allergens. Other triggers may include infection, exercise, cold air and other factors.

The History

Asthma is a serious health problem in the United States, with an estimated 20.5 million Americans afflicted in 2004.[1] Approximately 5,000 deaths per year are attributed to asthma. These deaths, which occur primarily among the young, are known to be mostly preventable. The Chicago area is considered by many to be an epicenter for asthma, based on the dramatically higher hospitalization rates for asthma found in the area.

In 2004, the direct medical cost of asthma was $11.5 billion and the indirect cost was $4.6 billion, representing nearly 2 percent of all health care costs in the United States. These direct medical costs include over two million emergency room visits and a half-million hospitalizations. Indirect costs include an estimated 14.5 million missed work days and 14 million missed school days.[1]

A recent broad-based analysis published in an internationally acclaimed review[4] demonstrated that patient education on asthma self-management in adults results in reduced hospitalizations, emergency room visits, unplanned office visits and lost days from work, as well as improved quality of life.[2] Several studies have shown that disease management programs for asthma can reduce both hospitalizations and the overall cost of care.

Asthma Outcomes

ECONOMIC AND MEDICAL IMPACT

- It is estimated that a worker with asthma spends an average of 8.2 days per year working at reduced capacity. This lost productivity alone equates to $1,033 to $1,230 per worker per year.[3,4]
- Chicago's asthma hospital discharge rate of 34.5 per 10,000 and cost per discharge of $9,203 greatly exceed the State average of 12.0 per 10,000 and $5,283, respectively.[5]
- In Illinois, 7.4 percent of the population have asthma, with an estimated direct cost in 2003 of $1 billion.[5]

ADVOCATE HEALTH PARTNERS CASE FOR IMPROVEMENT

On a national level, it is estimated that asthma programs that focus on all patients with asthma yield an overall net medical savings of $1,955 to $2,714 per patient per year. A savings of $6,462 per patient can be achieved when such programs are provided to patients who have already been hospitalized at least once with asthma. Similar programs have also been shown to reduce missed and non-productive work days from 10.8 days per year to 2.6 days per year.[4]

Asthma Action Plans provide education and direction to patients with this disease, and are a key component of an effective asthma program. Yet despite evidence showing improvements when these plans are used, most patients do not receive this education. Recent regional data from the largest managed care organization in Illinois indicate that Asthma Action Plans were completed for only 73 percent of the patients in its HMO network. Performance in the HMO population is higher than that seen among PPO populations.

ADVOCATE HEALTH PARTNERS OBJECTIVE

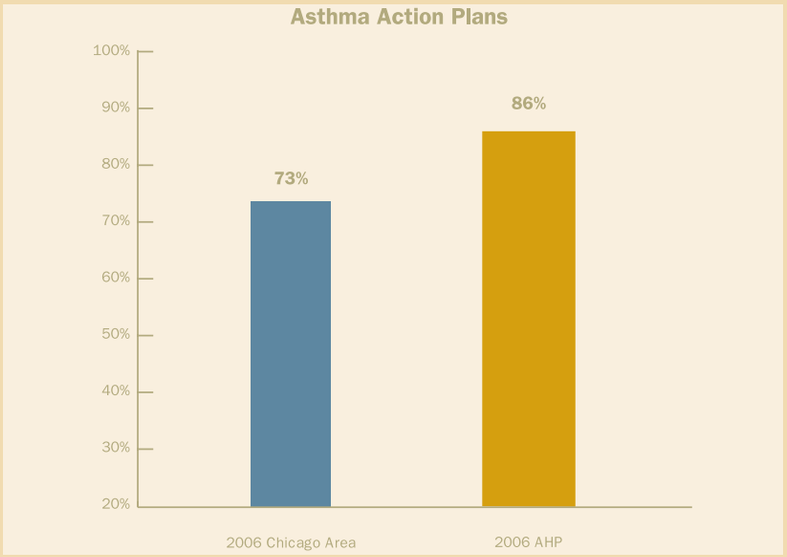
Advocate Health Partners' objective is to detect asthma and begin treatment as rapidly as possible, implementing Asthma Action Plans in all patients with this disease.

Advocate Health Partners provides education, feedback and incentives to its physicians to actively promote patient self-management through the use of a proprietary Asthma Action Plan designed to optimize patient safety. Patients in Advocate Health Partners' asthma disease registry are provided education on self care and also receive follow-up appointment reminders by mail.

In 2006, Advocate Health Partners expanded its state-of-the-art disease management program to track and facilitate care and provide physician education on evidence-based medicine. All Advocate hospitals provide certified Asthma Coordinators to assure patient education on self-management when a patient is seen in the emergency room or admitted to the hospital.

ADVOCATE HEALTH PARTNERS METRICS / RESULTS

In 2006 Advocate Health Partners physicians successfully implemented Asthma Action Plans in 86 percent of their patients with this condition. This represents a rate 18 percent higher than the Chicago-area average.



Asthma Action Plans Completed

ADVOCATE HEALTH PARTNERS IMPACT ON QUALITY AND COST

The high utilization of Asthma Action Plans and the other components of Advocate Health Partners' asthma management program resulted in lower emergency department revisit rates and lower hospital readmission rates. The Asthma Outcomes initiative resulted in direct medical cost savings of approximately $1 million, with additional indirect savings of approximately $400,000 compared to Chicago-area averages. The program also resulted in an estimated additional 2,796 days of productivity.

Definition

Diabetes is a metabolic disorder characterized by a failure of the pancreas to secrete enough insulin or, in some cases, cells that do not respond appropriately to the insulin that is produced. Diabetes can cause serious health complications including heart disease, blindness, kidney failure and lower-extremity amputations.

