



Helping
Cardiovascular
Professionals
Learn.
Advance.
Heal.



Aligning Payment, Accountability and Opportunity in Specialty Care: Part I

Pay for Performance Summit
Integrated Healthcare Association
March 11, 2009

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Part I:

The Present and Future of the NCDR[®] & Appropriateness Use Criteria in Assessing Quality and Variation in CV Care



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What is the American College of Cardiology (ACC)?

Chartered as a teaching institution in 1949 now serves more than 37,000 cardiologists, nurses, and PAs.

ACC
headquarters
2400 N. Street,
NW
Washington
D.C.



Bill Weintraub: NCDR Founding Father, CV Epidemiologist, Clinical Trialist and Outcomes Thought Leader



“Science tells us what we can do;

Guidelines what we should do;

Registries what we are actually doing.”

The Cycle of Clinical Effectiveness



What is the NCDR?

- **Suite of Hospital and Office-Based Quality Improvement Programs focused on CV disease**
 - measure and quantify outcomes
 - Identify gaps in the delivery of quality cardiovascular patient care
- **Our Mission is to:**
 - improve patient care
 - Provide knowledge and tools
 - Implement quality initiatives
 - Support research

How is NCDR Used

ACC

- Educational Needs Assessment
- Scientific Insights
- Research and Publications

Health Plans

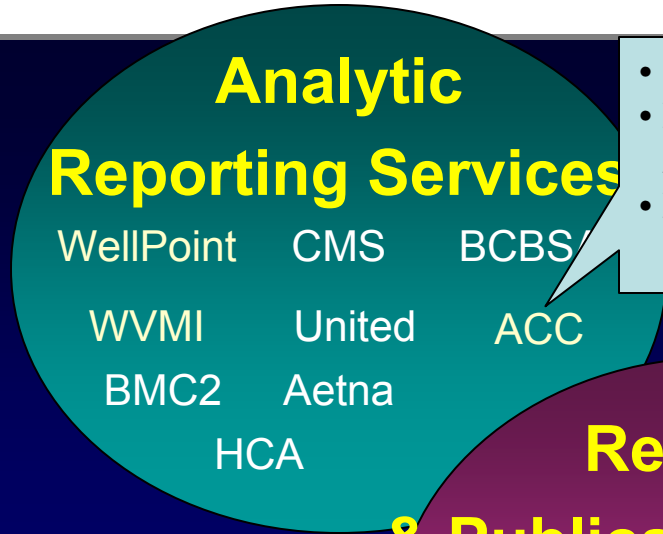
- Participation requirements for preferred provider programs.
- Performance Tracking Tool

Researchers

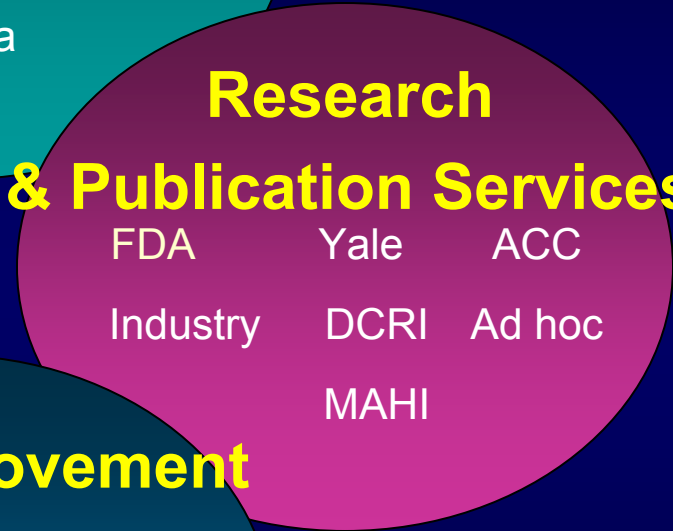
- Outcomes Research
- Post Market Surveillance

