Let Data Do the Talking: Effectively Using Tools for Quality and Cost Improvement
An ACC Webinar Series Sponsored by PINNACLE

An Introduction to NCDR: Myths and Realities

September 25, 2012
7:00-8:00pm ET

Ralph Brindis, MD, MPH, MACC, FSCAI

Disclosures
Nothing to Disclose.
Goal of the QI Webinar Series

To improve the physician's ability to balance economics and quality by increasing learning competence in:
1. Identifying sources of quality data
2. Analyzing data and building a quality improvement (QI) program
3. Using the methodology of continuous QI to implement a project

This will be achieved through the webinar series with topics on:
- Using data to design compensation programs
- Working with state regulators to reduce administrative burdens
- Routinely reviewing performance data to effect and monitor quality
- Using tools, programs, and resources to sustain your practice

Speakers

Richard Kovacs, MD, FACC
Dr. Kovacs is the Professor of Clinical Medicine at the Indiana University School of Medicine, Chair of the ACC Best Practice and Quality Improvement Subcommittee, member of the ACC Clinical Quality Committee, and was Chair of the ACC Board of Governors 2010-2011.

John Rumsfeld, MD, PhD, FACC is the National Director of Cardiology for the U.S. Veterans Health Administration, and Professor of Medicine at the University of Colorado School of Medicine. He is a member of the ACC Board of Trustees, and Chief Science Officer for the National Cardiovascular Data Registries (NCDR).
Richard Kovacs, MD, FACC

Disclosures
Nothing to Disclose.

John Rumsfeld, MD, PhD, FACC

Disclosures
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Learning Objectives for
An Introduction to NCDR: Myths and Realities

1. Examine the NCDR program suites available for use in identifying and closing gaps in quality of care
2. Recommend ways in which NCDR outcomes reports can be used for continuous quality improvement
3. Examine how NCDR programs can support value-based purchasing for physicians and hospitals

QI Webinar Series on-demand webinars can be found at:
http://accwebinars.cardiosource.org/archived.php

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Title</th>
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<tr>
<td>Apr 11, 2012</td>
<td>The Data Imperative: How Financial Incentives and Quality Improvement Can Co-exist</td>
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<td>May 14, 2012</td>
<td>The View from PINNACLE Registry: A Look Inside How Data Drive QI</td>
</tr>
<tr>
<td>Jun 27, 2012</td>
<td>Hammering it Home: Essential Tools for Improving Quality and Practice Performance</td>
</tr>
<tr>
<td>Sep 25, 2012</td>
<td>An Introduction to NCDR: Myths and Realities</td>
</tr>
</tbody>
</table>
An Introduction to NCDR: Myths and Realities

John S. Rumsfeld MD PhD FACC
Chief Science Officer, NCDR
National Director of Cardiology, US Veterans Health Administration

Richard J. Kovacs MD FACC
NCDR Management Board Member
Indiana University School of Medicine

- EHRs, meaningful use
- Value based purchasing
- Accountable Care Organizations
- Physician Quality Reporting System (PQRS)
- Preauthorization
- Payment cuts
- Payer Programs
- Efficiency metrics (= cut costs)
- Bundled payments (capitation)
- Utilization review
- Appropriateness auditing
- Episode groupers
- MOC / MOL
- Public Reporting
- Claims data profiling
- Hospital employment
- Coverage determinations
- Certification exams
Can clinical registries help?

Data elements and definitions

Clinical Data

Observational Database

Quality Assessment

Quality Improvement

Clinical Research


Tough Issues I

• “It’s self reported data”.
• “It’s hospital data – don’t show it to the physicians”
• “How can I use these data to improve quality in my institution?”
• “I have a training program, can the fellows in training participate?”
• “I have a research question, and I think NCDR could have an answer, how do I access the research programs?”
Tough Issues II

• “Our institution is unique, we have no good benchmark data”.
• “We need “real time” data to make rapid cycle improvements”.
• “How do we connect with other users, we feel isolated?”
• “The hospital data are fine, but what about the outpatient clinic, is there a registry for that?”

