Improving Cardiac Care: Lessons From Washington State

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COAP Medical Director
Conflict of Interests

Full time employee University of Washington

No relationships with industry
What is COAP?

COAP (Clinical Outcomes Assessment Program) is a program of FHCQ (Foundation for Health Care Quality), committed to improving cardiac patient outcomes.

COAP is a Coordinated Quality Improvement Program (CQIP) approved by the WA State Department of Health under RCW 43.70.51.
History of COAP

- 1993 WA State Health Care Authority proposed initiative to identify “centers of excellence” for selective contracting of cardiac surgery services.

- Strong resistance from the medical community led to the development of an alternative, collaborative approach to quality improvement and COAT, the CABG Outcomes Assessment Team was formed and a pilot project was undertaken.

- This study led in 1997 to the formation of COAP – a rigorous, evidence-based mechanism to promote internal quality improvement activities while meeting a variety of external quality improvement and accountability requirements.

- Began collecting data in 1999 – expanded to include PCI.
History of COAP

- Initially mandated by the Washington State Health Care Authority

- Became voluntary in 2008 but all sites have continued to participate – part of the “fabric” of cardiovascular care in the state of Washington

- As new hospitals open PCI programs they join enthusiastically

- Currently all 35 hospitals in the state that do coronary revascularization participate except for the VA Medical Center – 35 PCI programs, 17 Cardiac Surgery Programs
History of COAP

- The program has grown & evolved over the years to respond to trends in healthcare and the needs of participants:
  - 2007 complete transparency of hospital names within the COAP community
  - 2008 harmonization with national cardiac surgery database to reduce data burden (STS)
  - 2008 partnered with Armus – drastically changing the timeliness & structure of reports
  - 2009 posting of certain hospital-identified outcomes on public website
  - 2010 harmonization with national PCI database to reduce data burden (NCDR CathPCI)
  - 2012 public transparency
Governance & Organization

- FHCQ provides home, administrative support and fiscal responsibility

- Paid staff include FT program director, PT medical director, PT statistician

- Data warehouse, analyses and reporting provided by FHCQ technology partner – Armus Corporation

- COAP policies and activities are governed by a 15 member management committee which is supported by a group of advisors from various local, regional and national stakeholders

- Various subcommittees focus on specific areas of interest:
  - Research
  - Metrics
  - Reporting
  - Best Practices
Non-profit organization founded in 1988, dedicated to providing a trusted, independent third party resource to all participants in the health care community – patients, providers, payers, employers, government agencies, and public health.

Common Goal = the continual improvement of sustainable health care that meets or exceeds established standards.

FHCQ is the sponsor for, and home of, a number of programs which deal with variability, outcomes and quality in addition to major initiatives in patient safety, health care technology, and response to unanticipated events.
Patient Safety Programs

Advisory Committee
Subcommittees
Committee Chair
Program Director

Est. 2002
Improve safety for everyone receiving healthcare in WA
Members=hospitals, systems, clinics, prof. assoc, individuals

Advisory Board
Subcommittees
Medical Director
Program Director

Est. 2010
Transform communication in healthcare

Governing Board (appointed)
Implementation Team
Clinical Work Groups
Chair
Program Director

Legislative Mandate
Public/Private partnership
Focus on variation, high use, patient safety
FHCQ Clinical QI Programs

**COAP**
- Management Committee
- Subcommittees
- Medical Director
- Program Director
- Est. 1997
- Cardiac Revascularization – PCI and Cardiac/Valve Procedures
- 100% Eligible Hospitals
- 20,000 Procedures/Year

**SCOAP**
- Advisory Board
- Subcommittees/R&D
- Medical Directors
- Program Director
- Program Manager
- Est. 2004
- General, Pediatric, Vascular, Spine
- 20,000 Procedures/Year

**OBCOAP**
- Management Committee
- Subcommittees
- Medical Director
- Program Director
- Est. 2009
- Labor & Delivery Decisions & Outcomes
- 30,000 Procedures/Year
COAP is a Regional Collaborative and a Premier Source of Information on the status and quality of cardiac care in Washington State.
WHO is COAP?

