

Priorities for Improvement

Patient Safety and Surgical Care



Dale W. Bratzler, DO, MPH
Oklahoma Foundation for Medical Quality
May 26, 2011

Where are we headed?

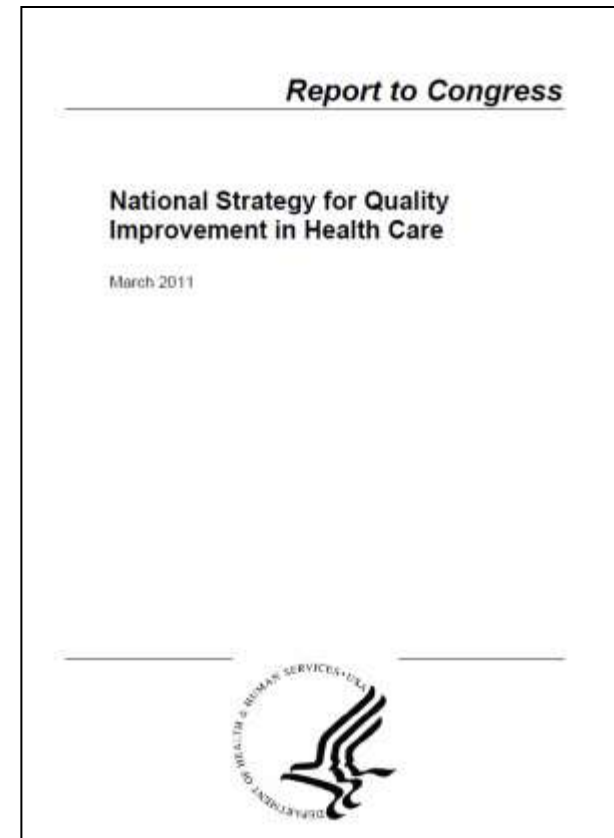
The 10th Scope of Work

Background

- Three key HHS activities that shape the 10th Scope of Work:
 - National Quality Strategy
 - Partnership for Patients
 - HHS Action Plan to Prevent Healthcare-associated Infections

National Quality Strategy

- **Three Broad Aims –**
 1. Better health care;
 2. Better health for people and communities;
 3. Lower costs through improvement



Three Broad Aims

- **Better Care:** Improve the overall quality, by making health care more patient-centered, reliable, accessible, and safe.
- **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.
- **Affordable Care:** Reduce the cost of quality health care for individuals, families, employers, and government.

National Quality Strategy

- Six priorities of the National Quality Strategy
 - Making care safer
 - Promoting effective coordination of care
 - Assuring care is person- and family-centered
 - Promoting the best possible prevention and treatment of the leading causes of mortality, starting with cardiovascular disease
 - Helping communities support better health
 - Making care more affordable for individuals, families, employers, and governments by reducing costs of care through continual improvement

Making Care Safer

Goal:

Eliminate preventable health care-acquired conditions

- **Opportunities for success:**

- Eliminate hospital-acquired infections

- Reduce the number of serious adverse medication events

- **Illustrative measures:**

- Standardized infection ratio for central line-associated blood stream infection as reported by CDC's National Healthcare Safety Network

- Incidence of serious adverse medication events

Partnership for Patients

- The two goals of this new partnership are to:
 - **Keep patients from getting injured or sicker.** By the end of 2013, preventable hospital-acquired conditions would **decrease by 40%** compared to 2010.
 - **Help patients heal without complication.** By the end of 2013, preventable complications during a transition from one care setting to another would be decreased so that all hospital readmissions would be **reduced by 20%** compared to 2010.



Partnership for Patients

Areas of Focus

- The Partnership for Patients has identified nine areas of focus:
 - Adverse Drug Events (ADE)
 - Catheter-Associated Urinary Tract Infections (CAUTI)
 - Central Line Associated Blood Stream Infections (CLABSI)
 - Injuries from Falls and Immobility
 - Obstetrical Adverse Events
 - Pressure Ulcers
 - Surgical Site Infections
 - Venous Thromboembolism (VTE)
 - Ventilator-Associated Pneumonia (VAP)
 - Other Hospital-Acquired Conditions



Partnership for Patients

Partnership for Patients Signatories

Already, more than 1,000 hospitals, as well as physicians and nurses groups, consumer groups, and employers have pledged their commitment to the Partnership for Patients.

[Learn about the pledge](#)

[Read the pledge](#)

Download all pledge data as:
[CSV text file](#) or
[Microsoft Office Excel file](#)



<http://partnershippledge.healthcare.gov/>

HHS Action Plan to Prevent Healthcare-associated Infections

- **Tier One** focuses on six high priority HAI-related areas within the acute care hospital setting.
 - Surgical site infections, central line-associated bloodstream infections, ventilator-associated pneumonia, and catheter-associated urinary tract infections, *Clostridium difficile*, and Methicillin-resistant *Staphylococcus aureus* (MRSA)
- **Tier Two** expands efforts outside of the acute care setting into outpatient facilities. It includes strategies to reduce HAIs in:
 - Ambulatory surgical centers and end-stage renal disease facilities, as well as a strategy to increase influenza vaccination coverage among healthcare personnel



HHS Action Plan to Prevent Healthcare-associated Infections

- Infections that patients acquire while receiving treatment for medical or surgical conditions.
 - Significant toll on human life
 - Estimated that HAIs incur an estimated \$28 to \$33 billion in excess healthcare costs each year

Four categories of infections account for approximately three quarters of HAIs in the acute care hospital setting. These four categories are: 1) Surgical site infections; 2) Central line-associated bloodstream infections; 3) Ventilator-associated pneumonia, and; 4) Catheter-associated urinary tract infections.



Ambulatory Surgery Centers

- *The increasing volume of procedures and evidence of infection control lapses in ASCs create a compelling need for current and nationally representative data on HAIs in ASCs in order to reduce their risk.*

Five critical elements for a successful infection control program: hand hygiene and use of personal protective equipment, injection safety and medication handling, equipment reprocessing (e.g., sterilization and high-level disinfection), environmental cleaning, and handling of point-of-care devices, specifically use of blood glucose monitoring equipment.