Hospitals &
Physician Practices

- Quality Improvement
- Performance Measurement Reporting
- Utilization Review

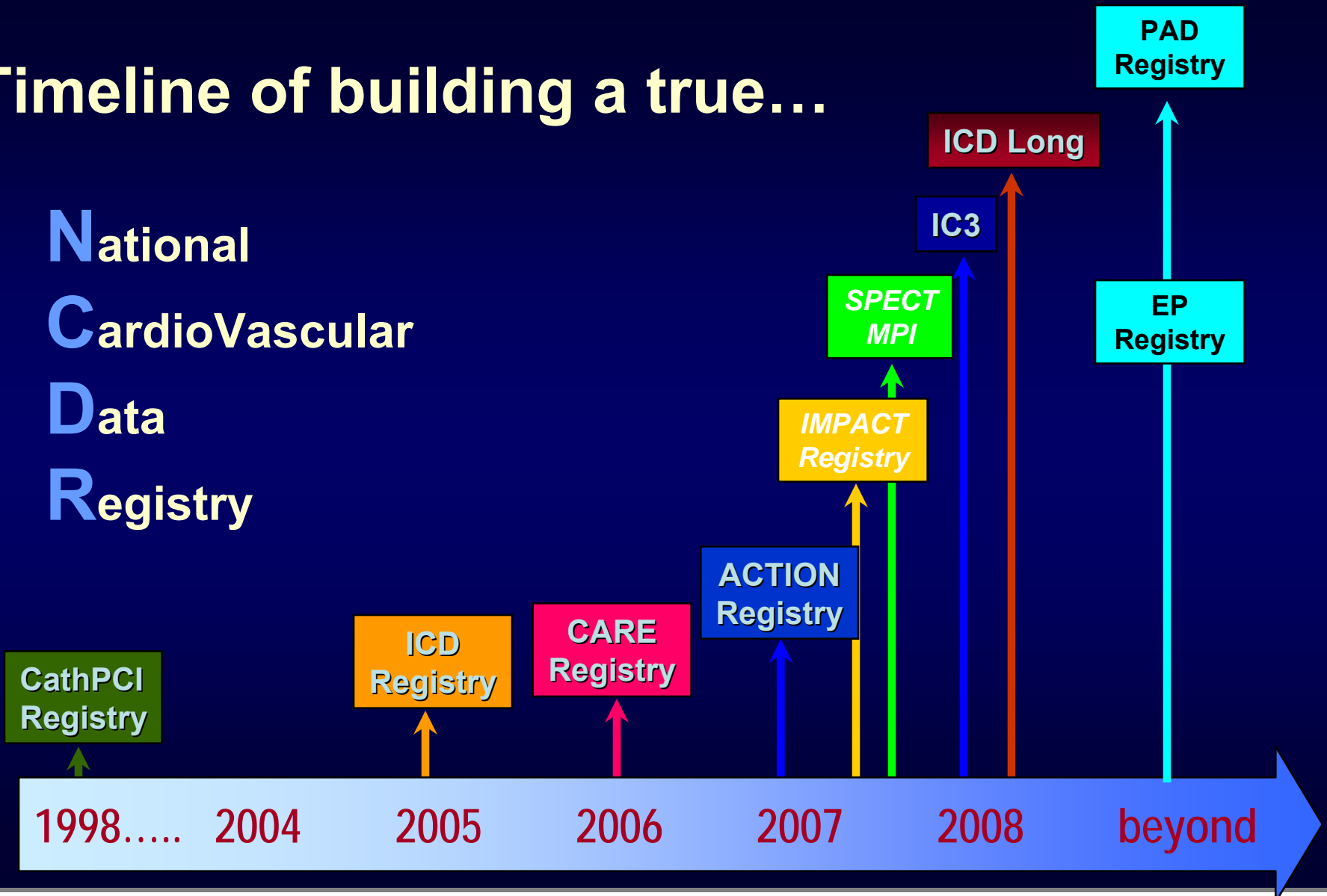


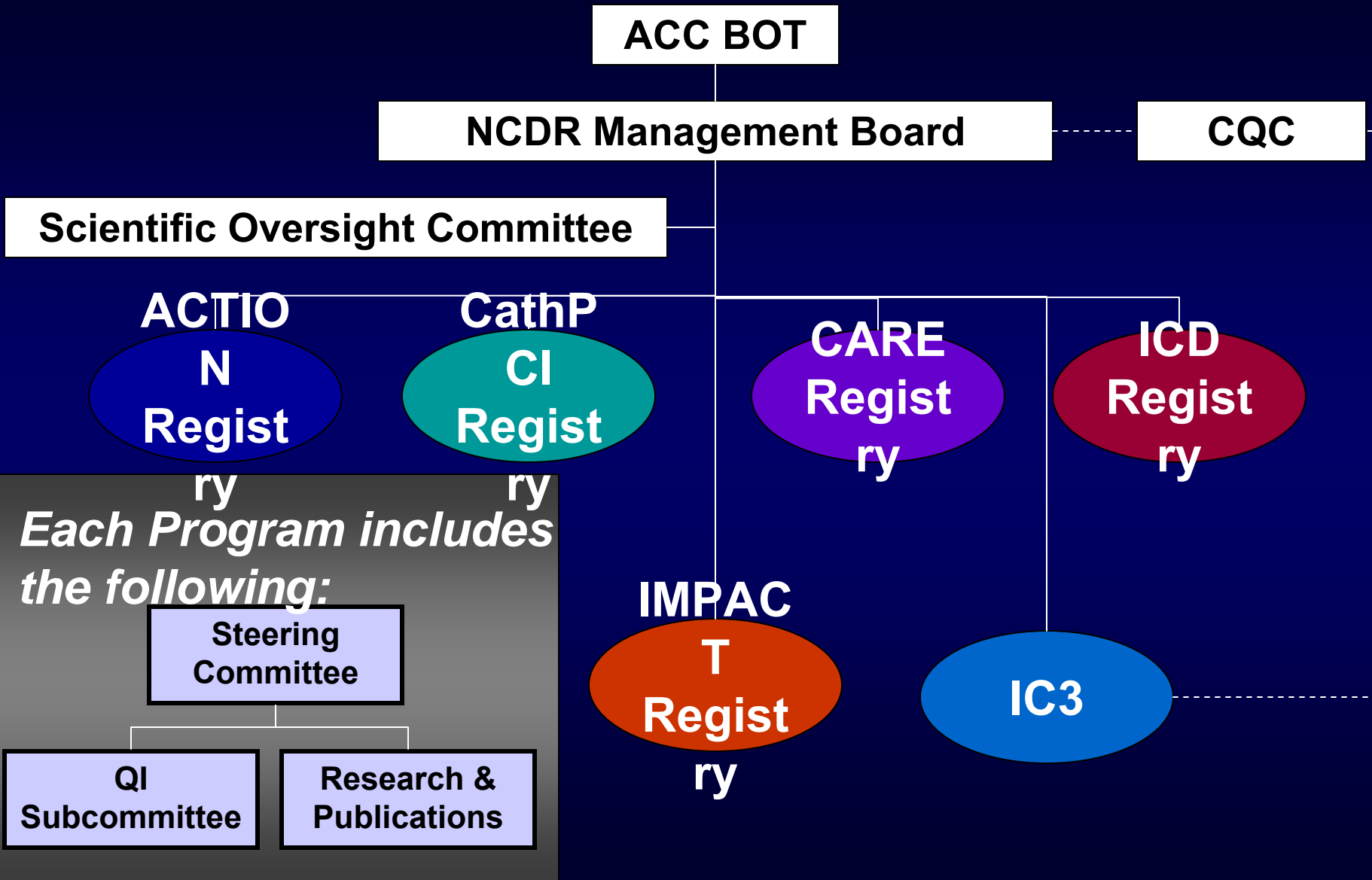
- Guidelines Develop.
- Educational Needs Assess.
- Market Intelligence