All 35 Washington hospitals offering cardiac services (except VA and Madigan)
WHO is COAP?

Engaged Clinicians and QI Professionals from Across the State

Our Management Committee

Cass Bilodeau, RN, BSN
Kadlec Medical Center, Richland WA

Drew Baldwin, MD
Virginia Mason Medical Center, Seattle WA

Ryan Foresman, MD
Harrison Medical Center, Bremerton WA

Richard Goss, MD, MPH
Harborview Medical Center, Seattle WA

Geoffrey Harms, MD
Central Washington Hospital, Wenatchee WA

Susan Hecker, MD, MPH
St. Joseph Cardiothoracic Surgeons, Tacoma WA

Dennis Hoover, PharmD
Yakima Valley Memorial, Yakima WA

Eric Lehr, MD, FRCSC, PhD
Swedish Medical Center, Seattle WA

James McCabe, MD
University of WA Medical Center, Seattle WA

Chelle Moat, MD, MPH
Premera Blue Cross, Mountlake Terrace WA

Daniel Mumme, MD
Multicare General Hospital, Tacoma WA

Michael Ring, MD, FACC, FSCAI
Providence Sacred Heart, Spokane WA

Tariq Salam, MD, FACC, FHRSA
Multicare Health System, Tacoma WA

Mandya Vishwanath, MD
Providence Sacred Heart, Spokane WA
WHO is COAP?

Our Advisors

Nancy Fisher, RN, MD, MPH
Julie McDonald, RN, BSN, CPHQ
Elizabeth Peterson, RN, BSN, MPH
Richard Phillips, MD, MPH
Terry Rogers, MD
Gyula Sziracsky
Richard Whitten MD MBA

CMS, Seattle WA
Consultant, Data & Analytics, Snohomish WA
American Heart Association, Seattle WA
Retired Cardiac Surgeon, Everett WA
Foundation for Health Care Quality, Seattle WA
Armus Corporation, San Mateo CA
Noridian Healthcare Solutions, Fargo ND
WHO is COAP?

Our Subcommittees

50+ clinicians, quality professionals, and data managers also serve on targeted subcommittees.

- CVS
- PCI
- Reporting
- Auditing
- Best Practices
WHO is COAP?

Our Partners

- Washington State Health Care Authority
- Washington State Department of Health
- Washington State Medical Association
- Washington State Hospital Association
- Qualis Health
- The University of Washington
- The Northern New England Cardiovascular Study Group
- Virginia Cardiac Surgery Quality Initiative
- Michigan Society of Thoracic & Cardiovascular Surgeons Quality Initiative
- Washington Health Alliance
- Cleveland Clinic
- ARMUS Corporation
WHO is COAP?

COAP = A Lean Staff + Large Community of Volunteers and Partners
What Does COAP Do?

FOR HOSPITAL LEADERSHIP:

Provides an unbiased look at what and how your hospital is doing

• By physician
• By institution
• As compared to hospitals across the state
• As compared to quality benchmarks (the mean of the top performing hospitals which, when combined, represent > 10% volume of cases)
What Does COAP Do?

FOR HOSPITAL LEADERSHIP:

Provides Timely Reports

- Standard “rolling 4 quarter” quarterly reports within a few months after the close of each quarter
- *Real time* analysis available at hospital and provider level
- Customized reports available
- Data is harmonized with STS and ACC to reduce FTE’s and provide efficiency
What Does COAP Do?

FOR HOSPITAL LEADERSHIP:

Provides critical, accessible data and support for hospital clinicians, and for quality and data professionals.
What Does COAP Do?

FOR CLINICIANS:

Provides an unbiased look at what and how each physician and surgeon is doing

- Individual physician level data with the capacity to drill down to individual patient outcomes
- Timely quarterly reports within a few months after the close of each quarter
- *Real time* analysis and customized reporting available
What Does COAP Do?