Dialysis Centers

- Infection is a leading cause of morbidity and is second only to cardiovascular disease as the leading cause of death in the chronic uremic patient on hemodialysis (HD).
 - sepsis responsible for three quarters of these infection-related deaths
 - As compared to the general population, the incidence of sepsis in patients with end-stage renal disease can be up to 100 times higher.
 - Infections are a major reason for hospitalizations in this population, estimated to be responsible for as many as 20% of all inpatient admissions
 - Infections also confer a higher risk of mortality than in the general population

10th SOW “Aims”

C.6 **Beneficiary and family-centered care**

- Case Review

- Patient and family engagement activities

C.7 **Improving individual patient care**

- Reduction of healthcare-acquired conditions

- Reduction of adverse drug events

- Quality reporting and improvement

C.8 **Integrating care for populations and communities**

- Improving care transitions leading to a reduction of readmissions

C.9 **Improving health for populations and communities**

- Promotion of immunizations and screenings

- Cardiovascular health campaign

Learning and Action Networks

- Learning and action networks are mechanisms by which large scale improvement around a given aim is fostered, studied, adapted and rapidly spread
- Learning and action networks consciously manage knowledge as a valuable resource. They engage leaders around an action-based agenda.
- Such a network creates opportunities for in depth learning and problem solving, it accepts all offers of support seeking to catalyze interested parties, and it is transparent, flexible, interchangeable, and purposeful

Improve Individual Patient Care

- Reducing healthcare-associated infections
 - The QIO shall lead a learning and action network to focus on reduction of **CLABSI, SSI, CAUTI, and CDI** in hospitals
 - All recruited hospitals must go through training on the Comprehensive Unit-based Safety Program (CUSP)
 - Must focus on tracking and monitoring hand hygiene
 - Identify high-performing units (low infection rates) to serve as mentors to targeted hospitals

“The QIO shall secure the commitment of all participating facilities by obtaining a commitment letter signed by at least two members of hospital or facility leadership, one being a member of the hospital board of directors.”

Patient Safety – Surgical Care Improvement Project

Patient Safety – Surgical Care

- 30 million major operations each year in the US
- Despite advances in surgical and anesthesia technique and improvements in peri-operative care, variations in outcomes for patients having surgery are well known
 - On average, the length of stay for patients who have a postoperative complication is 3 to 11 days longer
 - Odds of dying within 60 days increases 3.4-fold in patients with a complication*
 - Surgical site infections increase mortality by 2-4 fold

SCIP Inf 1	Antibiotic within 60 minutes before incision ¹
SCIP Inf 2	Antibiotic consistent with guidelines*
SCIP Inf 3	Antibiotic stopped within 24 hours of surgery end
SCIP Inf 4	Glucose control for cardiac surgery ²
SCIP Inf 6	Appropriate hair removal ³
SCIP Inf 9	Urinary catheter removal within 2 days after surgery
SCIP Inf 10	Normothermia or active warming in OR ²
SCIP Card 2	Perioperative beta-blocker in patients on beta-blockers as a home medication
SCIP VTE 1	Recommended VTE prophylaxis ordered ³
SCIP VTE 2	Recommended VTE prophylaxis implemented within 24 hours before or after surgery

¹ Also collected and reported for select outpatient operations.

² Likely to be revised.

³ Likely to be retired or lose NQF endorsement.

Measures Likely to be Retired

- **SCIP Infection 6 – Appropriate Hair Removal**
 - “Topped out” nationally
 - Problematic for composite measures
 - Largest denominator – drives the “all-or-none” measure
 - Most patients who have a surgical complication pass the measure (does not discriminate)
- **SCIP VTE 1** – Good measure but VTE 1 and VTE 2 have parallel performance rates
 - Update with a combined single measure

Measures Likely to be Revised

- **SCIP Infection 10 – Normothermia**
 - Nearly topped out nationally
 - Cases pass the measure by achieving normothermia (the desired outcome) or simply by using active warming modalities
- Working with AMA PCPI and ASA to consider revisions
 - Focus on desired outcome (normothermia)
 - Then type of active warming is irrelevant
 - However, must address measure exclusions - difficult

Measures Likely to be Revised

- **SCIP Infection 4 – Glucose Control in Cardiac Surgery**
 - Under NQF review right now
 - 6 AM blood glucose arbitrary
- **Worked with Society of Thoracic Surgeons Guideline representatives**
 - Focus on single time frame (18-24 hours after anesthesia end time)
 - Look for guideline recommended glucose control (≤ 180 mg/dL)

The Society of Thoracic Surgeons Practice Guideline Series: Blood Glucose Management During Adult Cardiac Surgery

Harold L. Lazar, MD, Marie McDonnell, MD, Stuart R. Chipkin, MD,
Anthony P. Furnary, MD, Richard M. Engelman, MD, Archana R. Sadhu, MD,
Charles R. Bridges, MD, ScD, Constance K. Haan, MD, MS, Rolf Svedjeholm, MD, PhD,
Heinrich Taegtmeier, MD, DPhil, and Richard J. Shemin, MD

Department of Cardiothoracic Surgery and Division of Endocrinology, the Boston Medical Center, Boston, The School of Public Health and Health Sciences, The University of Massachusetts, Amherst, Massachusetts; The Starr-Wood Cardiac Group, Portland, Oregon; The Baystate Medical Center, Springfield, Massachusetts; Division of Endocrinology, Ronald Regan Medical Center, David Geffen School of Medicine, Los Angeles, California; Division of Cardiovascular Surgery, University of Pennsylvania Medical Center, Philadelphia, Pennsylvania; University of Florida College of Medicine, Jacksonville, Florida; Department of Cardiothoracic Surgery, University Hospital, Linköping, Sweden; Division of Cardiology, The University of Texas School of Medicine, Houston, Texas; and The Division of Cardiothoracic Surgery, Ronald Regan Medical Center, David Geffen School of Medicine, Los Angeles, California

CLASS I RECOMMENDATIONS:

Patients with and without diabetes with persistently elevated serum glucose (>180 mg/dL) should receive IV insulin infusions to maintain serum glucose \leq 180 mg/dL for the duration of their ICU care (level of evidence A).

A target blood glucose level <180 mg/dL should be achieved in the peak postprandial state (level of evidence B).

ASHP Therapeutic Guidelines on Antimicrobial Prophylaxis in Surgery

Best Practice Policy Statement on

Urologic Surgery Antimicrobial Prophylaxis

Treatment Guidelines from The Medical Letter*

Published by The Medical Letter, Inc. • 1000 Main Street, New Rochelle, NY 10801 • A Nonprofit Publication

Volume 7 (Issue 82) June 2009
www.medicalletter.org

Table	
1. Antimicrobial Prophylaxis for Surgery	Pages 48-49

Antimicrobial Prophylaxis for Surgery

Vol. 20 No. 4 INFECTION CONTROL AND HOSPITAL EPIDEMIOLOGY 247

GUIDELINE FOR PREVENTION OF SURGICAL SITE INFECTION, 1999

ACOG PRACTICE BULLETIN

CLINICAL MANAGEMENT GUIDELINES FOR OBSTETRICIAN-GYNECOLOGISTS
NUMBER 74, JULY 2006

(Replaces Practice Bulletin Number 23, January 2001)

This Practice Bulletin was developed by the ACOG Committee on Practice Bulletins—

Antibiotic Prophylaxis for Gynecologic Procedures



Guidelines for pre-operative cardiac risk assessment and perioperative cardiac management in non-cardiac surgery

The Task Force for Preoperative Cardiac Risk Assessment and Perioperative Cardiac Management in Non-cardiac Surgery of the

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Published by Elsevier Inc.