The History

The prevalence rate of diabetes for Americans is approximately 7 percent, affecting 20.8 million people nationally. From 90 to 95 percent of those affected have Type 2 diabetes, a disease characterized by insulin resistance and insulin deficiency. Type 2 diabetes, which has been linked to obesity, is typically diagnosed after a silent or latent phase that can last for many years.[1]

Diabetic Care Outcomes

ECONOMIC AND MEDICAL IMPACT

- Diabetes is the sixth leading cause of death in the United States.[2]
- A person with diabetes has 2.4 to 2.6 times more medical costs than someone without diabetes.[1]
- Men with diabetes have 3.1 additional lost work days and 7.9 more days of hospitalization per year, on average, than men without diabetes, controlling for age.
- On a national level, diabetes leads to 17.3 million sick days and $2.8 billion in lost productivity annually.

ADVOCATE HEALTH PARTNERS CASE FOR IMPROVEMENT

Complications of diabetes increase as the duration of the disease increases. After a decade of known diabetes, more than 20 percent of patients have had a cardiovascular event such as a myocardial infarction, stroke or congestive heart failure, while about 5 percent develop blindness and about 2 percent have end-stage renal disease or a lower-extremity amputation. Diabetes can lead to serious complications and premature death.

Diabetes is associated with a spectrum of serious health risks. For example, adults with diabetes have heart disease and stroke rates about two to four times higher than adults without diabetes. In addition, those with heart disease have death rates two to four times higher than adults without diabetes. Up to 80 percent of patients with Type 2 diabetes develop or die from vascular disease and other complications associated with this condition. Heart disease and stroke account for about 65 percent of deaths in patients with diabetes. Diabetes also is the leading cause of kidney failure, accounting for 44 percent of new cases in 2002.

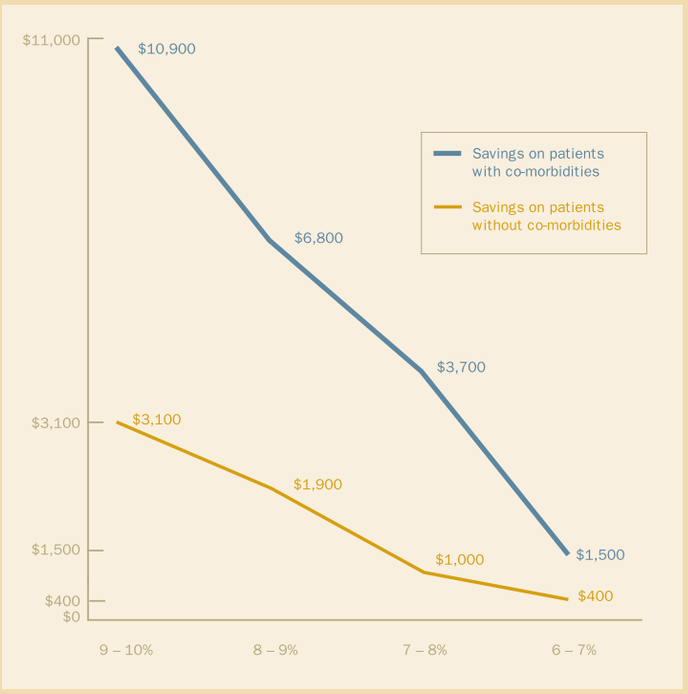
The hemoglobin A1c test measures blood sugar control over a long period of time. Good control of hemoglobin A1c levels is strongly correlated with lower complication rates for diabetes. In general, every percentage point drop in A1c blood test level reduces the risk of eye and kidney complications by 40 percent. Hemoglobin A1c control also correlates well with lower medical costs. It has been estimated that good blood sugar control that achieves near-normal hemoglobin A1c levels results in an extra five years of life, eight years of sight and six years free from kidney disease.

Table 1 illustrates the costs associated with varied levels of hemoglobin A1c. Better control correlates with fewer complications and lower cost. For example, medical care costs increase significantly for every 1 percent increase above an A1c level of 7 percent. This increase in costs accelerates as the A1c value increases. To illustrate this, those with an A1c level of 8 percent typically have medical costs more than $600 higher over a three-year period than those with a level of 7 percent. This differential is even more pronounced if the costs for patients with co-morbidities such as heart disease and hypertension are compared at A1c levels of 7 percent and 8 percent. For those patients, the medical cost differences are $2,200 over a three-year period.

ADVOCATE HEALTH PARTNERS OBJECTIVE

Advocate Health Partners' objective is to lower hemoglobin A1c levels in patients with diabetes, striving for an A1c level of 7 percent or lower, in order to improve care and reduce complications. As part of this effort, Advocate Health Partners physicians aggressively manage and track eight key variables including blood sugar control, cholesterol control, kidney function, vision assessment and mental health status.

By achieving target levels of hemoglobin A1c and cholesterol control, Advocate Health Partners can achieve a reduction in complications and the cost of care.



Cost Differentials over 3 years for 1% change in Hemoglobin A1c[3]

Diabetic Care Outcomes (continued)

ADVOCATE HEALTH PARTNERS METRICS / RESULTS

In 2006, Advocate Health Partners exceeded its goals for all diabetic care elements among patients in its disease registries. Tables 2 and 3 illustrate Advocate Health Partners' performance on common hemoglobin A1c control measures in 2005 and 2006 compared to national averages. In both cases, Advocate Health Partners far exceeds the national standards for controlling hemoglobin A1c levels.

Table 2 illustrates the percentage of patients in good control or with a hemoglobin A1c level of 7 or below. At 49.4 percent, Advocate Health Partners' hemoglobin A1c control rate is much better than the national norm of 34 percent.