AHA Policy Statement

The American Heart Association’s Recommendations for Expanding the Applications of Existing and Future Clinical Registries
A Policy Statement From the American Heart Association

Vincent J. Bufalino, MD, FAHA, Chair; Frederick A. Masoudi, MD, MSPH, FAHA, Co-Chair; Steven K. Stranne, MD, JD; Katie Horton, RN, MPH, JD; Nancy M. Albert, PhD, FAHA; Craig Beam, CRE; Robert O. Bonow, MD, FAHA; Roger L. (Vern) Davenport; Meighan Gargas, MBA; Gregg C. Fonsow, MD, FAHA; Harlan M. Krumholz, MD, SM, FAHA; Mark W. Legnini, DrPH; William R. Lewis, MD; Graham Nichol, MD, MPH, FAHA; Eric T. Peterson, MD, MPH, FAHA; Wayne Rosamond, PhD, FAHA; John S. Rumsfeld, MD, PhD, FAHA; Lee H. Schwamm, MD, FAHA; David M. Shahian, MD, FAHA; John A. Spertus, MD, MPH, FAHA; Pamela K. Woodard, MD, FAHA; Clyde W. Yancy, MD, FAHA; on behalf of the American Heart Association Advocacy Coordinating Committee
CV Service National Data Registries

- ACC / National Cardiovascular Data Registry (ACC/NCDR)
  Robin Zwinski, R.N., Cindy Humphrey, R.N., Jeffrey Breall, M.D.,
- Society of Thoracic Surgeons (STS)
  Larissa Berty, R.N. & Harry Siderys, M.D.
- Access / CMS Heart Failure Registry
  Jennifer Davidson, R.N. & Irmina Gradus-Pizlo, M.D.
- ACTION / GWTG
  Tricia Helms, R.N. & Richard Kovacs, M.D.
- PINNACLE
  Rachel Nation & Richard Kovacs, M.D.
- ICD Registry
  Jon Jennings R.N., Miriam Lowe, William Groh, M.D. & Joseph Szwed M.D.
CV Program Quality Structure and Processes

CV Operations
- Cardiology/CT Surgery/Vascular Surgery
- Multidisciplinary (e.g. Nursing, Pharmacy, ED)

CV Outcomes & Quality Committee
- PV TEAM
- AMI TEAM
- CV SRG TEAM
- CHF TEAM
- PCI TEAM
- ICD TEAM

Each PI team is led by the same coordinator / MD pair

2500 hospitals
> 1000 cardiologists
> 17 million clinical records

CathPCI Registry
1998
How NCDR Program Participation Works

Hospitals sign participation agreement

Select certified software vendor

Submit data at least quarterly

Quarterly benchmark reports

One master contract with addendums for each registry (except TVT)
Business associates Agreement (BAA)

Many vendor options and NCDR offers web entry if needed

To improve the quality of cardiovascular patient care by providing information, knowledge and tools; implementing quality initiatives; and supporting research that improves patient care and outcomes.
Mission:
To improve patient care and outcomes.
What if…?

Benchmarking
- Appropriate Use Criteria
- Guideline Adherence
- Hospital and Physician Level Performance Measures

Physician Quality Reporting System

Value Based Purchasing

Maintenance of Certification

Performance Improvement - CME

That was then...
Launched 1998
1 Registry
Focused on quality measurement / support local QI

This is now...
7 National Programs
More than 2,500 hospitals and 1000 practices
Health plans, state and government adoptions
>12 societal partners
>150 publications
FDA uses NCDR data for post market surveillance

This is our future...
Integrated programs
Point of care tool(s) to support needs of clinicians/hospitals (e.g. quality reporting)
EHR integration / Structured reporting/ Meaningful use
Support MOC / MOL / LLL
International collaborations
Platform for clinical trials and CER; and FDA / CMS : post market, coverage with evidence
To get from here to there…

Integrate with / become integral to…

• Clinical workflow
• Health IT
• Payer programs (PQRS, VBP)
• Public reporting
• Role (and value) for clinicians
  – Practice + integration with hospital
  – Tie to MOC / MOL / Performance improvement / LLL