Vol. 36, No. 11, 2009
ISSN: 0885-0666
doi:10.1016/j.amjcard.2009.06.001

ACC/AHA GUIDELINE

ACC/AHA 2007 Guidelines on Perioperative Cardiovascular Evaluation and Care for Noncardiac Surgery

A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Revise the 2002 Guidelines on Perioperative Cardiovascular Evaluation for Noncardiac Surgery)

Developed in Collaboration With the American Society of Echocardiography, American Society of Nuclear Cardiology, Heart Rhythm Society, Society of Cardiovascular Anesthesiologists, Society for Cardiovascular Angiography and Interventions, Society for Vascular Medicine and Biology, and Society for Vascular Surgery

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- John F. Robb, MD, FACC¹

Supplement

ANTITHROMBOTIC AND THROMBOLYTIC THERAPY (ATTE)-ACCP GUIDELINES

Prevention of Venous Thromboembolism*

American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition)

Diseases of the Colon & Rectum

Practice Parameters

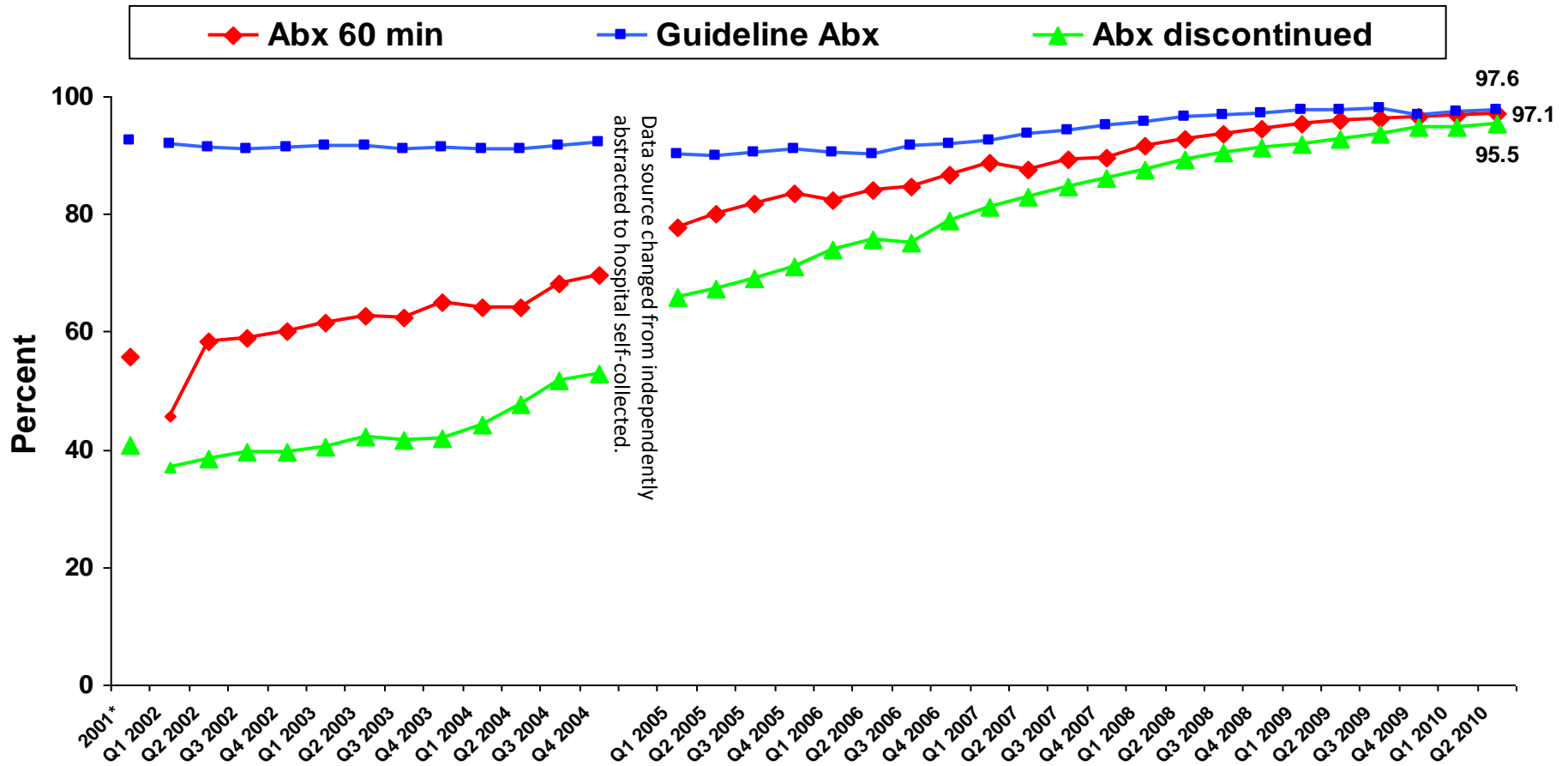
Practice Parameters for the Prevention of Venous Thrombosis

Thomas J. Stahl, M.D., Sharon G. Gregorczyk, M.D., Neil H. Hyman, M.D., W. Donald Buie, M.D., and the Standards Practice Task Force of The American Society of Colon and Rectal Surgeons

The American Society of Colon and Rectal Surgeons is dedicated to ensuring high quality patient care by advancing the science, prevention, and management of disorders and diseases of the colon, rectum, and anus. The Standards Committee is composed of Society members who are chosen specific procedure must be made by the physician in light of all of the circumstances presented by the individual patient. The evidence-based guidelines are used to categorize each recommendation by level of Evidence and Grade of Recommendation.