Timeline of building a true...

National
CardioVascular
Data
Registry





Data Quality Program

- Online field checks for completeness and consistency
- Electronic Data Quality Reports
- National On-Site Audit Program
 - Annual
 - Nurse abstractors go on-site to audit charts

Registry/QI

- 1100 participants
- 8.2 million patient records
- 2.91 million PCI records

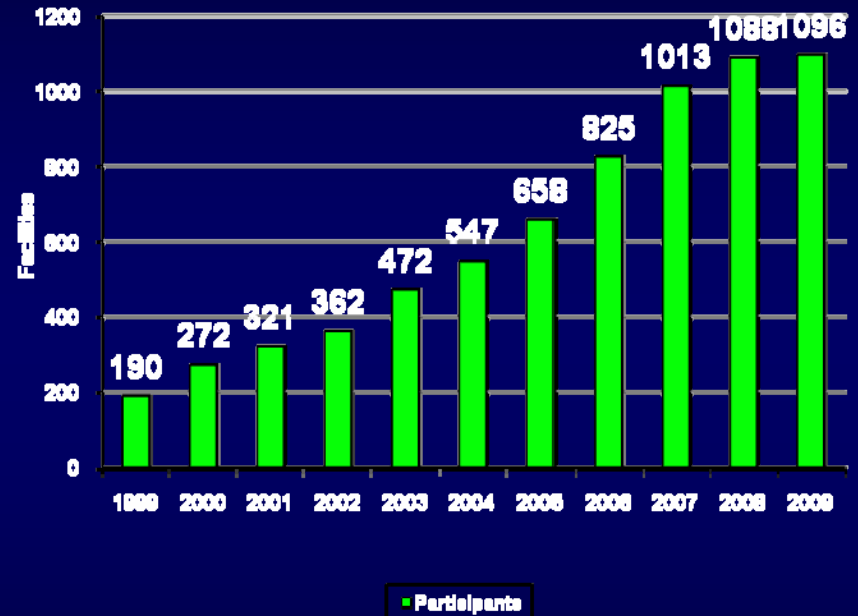
Analytic & Reporting Services

- States – MA, WV, MI
- Payers – United, BCBSA, WellPoint

Research and Publications

- DCRI analytic center
- Manuscripts
 - 30 published
 - 4 in press
 - 16 in development
- 17 abstracts '08

CathPCI Registry Enrollment



Registry

- 100,000 Patient Records
- Merger with American Heart Association GWTG-CAD
- Certified Vendor - Outcome Inc.,
- Pending Vendors - Quantros, Lumedx
- Linked to CathPCI v.4 (launch mid 2009)

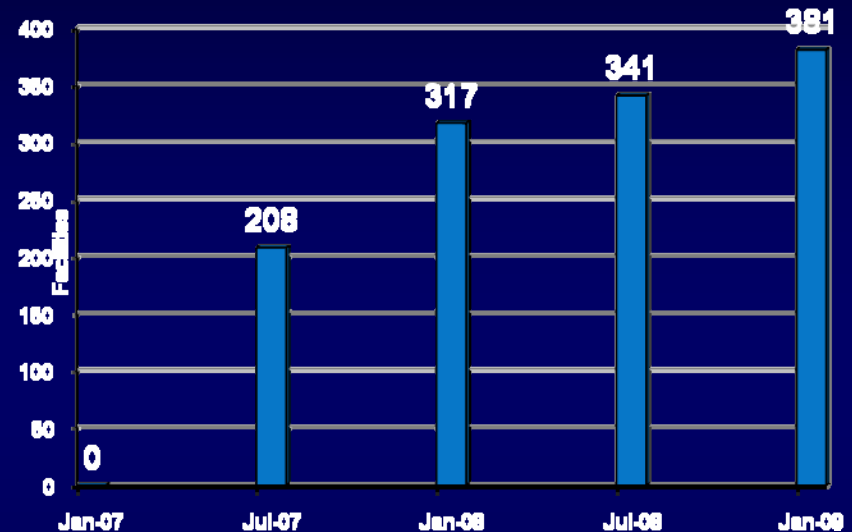
Data Sharing

- Early discussions with payers

Research and Publications

- DCRI analytic center
- 9 Abstracts accepted ACC'09

AR-G Registry Enrollment



AMERICAN
COLLEGE of
CARDIOLOGY
FOUNDATION

American Heart
Association®



Founding Sponsors
Bristol-Myers Squibb and Sanofi Partnership and Schering Plough Corporation