Clinical data ➟ Quality benchmarks

Executive Summary
CathPCI Registry®

City Hospital (999998) compared to Rolling Four Quarters (RAQ) for All Hospitals ending 2009Q3

Distribution of Data

<table>
<thead>
<tr>
<th>PCI Performance Measures</th>
<th>Worse</th>
<th>Better</th>
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</thead>
<tbody>
<tr>
<td>A. PCI in-hospital risk adjusted mortality (all patients)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My Hospital</td>
<td></td>
<td></td>
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<tr>
<td>Comp Group</td>
<td></td>
<td></td>
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<tr>
<td>All Hosp</td>
<td></td>
<td></td>
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<tr>
<td>90th Percentile</td>
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</tr>
<tr>
<td>Numden</td>
<td>1.7%</td>
<td>1.12%</td>
</tr>
<tr>
<td>Numden</td>
<td>1.15%</td>
<td>1.11%</td>
</tr>
<tr>
<td>Numden</td>
<td></td>
<td>0.55%</td>
</tr>
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</table>

Your hospital’s PCI in-hospital risk adjusted mortality rate for all patients adjusted using the NCDR® risk adjustment model. (Detail Line: 1767)

Your institution is statistically different from All Hospitals.
Business intelligence tool...

Point of care reports....

Executive Summary
CathPCI Registry®

City Hospital (99999) compared to Rolling Four Quarters (R4Q) for All Hospitals ending 2009/Q3

Distribution of Data

PCI Performance Measures

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>My %</td>
<td>1.7%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Cpo %</td>
<td>1.1%</td>
<td>1.1%</td>
</tr>
<tr>
<td>All</td>
<td>2.0%</td>
<td>2.0%</td>
</tr>
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</table>

Your hospital’s PCI in-hospital risk adjusted mortality rate for all patients adjusted using the NCDR risk adjustment model. (Detail Line 1987)

Your institution is statistically different from All Hospitals.

...with drill down to individual cases on all Executive Summary metrics.
NCDR Dashboard....

- Executive summary metrics
- Performance measures
- Trending graphs
- Drill down to the patient level
- Unique comparison group filters
- CathPCI Registry launched September 2011
- ICD Registry and ARG dashboards launching now

Getting to the Heart of Cardiology Alignment

Joe Cantupe, for HealthLeaders Media, February 9, 2012

This article appears in the January 2012 issue of HealthLeaders magazine.

Know your NCDR data

Use it to
- support your role in the hospital.
- with payers
- in your contracts.
CathPCI AUC Metrics

### Distribution of Hospital Performance

**PCI Appropriateness of Criteria (AUC) Metrics**

<table>
<thead>
<tr>
<th>Metric Description</th>
<th>Distribution of Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>30. Proportion of PCI procedures not classified for AUC reporting</td>
<td></td>
</tr>
<tr>
<td>31. Patients WITH Acute Coronary Syndrome: Proportion of evaluated PCI procedures that were appropriate</td>
<td></td>
</tr>
<tr>
<td>32. Patients WITH Acute Coronary Syndrome: Proportion of evaluated PCI procedures that were inappropriate</td>
<td></td>
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</tbody>
</table>

### Practices (not just hospitals)...

**PINNACLE Registry**

- **Records from >1,000 physicians at >300 sites**
- **US Population Density**
Dr. David May: “We begin by reviewing the practice total report to determine how we are doing with our overall performance. … There is robust quality data in this report specific to each physical office location; in our practice we use this report specifically for payer mix and patient demographics. Finally, we look at the individual physician comparison reports to see how well our data documentation is going and how effective we are being at meeting our quality metrics.”

Fellows in Training can also participate: Dr. Hank Rosman’s fellowship program at Wayne State University was the first in the country to incorporate Pinnacle into the ambulatory clinic.
Medical liability

• PINNACLE Registry can now submit performance measures to CMS to qualify practices for Meaningful Use incentives

PQRS 100% success

Plus:
• Add PVI and TAVR to interventional ‘suite’
• Expanded data quality program
• Structured reporting (w/ vendors / EHRs)

Integrated programs…
IT platform / data element alignment

Vendors creating systems to avoid redundant data collection

- New definition and technical alignment
- Launch late 2013

Vendors creating systems to avoid redundant data collection

NCDR Data Quality Program...