Changes in National Performance

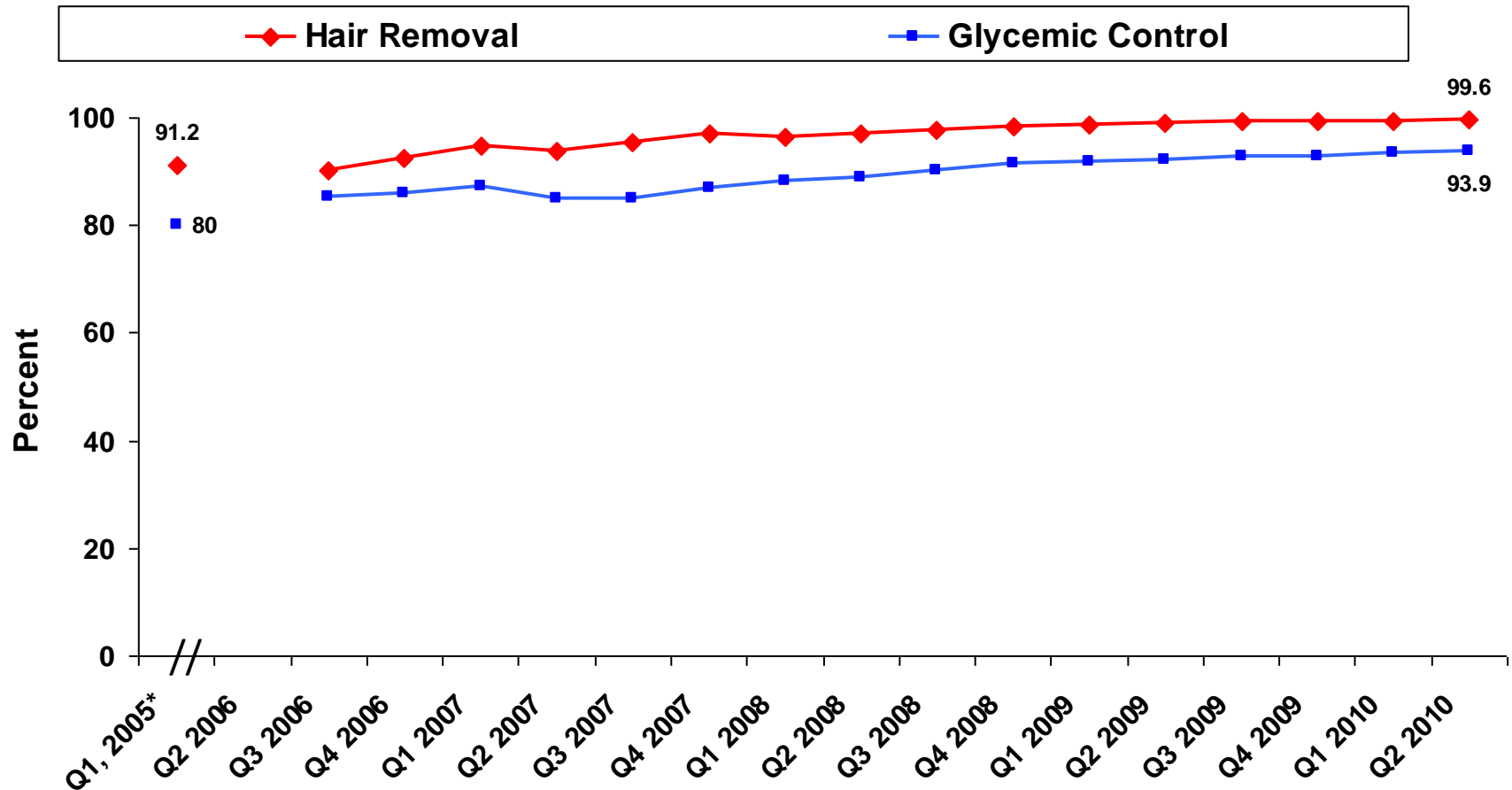
Baseline to Q2, 2010



*National sample of 34,000 Medicare patients undergoing surgery in US hospitals during 2001.
Bratzler DW, et al. *Arch Surg* 2005; 140:174-82.

Changes in National Performance

Baseline to Q2, 2010



*National sample of 19,497 Medicare patients undergoing surgery in US hospitals during the first quarter of 2005. (Bratzler unpublished data)



GUIDELINE FOR PREVENTION OF CATHETER-ASSOCIATED URINARY TRACT INFECTIONS 2009

Carolyn V. Gould, MD, MSCR¹; Craig A. Umscheid, MD, MSCE²; Rajender K. Agarwal, MD, MPH²; Gretchen Kuntz, MSW, MSLIS²; David A. Pegues, MD³ and the Healthcare Infection Control Practices Advisory Committee (HICPAC)⁴

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³ Division of Infectious Diseases
David Geffen School of Medicine at UCLA
Los Angeles, CA



- UTIs are the most common type of healthcare-associated infection, accounting for more than 30% of infections reported by acute care hospitals.
- Virtually all healthcare-associated UTIs are caused by urinary tract instrumentation.
- Associated with increased morbidity, mortality, hospital cost, and length of stay.
- Bacteriuria commonly leads to unnecessary antimicrobial use, and urinary drainage systems are often reservoirs for multidrug-resistant bacteria and a source of transmission to other patients.

Strategies to Prevent *Clostridium difficile* Infections in Acute Care Hospitals

Erik R. Dubberke, MD; Dale N. Gerding, MD; David Classen, MD, MS; Kathleen M. Arias, MS, CIC; Kelly Podgorny, RN, MS, CPHQ; Deverick J. Anderson, MD, MPH; Helen Burstin, MD; David P. Calfee, MD, MS; Susan E. Coffin, MD, MPH; Victoria Fraser, MD; Frances A. Griffin, RRT, MPA; Peter Gross, MD; Keith S. Kaye, MD; Michael Klompas, MD; Evelyn Lo, MD; Jonas Marschall, MD; Leonard A. Mermel, DO, ScM; Lindsay Nicolle, MD; David A. Pegues, MD; Trish M. Perl, MD; Sanjay Saint, MD; Cassandra D. Salgado, MD, MS; Robert A. Weinstein, MD; Robert Wise, MD; Deborah S. Yokoe, MD, MPH

PURPOSE

Previously published guidelines are available that provide comprehensive recommendations for detecting and preventing healthcare-associated infections. The intent of this document is to highlight practical recommendations in a concise format designed to assist acute care hospitals in implementing and prioritizing their *Clostridium difficile* infection (CDI) prevention efforts. Refer to the Society for Healthcare Epidemiology of America/Infectious Diseases Society of America "Compendium of Strategies to Prevent Healthcare-Associated Infections" Executive Summary and Introduction and accompanying editorial for additional discussion.

SECTION 1: RATIONALE AND STATEMENTS OF CONCERN

1. Increasing rates of CDI

C. difficile now rivals methicillin-resistant *Staphylococcus aureus* (MRSA) as the most common organism to cause healthcare-associated infections in the United States.¹

a. In the United States, the proportion of hospital discharges in which the patient received the International Classification of Diseases, Ninth Revision discharge diagnosis code for CDI more than doubled between 2000 and 2007,²

and CDI rates continued to increase in 2004 and 2005 (L. C. McDonald, MD, personal communication, July 2007). These increases have been seen in pediatric and adult populations, but elderly individuals have been disproportionately affected.³ CDI incidence has also increased in Canada and Europe.^{4,5}

b. There have been numerous reports of an increase in CDI severity.^{6,7}

c. Most reports of increases in the incidence and severity of CDI have been associated with the BI/NAP1/027 strain of *C. difficile*.^{8,9} This strain produces more toxins A and B in vitro than do many other strains of *C. difficile*, produces a third toxin (binary toxin), and is highly resistant to fluoroquinolones.