Registry

- 1,507 enrolled
- 330,00 patient records
- 76% of participants submit all ICD patients
- Version 2.0 - Peds and Leads (2010)

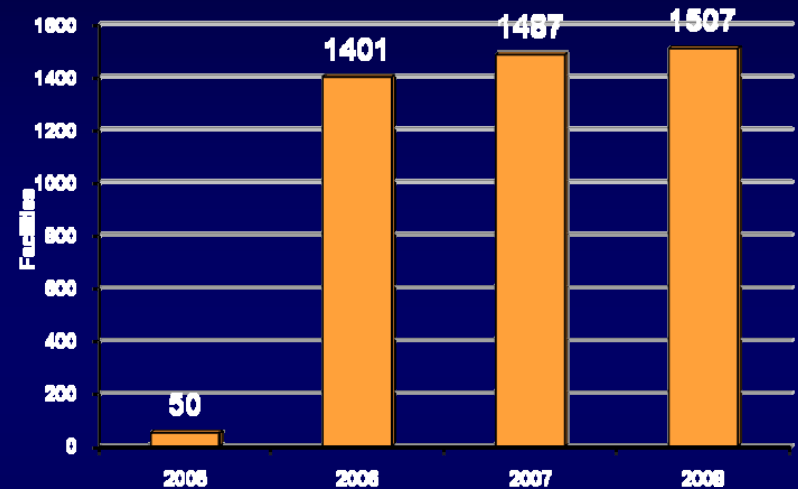
Analytic & Reporting Services

- Provide data to CMS for reimbursement

Research

- **ICD Longitudinal Study**
- **Atrial Fibrillation Ablation Registry ?**
- Perform analysis for FDA

ICD Registry Enrollment



PCI Quality Measures

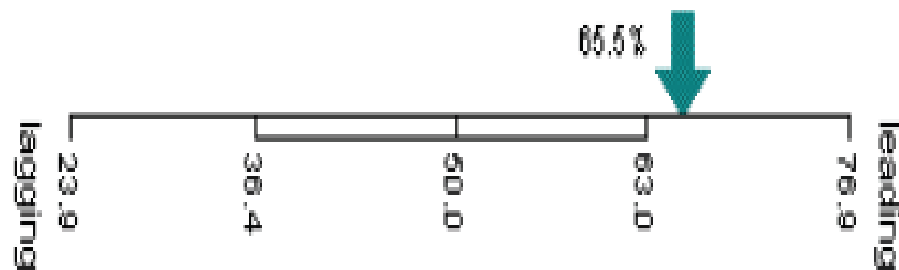
Worse

Better

1. Proportion of STEMI Pts with DBT ≤ 90"

My Hospital: 65.5% (Rank: 87 of 389, Rank Percentile: 78)

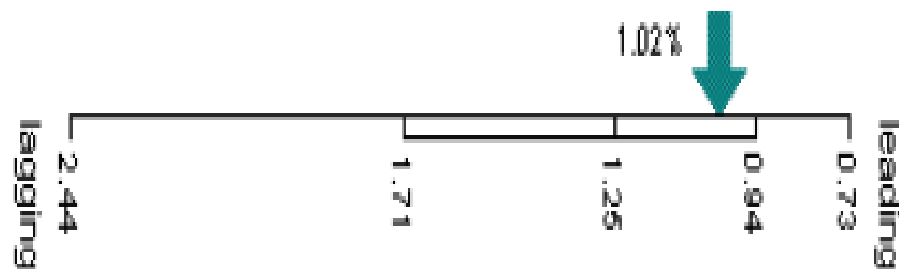
The proportion of primary PCI patients with DBT (door to balloon time) ≤ 90 minutes. The goal is to have a DBT of ≤ 90 minutes for all non-transferred patients pts having an ST elevated MI and having primary PCI. [Detail Line: 1767]



2. Risk Adjusted Mortality

My Hospital: 1.02% (Rank: 118 of 366, Rank Percentile: 68)

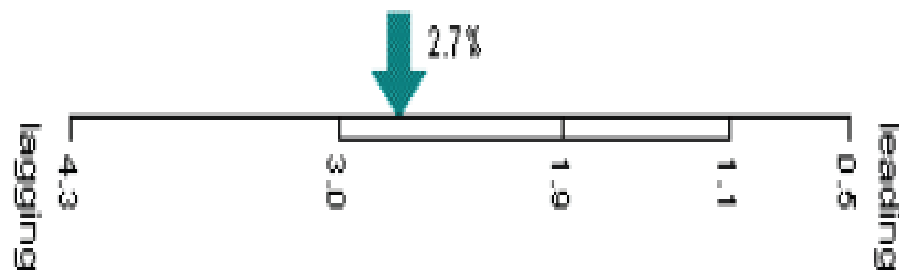
Your hospital's PCI mortality rate adjusted using the ACC-NCDR® risk adjustment model [Detail Line: 1732]