FOR CLINICIANS:

Convenes and engages clinicians to interpret data and identify best practices

- Physician led Management Committee meets monthly
- Opportunities to serve on statewide subcommittees to provide direction in areas of particular interest
- Annual statewide meeting to review how we’re doing as a region and discuss critical issues in cardiac care
- Neutral and safe forum for looking at your practice and exploring improvement opportunities
What Does COAP Do?

FOR QUALITY IMPROVEMENT PROFESSIONALS:

Supports Quality Improvement efforts with high quality data and timely reporting

• Chart-abstracted clinical data
• Use data to identify best practices
• Support research initiatives to advance best practices
• Convene physicians and multidisciplinary teams with goal of engaging them to develop sound QI approaches and promote widespread adoption
• Responsive to hospital level QI activities and initiatives
What Does COAP Do?

FOR DATA PROFESSIONALS:

Provides support to strengthen Interrater Reliability (IRR)

• Rigorous QA built into data collection tools
• Regular data management webinars and teleconferences
• Access to Armus trainings and advanced reporting tools
• Technical staff available for questions & assistance
• Coming in 2016: First annual COAP in-person meeting and professional development training for data managers
What Does COAP Do?

FOR THE PUBLIC:

Provides public reporting of statewide cardiac data

www.coap.org

- Reported by hospital, by procedure, by outcome
- Supports transparency in healthcare
- Supports patient choice
Who Does COAP Serve?

THE PATIENT:

Working to improve cardiac care and patient outcomes for 20 years

- Increased use of arterial grafts for CABG from **85% to 99%**
- Decreased blood utilization for cardiac surgery from **43% to 25%**
- Increased percentage of patients removed from a ventilator within 6 hours following cardiac surgery from **42% to 62%**
- Decreased median *Door to Balloon* time from **95 minutes to 57 minutes**
Metrics?
COAP Quality Improvement Standards

- Outcomes are expected to be within 2 SD of the mean.

- COAP data is reviewed as a yearly event as well as trend outcomes over time.

- Full compliance with COAP quality improvement standards includes:
  - Meeting the standards for outcome and process measures with no persistent outliers over successive 3-year reporting periods
  - Complete data submission (compared against billing data) and resolution of invalid case counts from prior year.
  - Successful completion of audit and/or inter-rater reliability testing of abstractors

- Sanctions occur if these outcomes are not met –
  - Noted on COAP website as “in partial compliance with COAP quality standards” or “not in compliance with COAP quality standards”
  - Required to submit a quality improvement plan
Risk-Adjusted Quality Indicators

**Level I**
- A persistent outlier may signal a serious program deficiency

**Level II**
- Focus on specific areas of patient management
- A pattern of persistent outliers in three or more of these measures may also suggest a serious program deficiency

**Level III**
- New or developing metrics
# 2016 PCI Quality Outcome Indicators: Level I

<table>
<thead>
<tr>
<th>Level</th>
<th>Outcomes</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Mortality</td>
<td></td>
</tr>
<tr>
<td></td>
<td>STEMI</td>
<td>Any death during hospitalization</td>
</tr>
<tr>
<td></td>
<td>N-STEMI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Acute</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Door to Balloon Time</td>
<td>Median time from emergency department arrival to balloon inflation for primary PCI with ST elevation and admitted through emergency department</td>
</tr>
</tbody>
</table>
### 2016 PCI Quality Outcome Indicators: Level II