- Training and Clinical Support Team
  - Orientation webinars
  - Online FAQs
  - Live customer support
  - Email
  - Monthly webinars
  - Annual meeting with case reviews, etc.

- Data Entry Integrity
  - Value checks
  - Range checks
  - Parent:Child fields

- Data Quality Report
  - Registry-specific algorithms
  - Predetermined levels of completeness and consistency required for data to be included in national and comparison group averages

- Internal Data QA Protocols

- Data Audit Program
  - 300 to 625 records are audited annually, within 25 randomly identified sites.
Audit expansion / collaborations...

NCDR Data Quality Program

The National Cardiovascular Data Registry (NCDR) Data Quality Brief

In the 2010 audits, the overall accuracy of data abstraction for the CathPCI, ICD, and ACTION-GWTG registries were, respectively, 93.1%, 91.2%, and 90.0%.

In press, JACC (published online September 20, 2012)
Public reporting….

STS and Consumers Union

Perspective: NEJM Oct 21, 2010

Public Release of Clinical Outcomes Data — Online CABG Report Cards

Timothy G. Ferris, M.D., M.P.H., and David F. Torchiana, M.D.

On September 7, 2010, Consumers Union (publisher of Consumer Reports) reported the results of coronary-artery bypass grafting (CABG) procedures at 221 hospitals. The registry data are collected from patients’ charts and include key outcomes such as complications and death, the severity of preoperative illness, and cardiac surgeons and their leadership. For years, participants in the STS registry have been examining these data and using them to improve care.

ACCF 2008 Health Policy Statement on Principles for Public Reporting of Physician Performance Data

A Report of the American College of Cardiology Foundation Writing Committee to Develop Principles for Public Reporting of Physician Performance Data

- ACC + SCAI + HRS + reporting partner
- Hospital level measures
- Voluntary reporting

2010

Phase 1: Feasibility

ACC Board motion

2011

Phase 2: Implementation Plan

2012-13

Phase 3: Execute
Integrate with education / certification

Education

PI-CME  LLL platform  MOC  MOL  ABIM  QRB

Annual NCDR Conference ACC.13 NCDR Session Series
2010-2013 NCDR Strategic Foci

<table>
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<th>Value Based Purchasing</th>
<th>HIT Integration</th>
<th>Post Approval Studies</th>
<th>Data Quality</th>
<th>Public Reporting</th>
<th>Performance Improvement</th>
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<tr>
<td>BI Tools</td>
<td>IntraRegistry Linkages</td>
<td>TVT Registry</td>
<td>Publish results / white paper describing program</td>
<td>Obtain NQF endorsed measures</td>
<td>Link to MOC Part 4</td>
</tr>
<tr>
<td>Increase Physician Engagement</td>
<td>CathLab Structured Reporting</td>
<td>BSC ICD PAS</td>
<td>Identify data quality outliers</td>
<td>Select reporting vehicle</td>
<td></td>
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<tr>
<td></td>
<td>Master CV Data Dictionary with EHR Adoption</td>
<td>PVI (with CARE Integration)</td>
<td>Conduct site and remote audits</td>
<td>Develop communications plan</td>
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<td></td>
<td>AF Ablation</td>
<td></td>
<td></td>
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<td>Registry Specific QI Programs and Tools</td>
</tr>
</tbody>
</table>

- EHRs, meaningful use
- Value based purchasing
- Accountable Care Organizations
- Physician Quality Reporting System (PQRS) / payer Programs
- Efficiency metrics (= cut costs)
- Bundled payments (capitation)
- Utilization audit
- Appropriations auditing
- Payment cuts
- Claims data profiling
- Extend
- Preauthorization
- Physician Quality Reporting System (PQRS) / payer Programs
- Appropriations auditing
- Certification exams
- Utilization audit
- Preauthorization
Tough Issues I

• “It’s self reported data”.
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Tough Issues II

• “Our institution is unique, we have no good benchmark data”.
• “We need “real time” data to make rapid cycle improvements”.
• “How do we connect with other users, we feel isolated?”
• “The hospital data are fine, but what about the outpatient clinic, is there a registry for that?”
Question & Answer Session

Webinar Evaluation Survey

Each participant on today’s webinar will receive by email a short evaluation survey to complete online within a few days. To receive your CME credits, please fill out this survey.