2. Outcomes associated with CDI

CDI is associated with increased lengths of hospital stay, costs, morbidity, and mortality among adult patients. Data on the changing epidemiology of CDI in pediatric patients are limited and are confounded by the prevalence of asymptomatic carriage of *C. difficile* among children younger than 12 months of age.¹⁰

a. CDI increases mean length of hospital stay from 2.6 days to 4.5 days.^{11,12}

From the Washington University School of Medicine, St. Louis, Missouri (E.R.D., V.F., J.A.); the Loyola University Chicago Stritch School of Medicine (D.N.G.), the Stroger (Cook County) Hospital and the Rush University Medical Center (E.A.W.), Chicago; the Joint Commission, Oakbrook Terrace (K.P., R.W.); and the Hines Veterans Affairs Medical Center, Hines (D.N.G.); Illinois: the University of Utah, Salt Lake City (D.C.); the Association for Professionals in Infection Control and Epidemiology (K.M.A.) and the National Quality Forum (H.B.), Washington, D.C.; the Duke University Medical Center, Durham, North Carolina (D.J.A., K.S.K.); the Mount Sinai School of Medicine, New York, New York (D.P.C.); the Children's Hospital of Philadelphia and University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania (S.E.C.); the Institute for Healthcare Improvement, Cambridge (F.A.G.); and the Brigham and Women's Hospital and Harvard Medical School, Boston (M.K., D.S.Y.); Massachusetts: the Hackensack University Medical Center, Hackensack (P.G.); and the University of Medicine and Dentistry–New Jersey Medical School, Newark (P.G.), New Jersey; the Warren Alpert Medical School of Brown University and Rhode Island Hospital, Providence, Rhode Island (J.A.M.); the David Geffen School of Medicine at the University of California, Los Angeles (D.A.P.); the Johns Hopkins Medical Institutions and University, Baltimore, Maryland (T.M.P.); the Ann Arbor Veterans Affairs Medical Center and the University of Michigan Medical School, Ann Arbor, Michigan (S.S.); the Medical University of South Carolina, Charleston (C.D.S.); and the University of Manitoba, Winnipeg, Canada (E.L., L.N.).

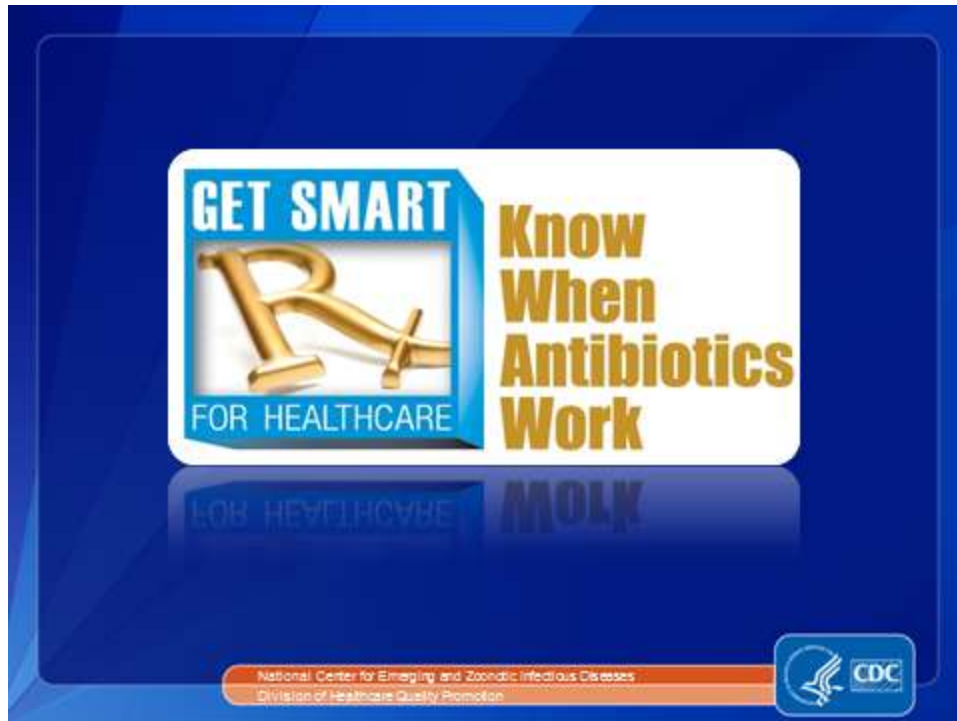
Accepted May 27, 2008; electronically published September 16, 2008.

Reprints: *Infect Control Hosp Epidemiol* 2008; 29:581–592.

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- CDI rates continue to increase in the US
 - Elderly patients have been disproportionately affected
- Severity of illness has increased
- Infection increases length of stay, costs, morbidity, and mortality
- Two key issues
 - Environmental cleaning and transmission person to person
 - Overuse of antibiotics

Antibiotic Stewardship



“It has been recognized for several decades that up to 50% of antimicrobial use is inappropriate”

- Given when they are not needed
- Continued when they are no longer necessary
- Given at the wrong dose
- Broad spectrum agents are used to treat very susceptible bacteria
- The wrong antibiotic is given to treat an infection

Does implementation of the
performance measures matter to
patients?

Do Process of Care Measures Predict Patient Outcomes

- Performance on AMI measures predicts small differences in hospital risk-adjusted mortality rates¹
- Hospital performance on measures of pneumonia, AMI, and HF predict small differences in risk-adjusted mortality²
- HF measures not associated with 1-year outcomes³
- Some of these studies evaluate process measure performance using rates published on the *Hospital Compare* website
- Most use Medicare claims to measure risk-adjusted outcomes
- Not surprising that a few process measures do not predict outcomes for complex hospital stays

1. Bradley EH, et al. *JAMA* 2006; 296:72-8.

2. Werner RM, Bradlow ET. *JAMA* 2006; 296:2694-702.

3. Patterson ME, et al. *Med Care* 2010; 48:210-6.

The Surgical Care Improvement Project (SCIP) Initiative to Reduce Infection in Elective Colorectal Surgery: Which Performance Measures Affect Outcome?

NHIEN NGUYEN, M.D., SARA YEGIYANTS, M.D., CAROLYN KALOOSTIAN, B.S., MAHER A. ABBAS, M.D.,
L. ANDREW DIFRONZO, M.D.

From Kaiser Permanente Los Angeles Medical Center, Department of Surgery, Los Angeles, California

Conclusion: “Timely prophylactic antibiotic administration significantly reduces the incidence of SSI in patients undergoing elective colorectal surgery. Efforts should focus on ensuring that PAs are given in a timely manner to reduce SSI in colorectal surgery.”