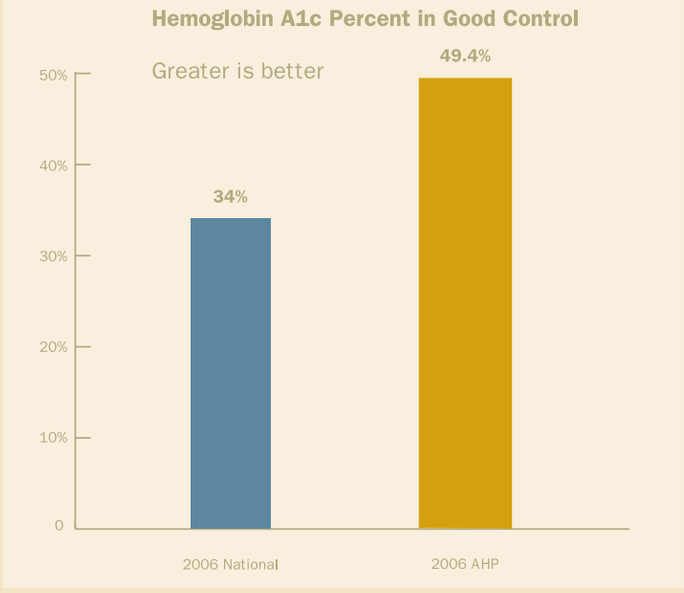


Table 2 Hemoglobin A1c Percent in Good Control <7 (Greater is better)
Sources: Grant, et al, NCQA 2006, Commercial

Table 3 illustrates that the percentage of Advocate Health Partners' patients with poor hemoglobin A1c control rates is only 18.5 percent, compared to the national rate of 29.7 percent[4] reported by the National Committee on Quality Assurance (NCQA). A lower rate is better in this instance, since it is a measure of patients whose hemoglobin A1c level is not in control. It should be noted that the NCQA measures only HMO patients, while the Advocate Health Partners measure includes both HMO and PPO patients. PPO patients are generally more difficult to control than HMO patients.

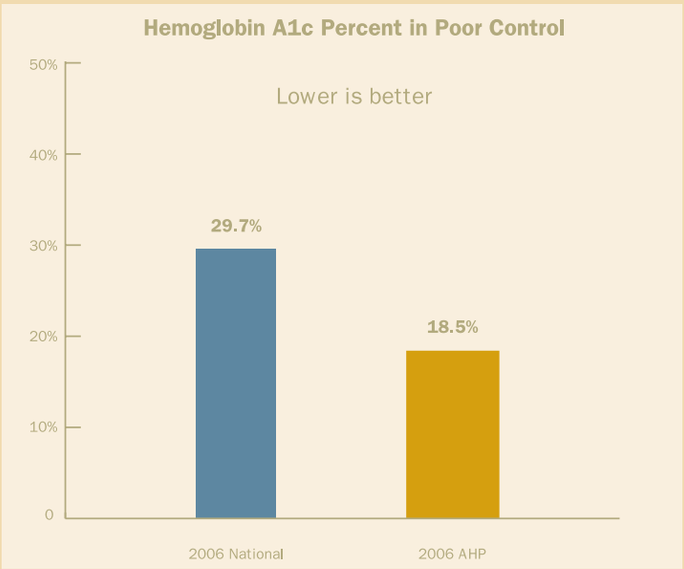


Table 3 Hemoglobin A1c Percent in Poor Control >9 (Lower is better)
Sources: NCQA 2006, Commercial

ADVOCATE HEALTH PARTNERS IMPACT ON QUALITY AND COST

Advocate Health Partners' measurable improvement in the care of its patients with diabetes resulted in an average of five additional years of life for each affected patient. The higher level of patients with good control achieved through Advocate Health Partners' Diabetic Care initiative resulted in more than 6,900 additional years of life beyond national performance. In addition, exceeding national performance, the initiative realized an annual direct medical cost savings estimated at $700,000 due to avoided medical treatment as a result of better hemoglobin A1c control.

Coronary Artery Disease and Congestive Heart Failure Outcomes

Definition

Coronary Artery Disease (CAD): A build-up of fatty material in the wall of the coronary artery that causes narrowing of the artery and reduction of blood flow. Common complications of CAD are heart attack and stroke.

Congestive Heart Failure (CHF): A condition where the heart muscle weakens and cannot pump blood efficiently throughout the body.

The History

Cardiovascular disease remains the most common cause of office visits, hospitalizations, premature disability and death in the United States. More than 13 million Americans have documented coronary artery disease and more than 1.1 million have a new or recurrent heart attack each year. Congestive heart failure is a devastating form of cardiovascular disease, affecting more than five million Americans and having a mortality rate approaching 50 percent at five years post diagnosis. The incidence and costs of managing CHF have increased substantially over the last two decades.

ECONOMIC AND MEDICAL IMPACT

- Thirty percent of patients with CAD die each year.[1]
- The direct health cost impact of CAD is estimated to be $51.1 billion per year.[2]
- An estimated half-million people die of CHF each year.
- The direct health cost impact of CHF is estimated to be $22.1 billion per year.[2]
- CAD and CHF together account for almost five percent of the nation's total health care expenditures.[2]

ADVOCATE HEALTH PARTNERS CASE FOR IMPROVEMENT

There is abundant evidence that improved management of risk factors—both before a patient has a disease or after a disease is identified but before complications have started—can dramatically reduce cost and improve the length and quality of life in patients with CAD and CHF. Yet health outcome studies consistently demonstrate gaps in applying this knowledge of risk factor management to clinical practice, contributing to suboptimal patient outcomes.[3]

- For CHF, ACE inhibitor medication has been shown to reduce mortality by 20 percent and hospitalizations by 30 percent, with an estimated economic savings of $2,397 per patient in the first 12 months following administration of this medication.[4]
- In CAD, beta-blocker medication decreases mortality by 22 percent and repeat heart attacks by 27 percent.[5]
- Two types of drugs, ACE inhibitors and angiotensin receptor blockers (ARBs) reduce mortality in patients with a heart attack by 15 to 30 percent, with a minimum of five lives saved per 1,000 treated.[6]

- Simple administration of aspirin reduces the relative risk of death by 24 percent and absolute risk of death by 36 lives per 1,000 patients treated over two years. Avoided costs of hospitalization are estimated to be between $17,452 and $19,689 per event.[7,8]

The benefit of lipid-lowering treatment in patients with CAD is also well documented. The largest clinical trial using cholesterol medication estimates that for every 1,000 patients treated, lowering LDL cholesterol to less than 100 mg/dl over six years saves 40 lives, prevents 70 recurrent non-fatal heart attacks and avoids 66 revascularization procedures per 1,000 patients treated. Patients in the high-risk group receive the greatest benefit relative to risk from cholesterol-lowering medication. This group includes patients with CAD, those who have had a heart attack, and patients who have had bypass surgery or percutaneous revascularization.