<table>
<thead>
<tr>
<th>Level</th>
<th>Outcomes</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td><strong>Bleeding, Post-Op Transfusion</strong></td>
<td>Suspected or confirmed bleeding event observed and documented in the medical record that was associated with any of the following: 1) Hemoglobin drop of $\geq 3$ g/dL 2) Transfusion of whole blood or packed red blood cells 3) Procedural intervention/surgery at the bleeding site to reverse/stop or correct the bleeding (such as surgical closures/exploration of the arteriotomy site, balloon angioplasty to seal an arterial tear, endoscopy with cautery of a GI bleed).</td>
</tr>
<tr>
<td>II</td>
<td><strong>Unplanned CABG</strong></td>
<td>Unplanned coronary artery bypass graft (CABG) surgery</td>
</tr>
<tr>
<td></td>
<td>Acute</td>
<td>Appropriate</td>
</tr>
<tr>
<td></td>
<td>Non-Acute</td>
<td>Uncertain</td>
</tr>
<tr>
<td></td>
<td>Acute</td>
<td>Rarely Appropriate</td>
</tr>
<tr>
<td></td>
<td>Non-Acute</td>
<td>Insufficient Information to Categorize</td>
</tr>
</tbody>
</table>
### 2016 PCI Quality Outcome Indicators: Level II

<table>
<thead>
<tr>
<th>Level</th>
<th>Outcomes</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td><strong>Vascular Complications</strong></td>
<td>Vascular complications (excluding external bleeding or hematomas) at the percutaneous entry site that required treatment or intervention. Code “yes” for patients treated with IV therapy for loss of distal pulse. Vascular complications can include, but are not limited to, access site occlusions, peripheral embolizations, dissections, pseudoaneurysms and/or AV fistulas. Any noted vascular complication must have had an intervention such as a fibrin injection, angioplasty, or surgical repair to qualify.</td>
</tr>
<tr>
<td></td>
<td>STEMI</td>
<td>Indicate if the patient had a cerebrovascular accident (CVA). A CVA is documented by a loss of neurological function caused by an ischemic or hemorrhagic event with residual symptoms lasting at least 24 hours after onset of leading to death.</td>
</tr>
<tr>
<td></td>
<td>N-STEMI</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Acute</td>
<td></td>
</tr>
<tr>
<td>N-STEMI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level</td>
<td>Outcomes</td>
<td>Definition</td>
</tr>
<tr>
<td>-------</td>
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<td>------------</td>
</tr>
</tbody>
</table>
|       | Fluoro Dose | % data complete  
|       |          | Median fluoro dose  
|       |          | Min/max fluoro dose  
| III   | N-STEMI   | % data complete  
|       | Non-Acute | % data complete  
|       | N-STEMI   | Median contrast volume  
|       | Non-Acute | Min/max contrast volume  
|       | Acute Kidney Injury | Acute Kidney Injury Network (AKIN) stage 1 or greater or a new requirement for dialysis following PCI, excluding those on dialysis prior to procedure, those undergoing multiple PCI procedures within the same admission, those without both a pre-post procedure creatinine, and those with same day discharges:  
|       | STEMI     | 1. % missing pre/post creatinine  
|       | N-STEMI   | 2. Stage 1 is defined as an absolute increase of ≥ 0.3 mg/dL or a relative increase of 50% in serum creatinine (Cr)  
|       | Non-Acute | 3. Stage 2 is defined as an increase in serum Cr to more than 200% to 300% (>2-to 3- fold) from baseline,  
|       |           | 4. Stage 3 is defined as increase in serum Cr to more than 300% (>3-fold) from baseline (or serum Cr of more than or equal to 4.0 mg/dl with an acute increase of at least 0.5 mg/dl.  

2016 PCI Quality Outcome Indicators: Level III
<table>
<thead>
<tr>
<th>Level</th>
<th>Outcomes</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
<td>Tamponade</td>
<td>STEMI Fluid in the pericardial space compromising cardiac filling and requiring intervention. Tamponade should be documented by either: 1) echocardiogram showing pericardial fluid and signs of tamponade such as right heart compromise, or 2) Systemic Hypotension due to pericardial fluid compromising cardiac function.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N-STEMI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-Acute</td>
</tr>
<tr>
<td></td>
<td>Radial Artery Use</td>
<td>STEMI PCI performed via radial access.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N-STEMI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-Acute</td>
</tr>
<tr>
<td></td>
<td>Post Procedure</td>
<td>STEMI New onset or acute recurrence of cardiogenic shock. Sustained (&gt;30 minutes) episode of systolic blood pressure &lt;90 mm Hg, and/or cardiac index &lt;2.2 L/min/m2 determined to be secondary to cardiac dysfunction, and/or the requirement for parenteral inotropic or vasopressor agents or mechanical support to maintain blood pressure and cardiac index.</td>
</tr>
<tr>
<td></td>
<td>Cardiogenic Shock</td>
<td>N-STEMI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-Acute</td>
</tr>
</tbody>
</table>