- Single institution study of 104 patients
- Focused only on the three antibiotic measures
- Outcomes based on 30-day NNIS-defined surgical site infection

Association of Timely Administration of Prophylactic Antibiotics for Major Surgical Procedures and Surgical Site Infection

Mary T Hawn, MD, MPH, FACS, Kamal M Itani, MD, FACS, Stephen H Gray, MD, Catherine C Vick, MS, William Henderson, PhD, Thomas K Houston, MD, MPH

Conclusions: “*Timely prophylactic antibiotics did not markedly contribute to overall patient or facility SSI rates. These data are important for the ongoing discourse on how to measure and pay for quality of surgical care.*”

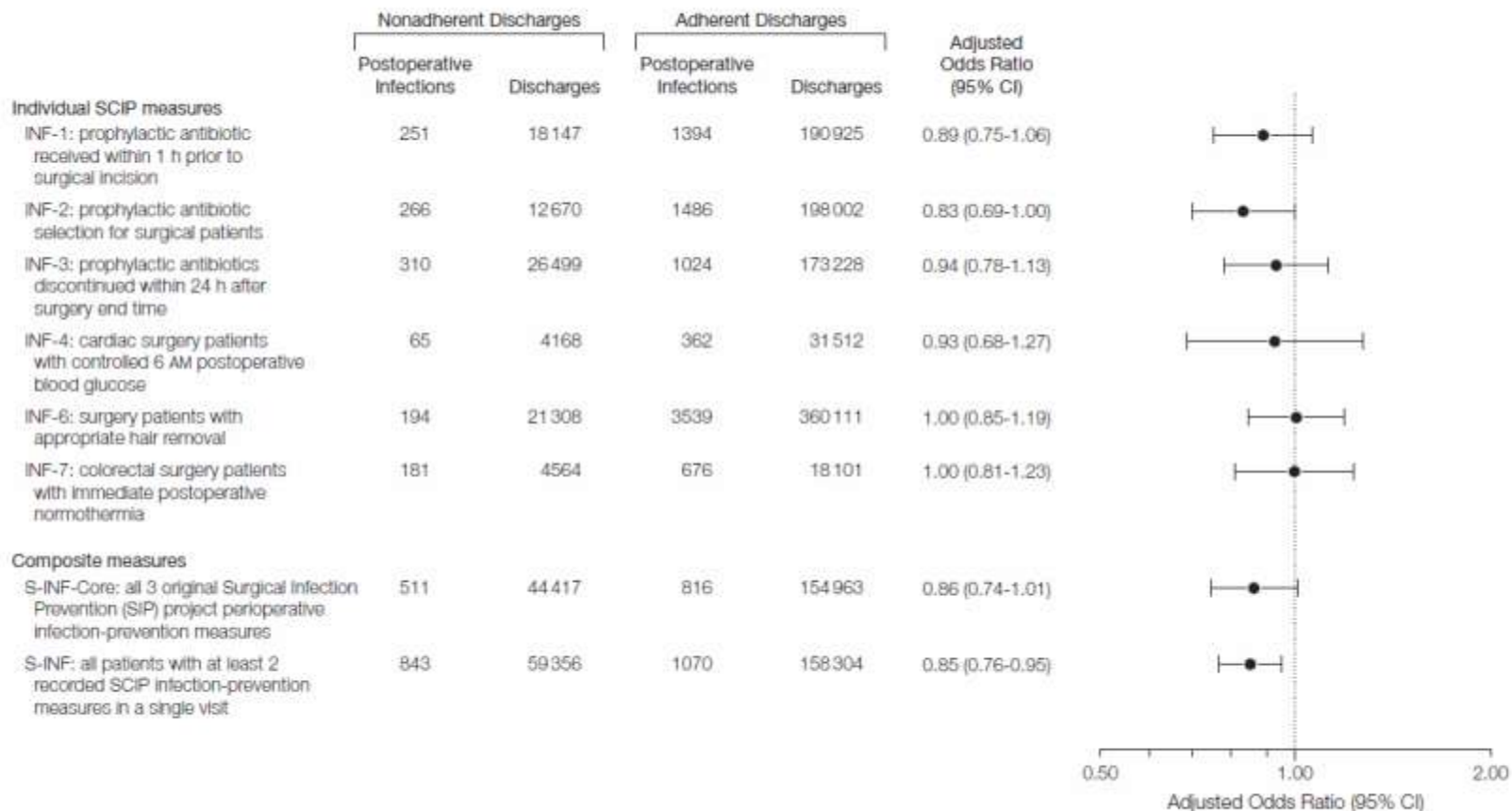
- 9,195 elective operations performed in 95 VA hospitals
- Focused only on antibiotic timing before surgery
- Patient- and facility-level hierarchical analysis using 30-day outcomes of SSI

Adherence to Surgical Care Improvement Project Measures and the Association With Postoperative Infections

- Large study of 405,720 patients who had surgery in a Premier hospital between July 1, 2006, and March 31, 2008
- Patient- and facility-level hierarchical multivariate analysis
- Limited to in-hospital outcomes and used a single ICD-9 CM code to define “postoperative infection” (*ICD-9 code 998.59*)

Adherence to Surgical Care Improvement Project Measures and the Association With Postoperative Infections

Figure 1. Surgical Care Improvement Project (SCIP) Infection-Prevention Process Measures



Each estimate accounts for the surgical procedure performed, patient characteristics, and hospital characteristics. CI indicates confidence interval.

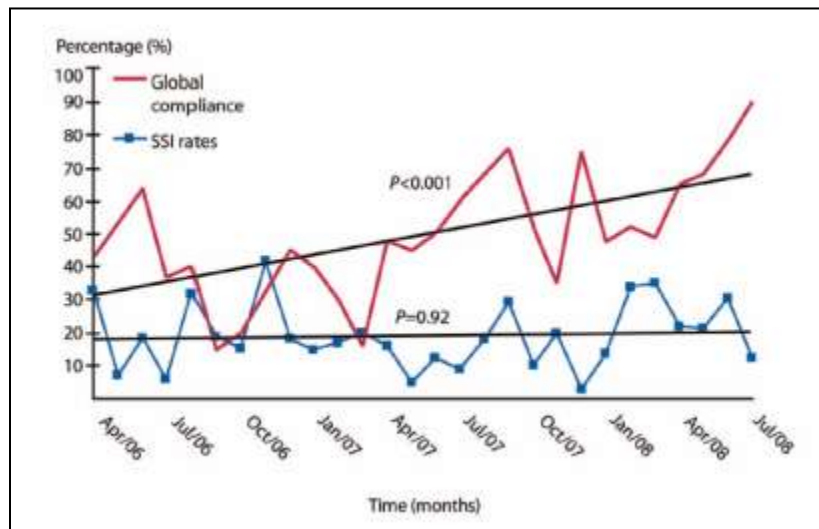
An Increase in Compliance With the Surgical Care Improvement Project Measures Does Not Prevent Surgical Site Infection in Colorectal Surgery

Carlos Pastor, M.D.¹ • Avo Artinyan, M.D.¹ • Madhulika G. Varma, M.D.²
Edward Kim, M.D.² • Laurel Gibbs, M.T.³ • Julio Garcia-Aguilar, M.D., Ph.D.¹