We want to hear from you!
## Resources

### Inpatient Cardiology Registries*

<table>
<thead>
<tr>
<th>Feature</th>
<th>Get With The Guidelines</th>
<th>NCDR Registries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Produced by</td>
<td>American Heart Association</td>
<td>American College of Cardiology and other Partnering Organizations</td>
</tr>
<tr>
<td>Address</td>
<td><a href="http://www.heart.org">www.heart.org</a></td>
<td><a href="http://www.cardiosource.org">www.cardiosource.org</a></td>
</tr>
<tr>
<td>Type of Data Collected</td>
<td>Heart Failure Stroke Resuscitation</td>
<td>Acute coronary syndrome; carotid artery revascularization; percutaneous coronary interventions; congenital heart disease; transcatheter valve procedures</td>
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<tr>
<td>Price</td>
<td>No charge</td>
<td>Depends on specific registry</td>
</tr>
<tr>
<td>Electronic Health Record</td>
<td>Not Required</td>
<td>Not Required</td>
</tr>
<tr>
<td>Examples of Benefits</td>
<td>Benchmark reports, public recognition, clinical resource tools</td>
<td>Quarterly benchmark reports</td>
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</tbody>
</table>

*Clinical registries are systems that collect uniform data to evaluate specified outcomes for a particular condition, disease entity or procedure. Registries can collect inpatient or outpatient data.

### Outpatient Cardiology Registries*

<table>
<thead>
<tr>
<th>Feature</th>
<th>The Guideline Advantage</th>
<th>Pinnacle Registry</th>
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<tbody>
<tr>
<td>Produced by</td>
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</tr>
<tr>
<td>Type of Data Collected</td>
<td>Heart Disease, Cancer, Diabetes</td>
<td>Heart Disease (Afib, CAD, Hypertension, heart failure)</td>
</tr>
<tr>
<td>Price</td>
<td>No charge</td>
<td>No charge</td>
</tr>
<tr>
<td>Electronic Health Record</td>
<td>Required</td>
<td>Required</td>
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Other Sources of Data for Quality Improvement

- **State-wide databases**—required by health departments of some individual states, e.g., Massachusetts, New York
- **Claims and billing data**—collected by practices in the course of billing and receiving payment for services provided by practice
- **Hospital or healthcare system data**—collected internally by individual organizations
- **Payer data**—health insurance plans often collect data as part of overseeing quality and cost-effectiveness for their enrollees
- **Physician Quality Reporting System (PQRS)**—a voluntary reporting program providing incentive payments to practices who satisfactorily report data on quality measures for Medicare beneficiaries. See [www.cms.gov](http://www.cms.gov)
- **Quality Improvement Organization (QIO) data**—QIO’s are charged by CMS to improve “the effectiveness, efficiency, economy, and quality of services delivered to Medicare beneficiaries.” See [www.cms.gov](http://www.cms.gov)

**Resources, continued**

**AHA/ASA Statements and Guidelines**
The AHA and American Stroke Association publish medical scientific statements on various cardiovascular disease and stroke topics, written by AHA/ASA volunteer scientists and healthcare professionals. The statements are supported by scientific studies published in recognized journals and have a rigorous review and approval process. [http://americanheart.org](http://americanheart.org)

- Scientific statements
- Guidelines
- Policy Statements

**ACC Guidelines and Quality Standards**
A comprehensive collection of all ACC evidence-based clinical documents developed by consensus of leaders in the field of cardiovascular medicine. [www.cardiosource.org](http://www.cardiosource.org)

- ACC and the American Heart Association (AHA) Guidelines
- Appropriate Use Criteria
- Expert Consensus Statements
- Data Standards
- Performance Measures