Red font = new or changed metric
## 2016 CVS Quality Outcome Indicators: Level I

<table>
<thead>
<tr>
<th>Level</th>
<th>Outcomes</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Mortality</td>
<td>Any death during hospitalization</td>
</tr>
<tr>
<td></td>
<td>Post-Operative Stroke</td>
<td>intra- or post-procedure CVA defined as loss of neurologic function caused by ischemic event with residual symptoms lasting &gt;72 hours after onset</td>
</tr>
<tr>
<td></td>
<td>New Onset Renal Failure</td>
<td>Patients (without pre-existing renal failure) who develop post-operative renal failure or require dialysis</td>
</tr>
<tr>
<td></td>
<td>Early Extubtion</td>
<td>Post-op vent hours &lt;6</td>
</tr>
<tr>
<td></td>
<td>LIMA Use</td>
<td>Left IMA used</td>
</tr>
</tbody>
</table>

Red font = new or changed metric

**Moved from Level III**
# 2016 CVS Quality Outcome Indicators: Level II

<table>
<thead>
<tr>
<th>Level</th>
<th>Outcomes</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>Deep Sternal Wound Infection</td>
<td>Patients who develop post-operative DSWI/mediastinitis</td>
</tr>
<tr>
<td></td>
<td>Any Unplanned Return to OR</td>
<td>Return to OR for bleeding/tamponade; graft occlusion; other cardiac; other non-cardiac; valve dysfunction</td>
</tr>
<tr>
<td></td>
<td>RBC Transfusion</td>
<td>Any intra- or post-op RBC units</td>
</tr>
<tr>
<td></td>
<td>Long Length of Stay</td>
<td>LOS surgery – discharge &gt;14 days</td>
</tr>
</tbody>
</table>
# 2016 CVS Quality Outcome Indicators: Level III

<table>
<thead>
<tr>
<th>Level</th>
<th>Outcomes</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>III</td>
<td><strong>Prolonged Intubation</strong></td>
<td>Postop vent hours &gt;24</td>
</tr>
<tr>
<td></td>
<td>30 Day Readmission</td>
<td>Readmission for any reason &lt; 30 days</td>
</tr>
<tr>
<td></td>
<td>Short Length of Stay</td>
<td>LOS surgery – discharge &lt; 6 days</td>
</tr>
<tr>
<td></td>
<td>Multi-Arterial Grafting</td>
<td>Rate of surgeries with &gt;1 arterial grafts</td>
</tr>
<tr>
<td></td>
<td>Cardiac Rehab Referral</td>
<td>Referral to cardiac rehab upon discharge</td>
</tr>
<tr>
<td></td>
<td>Smoking Cessation Counseling</td>
<td>Referral to smoking cessation counseling upon discharge</td>
</tr>
<tr>
<td></td>
<td>Mitral Valve Repair</td>
<td>Rate of mitral valve repairs vs replacements</td>
</tr>
</tbody>
</table>

*Red font = new or changed metric*
COAP Data Sources

COAP PCI Data Set

NCDR CathPCI

= Emergency Cardiac System Reports

NCDR Action ARG

COAP CABG/Valve Data Set

STS Adult Cardiac

2007 2008 2009 2010 2011 2012 2013 2014

* Working towards adding TVT Registry in 2016
Volumes

PCI
- ~ 13,000 Procedures Annually
- Individual hospital volumes range from 60 – 1200+