ADVOCATE HEALTH PARTNERS OBJECTIVE

Through Advocate Health Partners' pay-for-performance quality system, physicians are evaluated on two sets of criteria: 1) use of beta-blockers, ACE inhibitors, ARBs and aspirin in all eligible hospitalized patients and 2) lowering cholesterol in patients following an acute coronary event and assuring optimal drug compliance. In addition, Advocate Health Partners provides cholesterol screening reminders for eligible patients and promotes aggressive management of cholesterol levels to patients and physicians.

ADVOCATE HEALTH PARTNERS METRICS / RESULTS

In 2006, Advocate Health Partners physicians exceeded national standards for the administration of cardiac drugs for patients diagnosed with the condition. Table 1 illustrates the percentage of Advocate Health Partners patients treated for CAD and CHF during hospitalization compared to national averages. As shown in this table, even though there has been a nationwide increase in use of these treatment strategies, Advocate Health Partners physicians have adopted these strategies more quickly and consistently than the national trend.

The percentage of patients with LDL levels below 100mg/dl is a primary industry measure for determining quality of care for CAD patients. In 2006, Advocate Health Partners patients with CAD that were tested during follow-up visits after discharge had a LDL below 100mg/dl in 67 percent of cases, compared to only 18 percent nationwide.

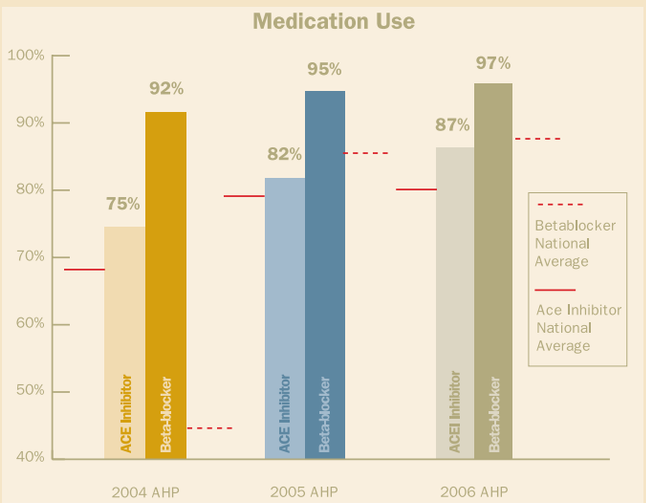


Table 1. Coronary Artery Disease and Congestive Heart Failure Medication Use

ADVOCATE HEALTH PARTNERS IMPACT ON QUALITY AND COST

In 2006, this initiative resulted in 354 days of productivity gained, 13 additional lives saved and a medical cost savings of $1.1 to $1.2 million compared to national averages.

Definition

Immunizations are sets of vaccinations given to infants and children at different ages to help prevent the development of dangerous and avoidable childhood diseases.

The History

Immunization is one of the safest and most effective ways to protect children from a variety of potentially serious childhood diseases.[1] Vaccine-preventable diseases have many social and economic costs. Simply sick children miss school and can cause parents to lose time from work.[2] Because immunization coverage among children in the United States is high, many diseases, including diphtheria, tetanus, pertussis, hemophilus influenza meningitis, polio, measles, mumps and rubella, are no longer major threats to the United States, underscoring the need for continued vigilance.[3] Timely vaccinations result in reduced morbidity and mortality, fewer doctors' visits and hospitalizations, and even reduced incidence of premature death.

Childhood Immunization Activity

ECONOMIC AND MEDICAL IMPACT

- Timely immunization reduces serious morbidity and mortality, and prevents missed school days for children and work days for parents.
- Routine childhood immunization with the seven recommended vaccines results in direct net cost savings of $9.9 billion and indirect net savings of $43.3 billion.[3]

ADVOCATE HEALTH PARTNERS CASE FOR IMPROVEMENT

Despite the positive impact of immunizations, their effectiveness can be diminished if children do not receive these vaccinations according to recommended schedules. Children's immunizations often fall behind because parents may not know when immunizations are due, believe their child's vaccinations are up to date or have inadequate immunization histories.[4] In Illinois, for example, only 73 percent of children had received the full series of recommended immunizations by age 2 in 2004.

ADVOCATE HEALTH PARTNERS OBJECTIVE

Advocate Health Partners' objective is to have all children in its physician practices fully immunized by the age of 2 years. To achieve this objective, Advocate Health Partners implemented a two-pronged approach that includes: (1) the development of a patient registry to document immunization histories and track patients and (2) education for parents, emphasizing the need to fully immunize their child. These efforts are also integrated with Advocate Health Care's ***Baby Advocate*** program. Additionally, parents of every child in Advocate Health Partners' patient registry receive a pocket guide to be used for documenting immunizations and reinforcing immunization recommendations.

ADVOCATE HEALTH PARTNERS METRICS / RESULTS

The results outlined in Table 1 show the percentage of children who had received all of the appropriate immunizations by their second birthday. These immunizations include tetanus, polio, MMR (measles, mumps and rubella), Hib (hemophilus influenza) hepatitis B, chicken pox and pneumococcal vaccination.