¹ Department of Surgery, City of Hope National Medical Center, Duarte, California

² Department of Surgery, Section of Colorectal Surgery, University of California, San Francisco, San Francisco, California

³ Department of Infection Control, University of California, San Francisco, San Francisco, California



- Single institution study of 491 patients
- Focused on antibiotic measures, glucose control, hair removal, and normothermia
- Outcomes based on 30-day NNIS-defined surgical site infection

Hospital Process Compliance and Surgical Outcomes in Medicare Beneficiaries

Lauren H. Nicholas, PhD; Nicholas H. Osborne, MD; John D. Birkmeyer, MD; Justin B. Dimick, MD, MPH

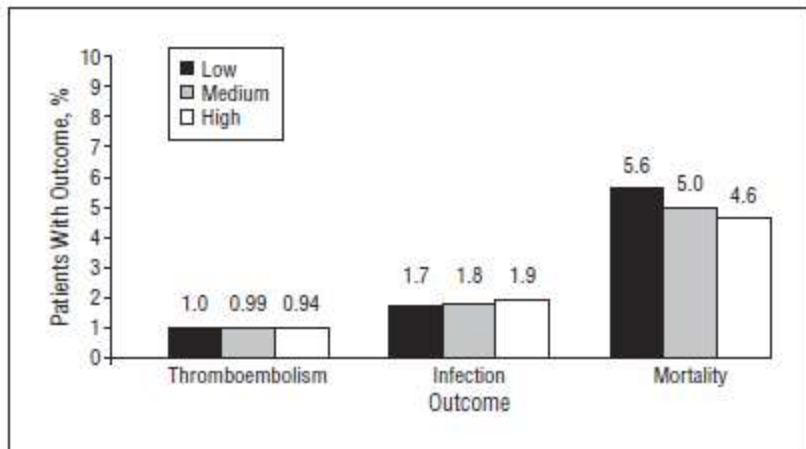



Figure 2. Risk-adjusted mortality rate, venous thromboembolism, and surgical site infection by Surgical Care Improvement Project process compliance, 2005-2006. Medicare patient risk-adjusted outcome rates at hospitals in the lowest, middle, and highest quintiles of surgical compliance reported annually on the Hospital Compare Web site for 2005 and 2006. Outcomes are for patients undergoing the following 6 high-risk surgical procedures: abdominal aortic aneurysm repair, aortic valve repair, coronary artery bypass graft, esophageal resection, mitral valve repair, and pancreatic resection.

- Study of 229,665 patients from 2038 hospitals
- Hierarchical multi-level modeling, however used aggregated measure rates from *Hospital Compare* website, and calculated hospital-level outcomes from administrative claims data (had no patient-level data)
- Limited to complex operations (AAA repair, aortic valve, CABG, esophageal resection, mitral valve, and pancreatic resection).

Association of Surgical Care Improvement Project Infection-Related Process Measure Compliance with Risk-Adjusted Outcomes: Implications for Quality Measurement

[Angela M. Ingraham](#), MD, MS , [Mark E. Cohen](#), PhD, [Karl Y. Bilimoria](#), MD, MS, [Justin B. Dimick](#), MD, MPH, [Karen E. Richards](#), BS, [Mehul V. Raval](#), MD, [Lee A. Fleisher](#), MD, [Bruce L. Hall](#), MD, PhD, MBA, FACS, [Clifford Y. Ko](#), MD, MS, MSHS, FACS

CONCLUSIONS: *“Better adherence to infection-related process measures over the observed range was not significantly associated with better outcomes with one exception. Different measures of quality might be needed for surgical infection.”*

- Study of 81,524 patients from 200 hospitals participating in NSQIP and SCIP
- 30-day outcomes from NSQIP included overall morbidity, serious morbidity, SSI, and mortality
- Did not have patient-level data on SCIP measures. Used aggregated measure rates from *Hospital Compare* website

The Medical and Lay Press Responded



The screenshot shows the homepage of 'Infection Control Today'. The header includes the logo 'ICT INFECTION CONTROL TODAY' and a search bar. A navigation menu lists categories like HOME, PRINCIPLES, PRACTICE, PREVENTION, BLOGS, COMMUNITY, RESOURCE CENTER, and BUYER'S GUIDE. A featured banner for Welch Allyn FlexiPort BP Cuffs is visible. The main content area features an article titled 'Hospital Comparison Web Site May Not Help Patients Identify the Best Place to Have High-Risk Surgery' dated October 16, 2010. A sidebar promotes a 'Resource Center' with links to Reports, Webinars, Image galleries, Buyer's Guide, and more.



The screenshot displays the 'HEALTH' section of The Wall Street Journal's digital network. The top navigation bar includes links for WSJ.com, MarketWatch, BARRONS, All Things Digital, FINS, and SmartMoney. The date is Monday, October 18, 2010. The main headline is 'Medicare Faulted on Surgery Evaluation'. Below the headline are buttons for 'Article' and 'Comments (9)'. Other top stories include 'Sony Hits Restart on PlayStation Network' and 'Takeda Bid May Herald M&A Wave'.



The screenshot shows the homepage of 'Family Practice News', part of the 'digital network'. The title 'Family Practice News' is prominently displayed in a large, red, serif font. Below it is the tagline 'News and Views that Matter to Family Physicians'. A search bar is located in the top right corner. The navigation menu includes Home, News, Specialty Focus, Views, IMNG Med Jobs, and Resou. The main article is titled 'SCIP Compliance Does Not Predict Outcomes' by JANE ANDERSON.

Limitations of Prior Studies

- Small patient samples
- Limited hospital groups (VA, Premier)
- Lack of patient-level data on measure compliance
- Lack of data on patients excluded from the measures
- Absence of post-discharge data

Why do exclusions matter?

- The proportion of patients excluded varied significantly across measures and also changed substantially over the three years of the study
- For many of the measures, patients who were excluded had much worse outcomes

Ratio of selected outcomes and length of stay (LOS) excess for those patients who were excluded from SCIP performance measures compared to those patients who were eligible for the measures.*

SCIP Measures	Excluded N (%)	In-hospital mortality Rate Ratio	30-day postop mortality Rate Ratio	30-day readmit Rate Ratio	30-day postop infection Rate Ratio	30-day postop VTE Rate Ratio	LOS Excess days
2009, N=496,296							
Infection-1	158,391 (31.9)	4.7	4.1	1.5	2.3	-	4.4
Infection-2	154,222 (31.1)	4.8	4.2	1.5	2.2	-	4.2
Infection-3	177,889 (35.8)	6.8	5.2	1.6	2.4	-	4.4

* The rate ratio was calculated by dividing the outcome rate among excluded patients by the outcome rate among eligible patients. The LOS excess was calculated by subtracting the LOS among eligible patients from the LOS for excluded patients.