3. Incidence of Vascular Complications

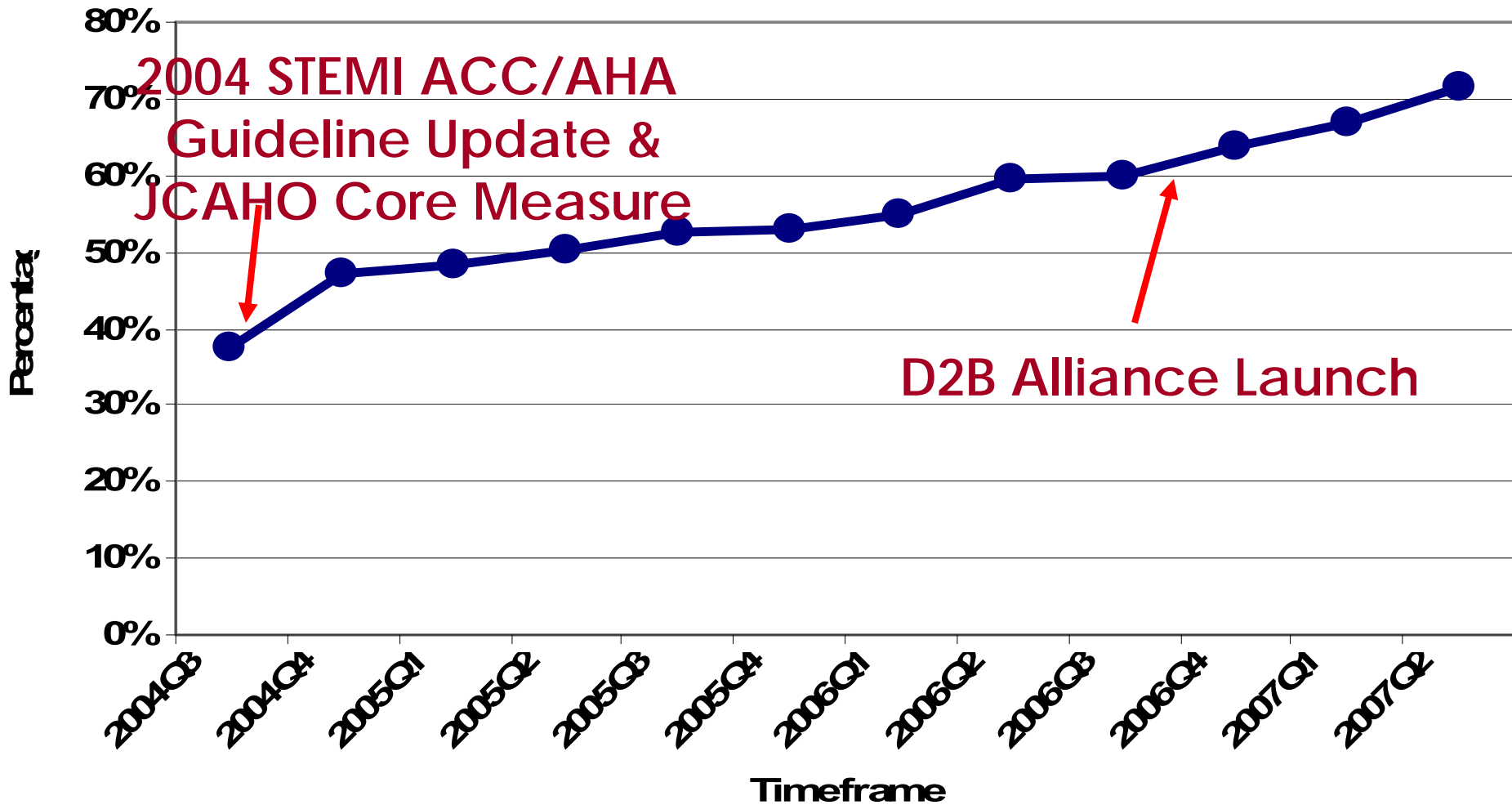
My Hospital: 2.7% (Rank: 286 of 401, Rank Percentile: 30)

Includes procedures with at least one vascular complication. [Detail Line: 2029]