In 2006, Advocate Health Partners physicians included the pneumococcal vaccine in the series indicated as Combination 3 for the first time. In the first year, since adding that series, Advocate Health Partners physicians achieved a 72 percent compliance rate.

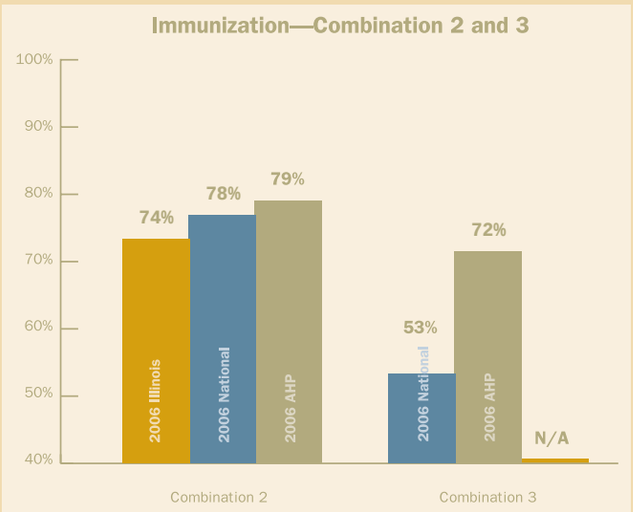


Table 1. Percent Receiving Immunization—Combinations 2 and 3
Sources: Illinois Dept of Public Health, NCQA 2006 Commercial
Combination 2; tetanus, polio, MMR (measles, mumps and rubella), Hib, hepatitis B, and chicken pox.
Combination 3; all of the above and the new pneumococcal vaccination.

ADVOCATE HEALTH PARTNERS IMPACT ON QUALITY AND COST

Advocate Health Partners' rates of immunization are 7 percent better than the Illinois State average for the Combination 2 series and 35 percent better than the national average for the Combination 3 series.

Computerized Physician Order Entry

Definition

Computerized Physician Order Entry (CPOE) is a feature of computerized patient information systems that allows direct order entry by physicians into a computer. Prescription orders entered by CPOE are significantly less prone to error, and can be automatically checked against the patient's medical record for potential contra-indications, drug interactions, allergies or other potential problems.

The History

CPOE was designed to reduce medical errors. Unfortunately, the great majority of our nation's physicians do not have access to this type of computerized medical information system due to the high costs associated with these sometimes complicated systems. The potential of CPOE systems to positively impact patient care is often further diminished by resistance from physicians reluctant to commit the time required to learn how to use these complicated systems. In fact, only 5 percent of hospitals in the United States have deployed some aspect of CPOE, and at those hospitals only 2.5 percent of physicians are actively using CPOE for at least 50 percent of medical orders being processed electronically.[1]

ECONOMIC AND MEDICAL IMPACT

- It is estimated that more than one million serious medication errors take place in US hospitals every year. One study indicated the overall incidence of adverse drug reactions in hospitals accounted for up to 100,000 fatalities.[2,3]

ADVOCATE HEALTH PARTNERS CASE FOR IMPROVEMENT

Recent studies demonstrate that CPOE can help reduce error rates between 55 and 88 percent.[2,4,5] CPOE also improves the standardization of care, improves staff efficiency and reduces costs.[6]

ADVOCATE HEALTH PARTNERS OBJECTIVE

Advocate Health Partners' objective is to implement and provide incentives to all Advocate Health Partners physicians to use CPOE.

Advocate Health Care is part of an elite group of US hospitals that deploy CPOE.

ADVOCATE HEALTH PARTNERS METRICS / RESULTS

To date, Advocate Health Partners has facilitated the implementation of an electronic record with CPOE in five of the eight Advocate Health Care hospitals. The remaining hospitals are scheduled for implementation in 2007 and 2008. Physician use of the system requires extensive training to learn how the system can support their patient care needs and to be able to gain technical expertise and proficiency. Advocate Health Partners provides training and incentives to its physicians to learn to use the CPOE system, thereby improving care and reducing errors.

The number of CPOE orders within Advocate Health Care hospitals increased each month throughout 2006. In December 2006, some 250,000 orders—over 9,000 orders a day—were submitted via CPOE. This represents an increase of 67 percent from a year earlier.

Patient Safety Continuing Medical Education

In 2005, the Advocate hospitals launched a ***Culture of Safety*** initiative for its physicians and professional caregivers, incorporating safety assurance principles and other best practices from the nuclear power and transportation industries and applying them to the clinical care management setting. The ***Culture of Safety*** initiative was structured as a Continuing Medical Education (CME) program, to ensure physician engagement in patient safety initiatives, establish performance expectations, develop knowledge and skills, and create accountability for results. The curriculum of the ***Culture of Safety*** CME program provides physicians and other caregivers with tools to communicate clearly and commit to safety practices in the delivery of health care. These tools and techniques foster self-checking, peer-checking and coaching, and critical thinking steps for physicians.

PROGRAM DESIGN

The ***Culture of Safety*** initiative was designed to respond to the five risk areas research indicated most commonly contribute to patient safety events:

- Incomplete communication between care providers
- Inadequate attention to detail
- Non-compliance with policy, procedure or expectations
- Failure to exercise critical thinking skills
- Inadequate knowledge and skills

In 2006, Advocate Health Partners made participation in the ***Culture of Safety*** CME program over the next two years a requirement for participation in its Clinical Integration Program. By encouraging its physicians to learn about and adopt these patient safety behaviors, Advocate Health Partners anticipates a reduction in the rate of safety events by up to 80 percent over a two-year period of time.