Recent Rules

Value-based Purchasing Final Rule



26490

Federal Register / Vol. 76, No. 88 / Friday, May 6, 2011 / Rules and Regulations

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Medicare & Medicaid Services

42 CFR Parts 422 and 480

[CMS-3239-F]

RIN 0938-AQ55

Medicare Program; Hospital Inpatient Value-Based Purchasing Program

AGENCY: Centers for Medicare & Medicaid Services (CMS), HHS.

ACTION: Final rule.

SUMMARY: This final rule implements a Hospital Inpatient Value-Based Purchasing program (Hospital VBP program or the program) under section 1886(o) of the Social Security Act (the Act), under which value-based incentive payments will be made in a fiscal year to hospitals that meet performance

- F. Methodology for Calculating the Total Performance Score
- G. Applicability of the Value-Based Purchasing Program to Hospitals
- H. The Exchange Function
- I. Hospital Notification and Review Procedures
- J. Reconsideration and Appeal Procedures
- K. FY 2013 Validation Requirements for Hospital Value-Based Purchasing
- L. Additional Information
- M. QIO Quality Data Access
- III. Collection of Information Requirements
- IV. Economic Analyses
 - A. Regulatory Impact Analysis
 - B. Regulatory Flexibility Act Analysis
 - C. Unfunded Mandates Reform Act Analysis
- V. Federalism Analysis

Acronyms

Because of the many terms to which we refer by acronym in this final rule, we are listing the acronyms used and their corresponding meanings in alphabetical order below:

ACM Appropriate Care Model

- SDPS Standard Data Processing System
- SES Socioeconomic status
- SSI Surgical site infections
- VBP Value-Based Purchasing

I. Background

A. Overview

The Centers for Medicare & Medicaid Services (CMS) promotes higher quality and more efficient health care for Medicare beneficiaries. In recent years, we have undertaken a number of initiatives to lay the foundation for rewarding health care providers and suppliers for the quality of care they provide by tying a portion of their Medicare payments to their performance on quality measures. These initiatives, which include demonstration projects and quality reporting programs, have been applied to various health care settings, including physicians' offices, ambulatory care facilities, hospitals, nursing homes, home health agencies, and dialysis facilities. The overarching goal of these initiatives is to transform

Final Measures for Hospital Score

Effective October 1, 2012

TABLE 2—FINAL MEASURES FOR FY 2013 HOSPITAL VBP PROGRAM

Measure ID	Measure description
Clinical Process of Care Measures	
Acute myocardial infarction	
AMI-7a	Fibrinolytic Therapy Received Within 30 Minutes of Hospital Arrival.
AMI-8a	Primary PCI Received Within 90 Minutes of Hospital Arrival.
Heart Failure	
HF-1	Discharge Instructions.
Pneumonia	
PN-3b	Blood Cultures Performed in the Emergency Department Prior to Initial Antibiotic Received in Hospital.
PN-6	Initial Antibiotic Selection for CAP in Immunocompetent Patient.
Healthcare-associated infections	
SCIP-Inf-1	Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision.
SCIP-Inf-2	Prophylactic Antibiotic Selection for Surgical Patients.
SCIP-Inf-3	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time.
SCIP-Inf-4	Cardiac Surgery Patients with Controlled 6AM Postoperative Serum Glucose.
Surgeries	
SCIP-Card-2	Surgery Patients on a Beta Blocker Prior to Arrival That Received a Beta Blocker During the Perioperative Period.
SCIP-VTE-1	Surgery Patients with Recommended Venous Thromboembolism Prophylaxis Ordered.
SCIP-VTE-2	Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery.
Patient Experience of Care Measures	
HCAHPS	Hospital Consumer Assessment of Healthcare Providers and Systems Survey. ⁵

Benchmarks

(Above which you receive all 10 points)

TABLE 6—BENCHMARKS THAT APPLY TO THE FY 2013 HOSPITAL VBP PROGRAM MEASURES

Measure ID	Measure description	Benchmark
Clinical Process of Care Measures		
AMI-7a	Fibrinolytic Therapy Received Within 30 Minutes of Hospital Arrival	0.9191
AMI-8a	Primary PCI Received Within 90 Minutes of Hospital Arrival	1.0
HF-1	Discharge Instructions	1.0
PN-3b	Blood Cultures Performed in the Emergency Department Prior to Initial Antibiotic Received in Hospital.	1.0
PN-6	Initial Antibiotic Selection for CAP in Immunocompetent Patient	0.9958
SCIP-Inf-1	Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision	0.9998
SCIP-Inf-2	Prophylactic Antibiotic Selection for Surgical Patients	1.0
SCIP-Inf-3	Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time	0.9968
SCIP-Inf-4	Cardiac Surgery Patients with Controlled 6AM Postoperative Serum Glucose	0.9963
SCIP-VTE-1	Surgery Patients with Recommended Venous Thromboembolism Prophylaxis Ordered	1.0
SCIP-VTE-2	Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery.	0.9985
SCIP-Card-2	Surgery Patients on a Beta Blocker Prior to Arrival That Received a Beta Blocker During the Perioperative Period.	1.0
HCAHPS	Communication With Nurses	84.70%
	Communication With Doctors	88.95%
	Responsiveness of Hospital Staff	77.69%
	Pain Management	77.90%
	Communication About Medicines	70.42%
	Cleanliness and Quietness of Hospital Environment	77.64%
	Discharge Information	89.09%
	Overall Rating of Hospital	82.52%

Proposed IPPS Rule

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Medicare & Medicaid Services

42 CFR Parts 412, 413, and 476

[CMS-1518-P]

RIN 0938-AQ24

Medicare Program; Proposed Changes to the Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and Fiscal Year 2012 Rates

AGENCY: Centers for Medicare and Medicaid Services (CMS), HHS.

ACTION: Proposed rule.

SUMMARY: We are proposing to revise the Medicare hospital inpatient prospective payment systems (IPPS) for operating and capital-related costs of acute care hospitals to implement changes arising from our continuing experience with these systems and to

Hospital-acquired Conditions

- Proposed additions
 - Contrast-induced acute kidney injury (ICD code 584.9)
 - Additions to codes for falls and trauma, surgical site infections, and a new code for VTE events following orthopedic surgery

HAC Current List

- Foreign object retained after surgery
- Air embolism
- Blood incompatibility
- Stage III or IV pressure ulcers
- Falls and trauma
- Catheter-associated urinary tract infections
- Vascular catheter-associated infection
- Manifestations of poor glycemic control
- Surgical site infection, mediastinitis after CABG
- Surgical site infection following orthopedic operations
- Surgical site infection following bariatric surgery
- DVT/PE after certain orthopedic operations

Hospital IQR Program

- *“We view value-based purchasing as an important step to revamping how care and services are paid for, moving increasingly toward rewarding better value, outcomes, and innovations instead of merely volume.”*

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