Percentage of Primary PCI with D2B \leq 90 minutes

NCDR CathPCI v3



NCDR - Elective PCI

PCI Volume with Mortality

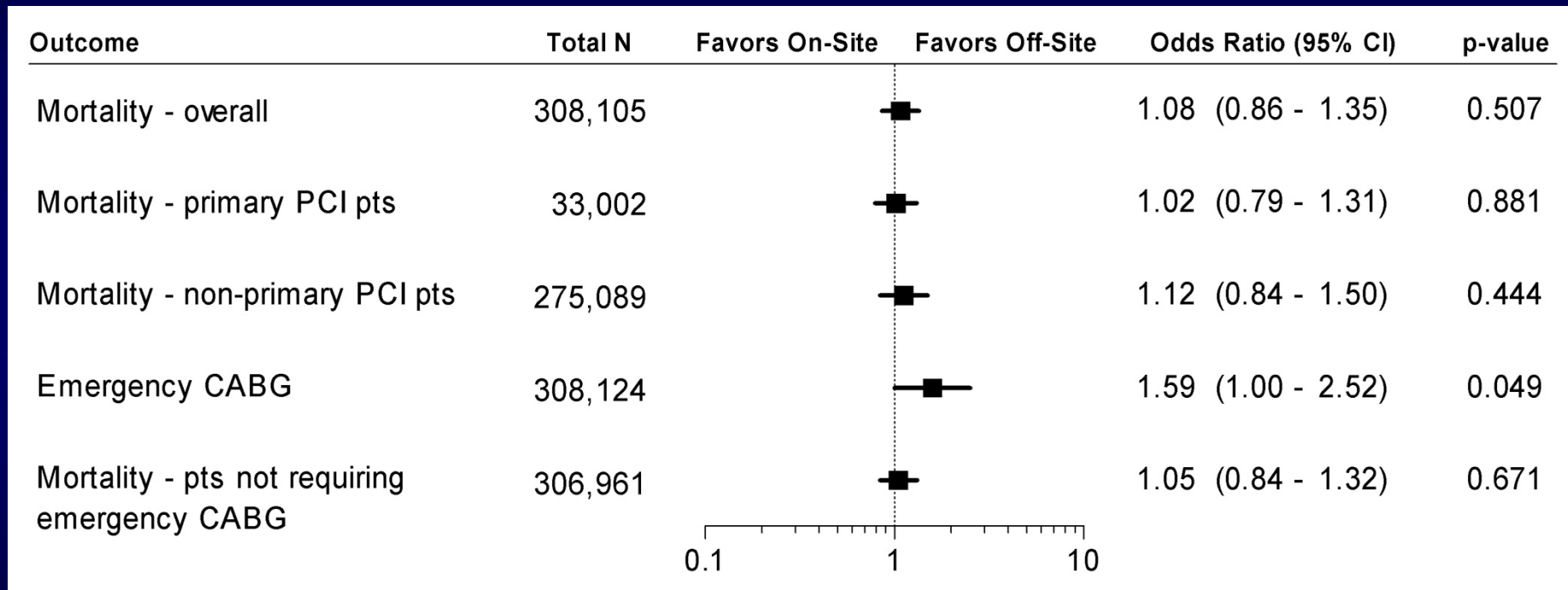
NCDR Centers (n= 403) 2001 - 2004

Annual PCI Volume	# of Sites	Number of Patients (%)	Mortality (%)	Odds Ratio (95% CI) (vs. volume ≥801)
0-200	43	6,305 (1.3)	0.49	1.17 (0.81 - 1.71)
201-400	85	42,039 (8.7)	0.49	1.12 (0.96 - 1.31)
401-800	132	116,116 (24.0)	0.45	1.10 (0.99 - 1.22)
≥801	139	318,500 (65.9)	0.39	ref.

**Percutaneous Coronary Interventions
in Facilities
without On-Site Cardiac Surgery:
A Report from the National
Cardiovascular Data Registry (NCDR)**

ACC/SCAI – i2 Summit
Late Breaking Clinical Trials
March 29, 2008

Risk Adjusted Outcomes



Odds Ratio (OR): outcomes for patients at On-Site (vs. Off-Site) facilities adjusting for site correlations and potential confounding variables

Outcomes of Patients > 85 years undergoing PCI ACC-NCDR® 2001-2004

	<u>Mortality</u>	<u>Emerg. CABG</u>
• Chronic CAD (n=14,077)	1.4%	0.2%
• STEMI (n=2,941)	15.6%	0.3%
• Non-STEMI (4,316)	5.1%	0.2%
• <i>Total PCI procedures= 666,415 from 409 institutions</i>		
• <i>%>85 years old = 2.9% CAD, 3.2% STEMI, 4.7% NSTEMI</i>		

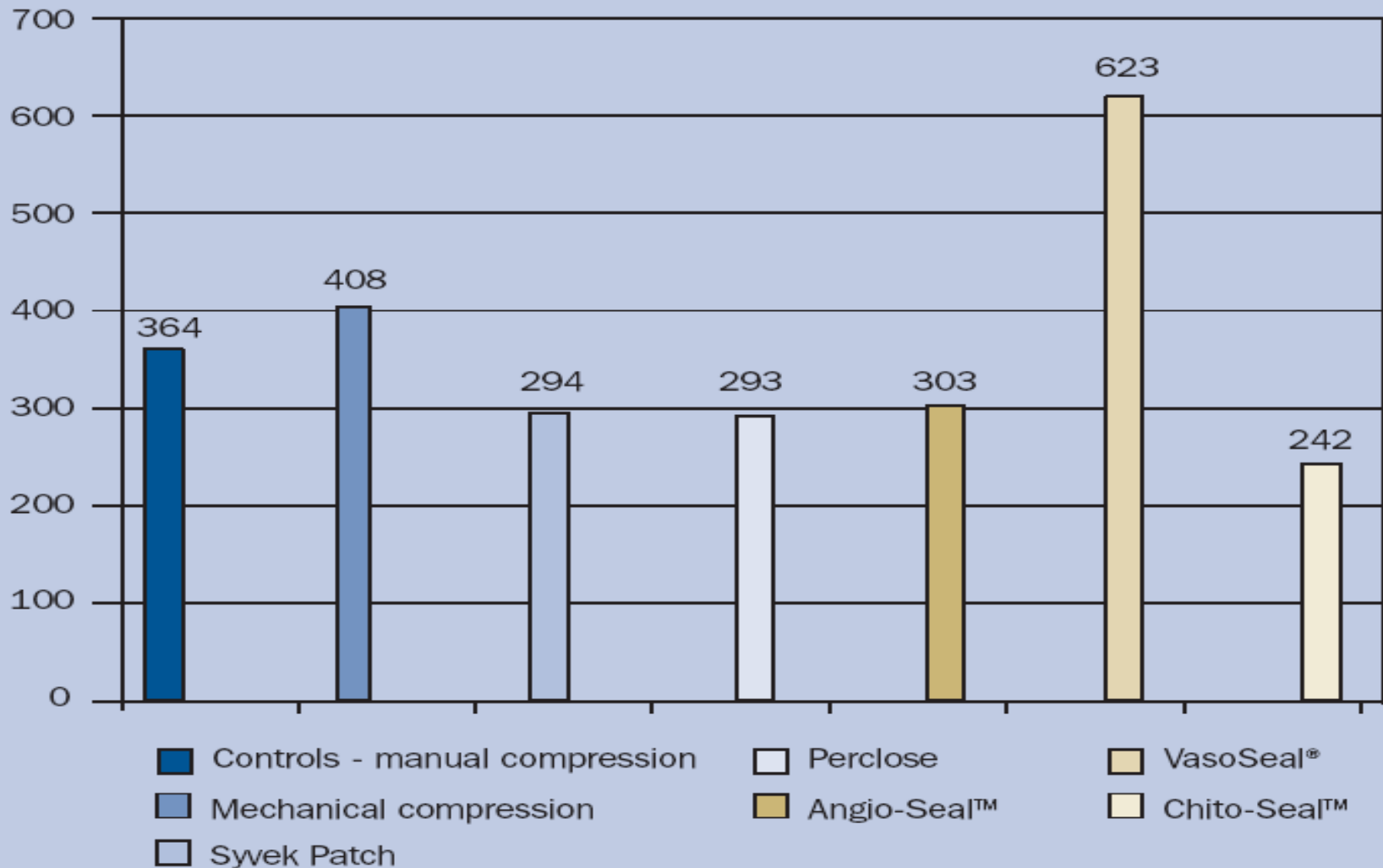
Risk of Local Adverse Effects Following Cardiac Catheterization by Hemostasis Device and Gender