In the first year of this two-year initiative, more than 50 percent of Advocate Health Partners physicians successfully completed the *Culture of Safety* Continuing Medical Education program, exceeding the target.

Preventing Deep Vein Thrombophlebitis, Pulmonary Embolism and Ventilator-Associated Pneumonia in Critically Ill Patients

The History

Patients admitted to intensive care units (ICUs) represent the highest costs in our nation's hospitals. A landmark study[1] found that higher levels of intensivist physician care in ICUs was associated with lower hospital mortality. However, there is a national shortage of intensivist physicians, with only 6,000 accredited critical care physicians in the US available to treat the five million patients requiring critical care each year.[2]

High-level intensivist care in an ICU contributes to a lower incidence of deep vein thrombophlebitis (DVT), pulmonary embolism (PE) and ventilator-associated pneumonia (VAP), which are among the top preventable complications in critically ill patients. Deep vein thrombophlebitis is a blood clot in the veins. Its most serious consequence, PE, is a blood clot in the lung. Studies have shown that the use of appropriate medications can reduce the risk for DVT and PE by one-quarter to one-third of the average rate without such prophylaxis.

Ventilator-associated pneumonia, a serious condition contracted by mechanically ventilated patients, is a prevalent cause of ICU infection and excess morbidity, mortality and health care costs. Research has shown that a set of interventions called the "ventilator bundle" can decrease the incidence of VAP by up to 44.5 percent. Components of the ventilator bundle include elevation of the head of the bed, "sedation vacations," peptic ulcer prophylaxis and DVT prophylaxis.

ECONOMIC AND MEDICAL IMPACT

- More than four million patients are admitted to ICUs each year in the United States and more than 500,000 of these patients die while in the ICU.[1]
- Approximately 300,000 cases of VAP occur in US hospitals every year, with an estimated associated cost of $28,159 per case.[3]
- It is estimated that proactive intervention by intensivist physicians can reduce mortality in the ICU by 11 percent.[2]

ADVOCATE HEALTH PARTNERS CASE FOR IMPROVEMENT

Advocate Health Care has addressed the shortage of intensivists and complications such as DVT and VAP by implementing the eICU®, a telemedicine and monitoring program which allows intensivist physicians to remotely monitor the clinical status of ICU patients. Advocate Health Partners has embraced this technology and has been a major force in the program's adoption and success at all eight Advocate hospitals.

The eICU® plays a major role in the prevention of DVT, PE and VAP in critically ill patients by enhancing compliance with proven prophylaxis protocols.

ADVOCATE HEALTH PARTNERS OBJECTIVE

Advocate Health Partners' objective is to have admitting physicians use the eICU® at the highest levels of collaboration. This fosters compliance with protocols related to DVT prophylaxis and the ventilator bundle, leading to decreased incidence of these complications.

Through a collaborative arrangement, Advocate Health Partners physicians grant the eICU® intensivist physicians the right to intervene in the care of their ICU patients. This intervention can occur at four levels, as illustrated in Table 1.

Level 1	Level 2	Level 3	Level 4
Intensivist guides all available interventions for cardiac events	Intensivist intervenes for specific predefined clinical issues	Intensivist manages according to treatment plan	Intensivist co-manages patient care

Table 1. eICU—Levels of Collaboration

ADVOCATE HEALTH PARTNERS METRICS / RESULTS

In 2006, 100 percent of Advocate Health Care's adult ICU patients benefited from eICU® coverage. Of these, two thirds were patients of Advocate Health Partners physicians, 85 percent of whom granted the eICU® intensivist the highest level of collaboration. This high level of eICU® involvement has led to good compliance with DVT prophylaxis and the ventilator bundle, resulting in dramatic decreases in the number of those complications.

Eighty-six percent of Advocate Health Care's ICU patients received DVT prophylaxis compared with 70 percent of other hospitals using eICU® technology and 30 percent of at-risk patients receiving prophylaxis in a typical community hospital.[1, 4] This performance places Advocate in the top 10 percent nationwide.

ADVOCATE HEALTH PARTNERS IMPACT ON QUALITY AND COST

Benefits of the eICU® include the broad-based use of board-certified intensivists from throughout the Advocate system. The protocols developed and implemented for the eICU® have led to dramatic decreases in the incidence of DVT, PE and VAP.

DVT / PE

In 2006, between 437 and 1,312 DVT / PE episodes were prevented at Advocate ICUs compared with community performance. Since ten percent of DVT episodes typically result in PEs, between 43 and 131 life-threatening episodes were averted.

VAP

Use of ventilator bundles by Advocate Health Partners physicians resulted in 50 fewer VAPs and a medical cost savings of $1.41 million compared to the national standard.

EFFECTIVE USE OF HOSPITAL RESOURCES

Advocate Health Partners is committed to using hospital resources in the most efficient, and effective manner. As a measure of "effective use," Advocate Health Partners physicians are evaluated on their utilization of resources according to three measurements:

- actual cost to expected cost ratio (risk-adjusted)
- length of stay (case mix adjusted)
- number of medical/surgical hospital days per 1,000.

By measuring and communicating the results of these measures, Advocate Health Partners is able to compare physicians' performance to others in their group as well as to industry norms. This creates awareness and motivation to improve.

In 2006, Advocate Health Partners' commercial average length of stay was 3.69 days, which is 0.12 days lower than the Illinois average of 3.8 days. Assuming charges for each day would be reduced by the same proportionate amount, this would result in a reduction in charges of $671 per admission, or more than $35 million in total charges for an entire year.

ORTHOPEDIC IMPLANT INITIATIVE

In 2005, the cost of orthopedic implant devices rose at a rate of 8.9 percent at the same time that demand also increased. To counter these factors, Advocate Health Partners has implemented a demand matching program for implant device selection and data collection tools to help guide the surgical team through the process of choosing the proper device. In 2006, this effort resulted in more than 40 percent of total or partial hip replacements performed after the physician completed a demand matching process. Since 2004, the orthopedic implant initiative has resulted in savings totaling $2.9 million annually.