A Report from the NCDR in
Partnership with the FDA

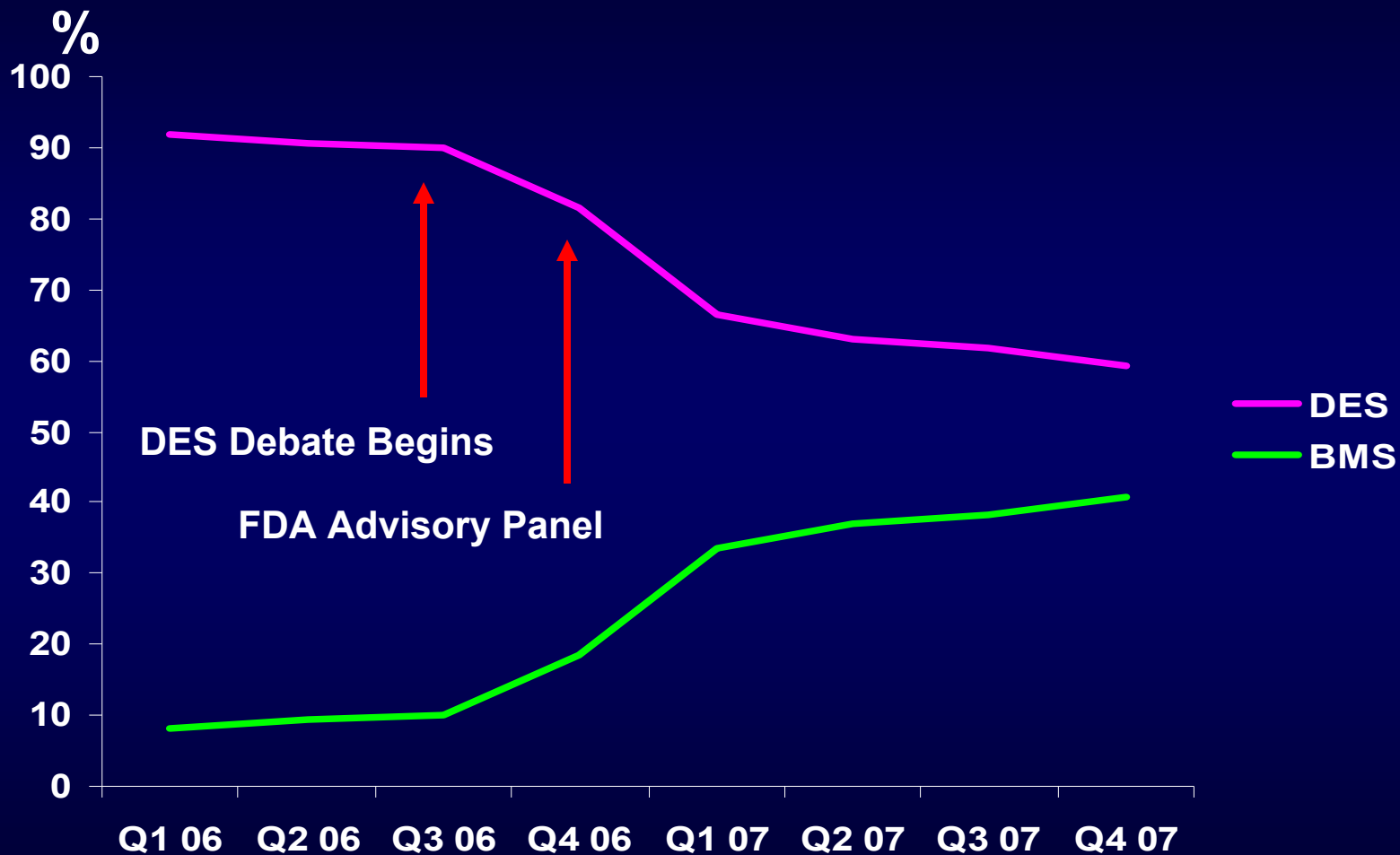
Dale Tavis, Syamal Dey, Albrecht Gallauresi, Richard Shaw,
William Weintraub, Kristi Mitchell, Ralph Brindis