COMMUNITY-ACQUIRED PNEUMONIA MANAGEMENT

Timely administration of antibiotics improves outcome in patients with community-acquired pneumonia. In fact, studies show that patients presenting with pneumonia had improved survival rates if they received antibiotics within four hours of hospital admission.[1,2] In 2006, 76 percent of Advocate Health Partners patients received antibiotics within this time frame.

PHYSICIAN EDUCATION ROUNDTABLES

Communication with physicians is challenging given the demands on their time, caring for patients in both the office and the hospital settings. Recognizing this challenge, and acknowledging that lectures alone are inadequate to improve physician performance, Advocate Health Partners initiated interactive online education sessions, using respected physician leaders, to improve physician performance and outcomes. In 2006, Advocate Health Partners held interactive meetings highlighting key Clinical Integration Program initiatives, clinical guidelines/protocols and patient outreach programs sponsored by Advocate Health Partners in cooperation with specialists and primary physicians. Forty-five percent of physicians attended three or more meetings during the year. This attendance contributed to the improvement in clinical outcomes described throughout this Report.

CLINICAL LABORATORY STANDARDIZATION

Using a single clinical laboratory as the primary source for performing laboratory services promotes efficiency and decreases the costs of medical care. It minimizes duplication of testing, accommodates sharing of results electronically across sites of care, and streamlines the administrative process for providing quality improvement and operating disease management programs. For these reasons, Advocate Health Partners physicians are rewarded for using a designated clinical laboratory for outpatient tests when it is clinically appropriate. In 2006, more than 87 percent of Advocate Health Partners physicians used the preferred clinical laboratory for patients enrolled in managed care plans.

HOSPITALIST PROGRAM PARTICIPATION

In recent years, medical practice has changed for many specialties, especially primary care physicians. Because of improved diagnostic equipment, medications and other treatment options, the provision of care has shifted to the physician's office in many situations. This means that patients who do need hospitalization tend to be sicker, with corresponding increases in the intensity of hospital services required. This shift has led to the development of a new specialty—the hospitalist. Hospitalists are physicians who spend virtually all of their time caring for hospitalized patients. This allows primary care physicians to devote their time to ambulatory patients, while assuring excellent care for their patients in the hospital. Moreover, it has been shown that the presence of hospitalists reduces the length of stay and cost per case, and accelerates the use of Computerized Physician Order Entry.[1,2,3,4]

In 2006, 85 percent of Advocate Health Partners' primary care physicians agreed to use a hospitalist program or perform to the hospitalist equivalency standard. This represents an increase from 65 percent in 2005.

HOSPITAL QUALITY INDICATORS

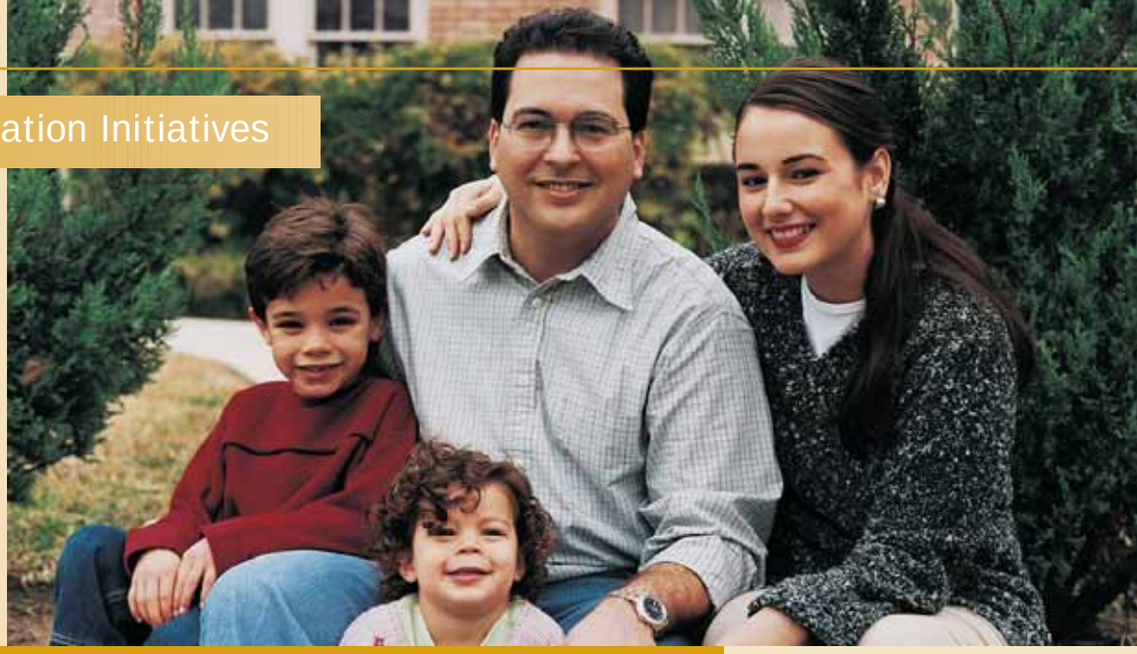
Mortality and complication rates are measures used to assess the overall safety and quality of hospital care. Advocate Health Partners uses two proprietary measures in its Hospital Quality Indicators initiative. The Expected Mortality Rate Index accounts for all factors that may explain variations in patient mortality outcomes. The Expected Complication Rate Index is a method to account for complications, which may be controllable, and co-morbidities, which are not. Advocate Health Partners physicians monitor the mortality and complications of inpatients, and are rewarded for improvements in these indicators. In 2006, Advocate Health Partners continued to perform better than expected national levels for both risk-adjusted mortality and complication rates.

OBSTETRICS RISK REDUCTION

Advocate Health Partners implemented two programs to optimize clinical outcomes and reduce malpractice exposure. Continuing Medical Education (CME) for External Fetal Monitoring advances consistency in interpretation among caregivers. Further, Advocate Health Partners monitors the use of a consistent assessment and documentation process for prenatal care by recommending adherence to standards established by the American College of Obstetrics and Gynecology. By the end of 2006, 85 percent of Advocate Health Partners obstetricians had completed the CME requirement, and 83 percent had fulfilled the medical record-keeping practice program.

PATIENT SATISFACTION: INPATIENT EXPERIENCE

Improved patient experience reflects higher-quality care and can lead to more satisfied staff, fewer preventable medical mistakes, fewer malpractice lawsuits and economic savings.[1] Advocate Health Partners recognizes the importance of measuring patient satisfaction and identifying areas where there are opportunities to improve. This initiative focuses attention on survey questions that pertain to physicians' interaction with patients admitted to Advocate hospitals. In 2006, patient satisfaction with Advocate Health Partners physicians encounters improved.



Raising the Bar—A Preview of the 2007 Clinical Integration Program

A significant component of the national health care costs are attributed to the quality of clinical care management, waste and lapses in patient safety. Targeted efforts addressing specific measures in each of these areas have been effective in improving clinical outcomes and generating cost savings. In addition, increased patient satisfaction and a strong medical and technological infrastructure have been shown to be effective in improving care.

The above are areas of focus for many leading care improvement organizations in the health care industry including The Leapfrog Group for Patient Safety, Institute for Medicine and others mentioned earlier in this Report. The Advocate Health Partners Clinical Integration Program is structured around these five critical areas of care. The chart that follows details the 2007 Clinical Integration Program's 31 key initiatives and their areas of impact.

	2007 CLINICAL INITIATIVES	CLINICAL OUTCOMES	EFFICIENCY	MEDICAL & TECHNOLOGICAL	PATIENT SAFETY	PATIENT SATISFACTION
1	Clinical Laboratory Standardization	✔	✔	✔		
2	Coronary Artery Disease—Acute Myocardial Infarction	✔	✔			
3	Asthma Outcomes	✔	✔	✔		
4	Information Age—Care Net/ Care Connection Usage	✔	✔	✔	✔	
5	Childhood Immunization Activity	✔	✔			
6	Information Age—Electronic Data Interchange		✔	✔		
7	Congestive Heart Failure	✔	✔			
8	Coronary Artery Disease	✔	✔			
9	CPOE Medication Order Entry	✔	✔	✔	✔	
10	Deep Vein Thrombosis	✔	✔	✔	✔	
11	Depression Screening—Coronary Artery Disease & Diabetes	✔	✔			
12	Diabetes Outcomes	✔	✔	✔		
13	Effective Use of Resources		✔			
14	eICU Participation	✔	✔	✔	✔	
15	Ophthalmology Care—Cataracts	✔				
16	Ophthalmology Care—Diabetic Retinopathy	✔	✔	✔		
17	Generic Prescribing	✔	✔			✔
18	Hospital Quality Indicator	✔	✔		✔	
19	Hospitalist Program	✔	✔		✔	
20	Patient Safety Continuing Medical Education Participation	✔			✔	
21	Patient Satisfaction	✔				✔
22	Pharmaceutical Initiative	✔	✔			
23	Physician Education Roundtables	✔	✔	✔	✔	✔
24	Community Acquired Pneumonia Management	✔	✔			
25	Post Partum Care	✔				
26	Prevention of Surgical Site Infections	✔	✔		✔	
27	Quality Improvement Registry Usage	✔	✔	✔		
28	Risk Reduction—Obstetrics	✔	✔		✔	
29	Smoking Cessation Counseling—Inpatient & Outpatient Setting	✔	✔			
30	Smoking Cessation Counseling	✔	✔	✔		
31	Orthopedic Implant	✔	✔			

Professional and Community Recognition

Advocate Health Partners and Advocate Health Care have been recognized by professional and community organizations for leadership in Clinical Excellence, Advanced Technologies and Patient Safety. Following is a list of awards and recognitions received in 2006.

- Advocate Health Partners was accepted for membership in the **National Quality Forum** (NQF), a voluntary consensus standard setting organization which promotes standardized health care quality measurement and reporting. Advocate Health Partners joins groups such as the Cleveland Clinic, BJC Health care and Henry Ford Health System as members.
- Advocate Health Partners mental health follow-up initiative resulted in performance levels which exceed the **Blue Cross HMOI Star levels.** In addition, Advocate Health Partners maintained the top tier performance status in the 2005 **Blue Cross mammography project.**
- Advocate Health Care was ranked #1 among Illinois Health Care Systems and #7 nationwide on Verispan **"Top 100 Most Integrated Health Care Networks."**
- Advocate Health Care hospitals participated in the **Institute for Healthcare Improvement's 100,000 Lives Campaign,** resulting in an estimated 325 lives in our communities saved during the 18-month initiative.
- Advocate Health Care was recognized by the American Hospital Association for removing barriers to health care by providing access and coverage to the uninsured and underinsured.
- The **American Heart Association** honored Advocate Health Care with the Coeur D'Or (Heart of Gold) Award. The award is presented for outstanding efforts toward advancing the treatment of cardiac disease and stroke thereby making a difference in the lives of Chicagoland patients and families.

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We extend sincere thanks and recognition to the more than 2,900 physicians of Advocate Health Partners for their commitment to leadership and quality while developing, implementing, practicing and monitoring the Clinical Integration Program.

Special thanks to the men and women of Advocate Health Partners who dedicate their time, talents and energy to the furtherance of Advocate Health Partners' vision—to be the leading care management and managed care organization serving the Chicago metropolitan area.

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