Grant from Office of Women's Health, Food and Drug Administration

Rate per 10,000 of Local Vascular Complications by Type Hemostasis (Univariate Analysis) - Year 2003 N=13,878



Trends in DES vs. BMS Use for PCI for NSTEMI



Key Principles of National Clinical Registries

A. Patient-Centric

A. Seamless

B. EHR Integrated

C. Patient-focused

B. Interoperable

C. Transparent

D. Efficient- operate in real time

E. High Data Quality

Registry Standards

- A. Standardized Data Elements and Definitions
- B. Evidence-based Performance Measures
- C. Quality and Performance Key Metrics
- D. Risk-adjusted Outcomes, Process and Structural Measures
- E. Appropriateness & Effectiveness Measures
- F. Financial Data

Uses of Registry Data

❖ Quality Improvement

- Effectiveness of P4P
- Guideline adherence
- Performance measure development, implementation, validation

❖ Post Market Surveillance

- Adverse/sentinel events
- Identify device performance trends
- Inappropriate off-label use
- Hypotheses for follow up studies

Uses of Registry Data

- ❖ Informed Decision Making in Real Time
- ❖ Maintenance of Certification & Privileging
- ❖ Meet Regulatory Needs
- ❖ Pay for Participation, Reporting, and Performance
- ❖ Clinical Research
 - ❖ Effectiveness and Translational Research
 - Role for Planned National Institute of CER
 - Diffusion of New Technologies (CED)

Principles of National Clinical Registries

Coordination of Key Players

- Medical Professional Societies
- IHA, IHI, Hospital Organizations and Leaders
- Payers (CMS and Private)
- AMA Consortium
- NQF
- AQA, SQA
- FDA
- NHLBI, NIH
- AHRQ, CDC
- And more

Present Focus for National Registries

- Achieve data standardization
- Streamline data collection-100% EHR integration
- Unique Patient identifier – Legislative Approach
- Linkage of relevant Registries
- Longitudinal strategies – develop viable business cases

GOAL:

Convert procedural or episodic hospital based Registries to “disease state” patient-centric registries

CMS- Yale- NCDR- ACC Public Performance Measure Development

- Initial effort - NCDR CathPCI outcomes measures
 - 30 day mortality following PCI
 - 30 day readmission following PCI
- Linkage with CMS claims data for 30 day longitudinal assessment
 - Probabilistic Matching –unique patient admission by hospital, admission date, age, gender
 - HIPAA Compliant

Legal/Regulatory Implications

- A. Unique patient identifiers
- B. HIPAA challenges –
 - Stimulus Package, IT legislation
 - active lobbying needed!!
- C. IRB issues (QI vs Research)
- D. Longitudinal data
- E. Linkage of databases

A rear view of a red BMW 6 Series Convertible. The car is parked in a garage or showroom. The license plate area is obscured by a white box with blue text. The BMW roundel logo is visible on the trunk lid, and the '6 Series' badge is on the right side. The car has a black interior with leather seats and a steering wheel. The background shows other cars and a white pillar.

**64 Slice
Coronary CT**

Threats to Quality in Procedure Utilization

- Misuse
 - Applying treatment to the right patient in a manner that results in harm
- Overuse
 - Applying treatment to patients in whom risks > benefit
- Underuse
 - Failure to apply treatment in those likely to benefit

Appropriateness

What are Appropriateness Criteria?

- Define “what to do”, “when to do”, and “how often to do” in the context of local care environments combined with patient and family preferences and values
- Address misuse, overuse and underuse
- Connected to guideline content
- Imply a level of detail and complexity that extends beyond the current recommendations

GUIDELINES, PERFORMANCE MEASURES, AND APPROPRIATENESS USE CRITERIA

What are the Differences?

• **Clinical Guidelines**

- Exhaustive review of literature
- Virtually all-inclusive
- Best practice
- “Should do, should not do”
 - Class I, Class III, Class IIa, IIb

Klocke FJ, Baird MG, Lorell BH, et al. ACC/AHA/ASNC guidelines for the clinical use of cardiac radionuclide imaging. Circulation 2003; 106: 1883-92

• **Performance Measures**

- Selective, focused, measurable
- Based on guidelines
- “Must do” – High impact Class I’s
- Tools for quality measurement

Krumholtz HM, Anderson JL, Brooks, et al. ACC/AHA clinical performance measures for adults with ST-elevation and non-ST-elevation myocardial infarction. J Am Coll Cardiol 2006; 47: 236-65.

• **Appropriateness Use Criteria**

- Selective indications
- Largely guideline based
- Clinical scenarios/frequency
- “Reasonable to do”

Brindis RG, Douglas PS, Hendel RC et al. ACCF/ASNC appropriateness criteria for single-photon emission computed tomography myocardial perfusion imaging. J Am Coll Cardiol 2005; 46: 1587-605.

Appropriateness Use Criteria

- SPECT-MPI
- CCT/MRI
- TTE/TEEchocardiography
- Stress Echocardiography
- Coronary Revascularization: PCI/CABG
- Implementation of AC Pilot(s)
- SPECT-MPI Update
- **CV imaging Cross Modality Appropriateness**



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