Cardiovascular Surgery
- ~ 6000 Adult procedures annually
- Individual hospital volumes range from 70 – 800+
Total Cardiovascular Surgery Volumes 2015

- Providence Sacred Heart Medical Center
- Swedish Health Services
- University of WA Medical Center
- St. Joseph Medical Center Tacoma
- Providence Regional Medical Center Everett
- Virginia Mason Medical Center
- Kadlec Medical Center
- MultiCare Tacoma General Hospital
- Providence St. Peter Medical Center
- PeaceHealth Southwest Medical Center
- Harrison Medical Center
- PeaceHealth St. Joseph Medical Center
- Yakima Regional Medical & Heart Center
- Overlake Hospital & Medical Center
- Central WA Hospital
- Deaconess Medical Center
- Northwest Hospital & Medical Center

Legend:
- Isolated CABG
- Isolated Valve
- CABG + Valve
- Other
The Journey Toward Transparency
Where We Started

Prior to June 2007:

- Hospitals only identified by code
- Codes changed EVERY quarter
  ...for EVERY procedure type
- 2 people allowed access to crosswalks for codes
  ...Program Director & Medical Director
- 1 person had the key
Despite the completely blinded nature of the reports and outcomes, the unblinded designation of compliance status on the COAP website was a powerful motivator:

| Black = Hospitals currently in full compliance with COAP’s quality standards; |
| Blue = hospitals currently in partial compliance with COAP’s quality standards; |
| Red = Hospitals currently out of compliance with COAP’s quality standards |
|-----------------|-----------------|-----------------|
| Multicare Auburn Medical Center, Auburn |
| Capital Medical Center, Olympia |
| Central Washington Hospital, Wenatchee |
| Deaconess Hospital Rockwood Health, Spokane |
| Evergreen Hospital Medical Center, Kirkland |
| Multicare Good Samaritan Hospital, Puyallup |
| Harborview Medical Center, Seattle |
| Harrison Medical Center, Bremerton |
| Highline Medical Center, Burien |
| Kadlec Medical Center, Richland |
| Madigan Army Medical Center, Fort Lewis |
| Northwest Hospital & Medical Center, Seattle |
| Overlake Hospital Medical Center, Bellevue |
| PeaceHealth Southwest Medical Center, Vancouver |
| PeaceHealth St. John, Longview |
| PeaceHealth St. Joseph Hospital, Bellingham |
| Providence Regional Medical Center, Everett |
| Providence Sacred Heart Medical Center, Spokane |
| Providence St. Peter Hospital, Olympia |
| Skagit Valley Hospital, Mt. Vernon |
| St. Anthony Hospital, Gig Harbor |
| St. Francis Hospital, Federal Way |
| St. Joseph Medical Center, Tacoma |
| Swedish Health Services, Cherry Hill, Seattle |
| Swedish Health Services, Edmonds |
| Swedish Health Services, Issaquah |
| Tacoma General Hospital, Tacoma |
| University of Washington Medical Center, Seattle |
| Valley Medical Center, Renton |
| **Veteran’s Affairs Medical Center, Seattle** |
| Virginia Mason Medical Center, Seattle |
| Yakima Regional Medical & Heart Center, Yakima |
| Yakima Valley Memorial Hospital, Yakima |
| Walla Walla Hospital, Walla Walla |
Step 1: Internal Transparency... *Slowly Disrobing*
Transparency had been discussed at length in prior annual meetings and by COAP Management Committee;

Letters were sent to each hospital outlining the plan for internal transparency and providing a sample report;

Follow up letters were sent with an authorization form to sign and return;

Initially ~25% of sites declined to participate but by the time the annual dashboard was published, all had agreed to be named.
  
  - Hospitals identified on 2007 annual “dashboard” report (Level I, II, III metrics);
  - Hospitals identified on data reports presented at 2008 annual meeting;

"Honesty and transparency make you vulnerable. Be honest and transparent anyway."

- Mother Teresa
Step 2: Internal Transparency... *Going a Little Further*
Transparency Within COAP Community

2009: Online quarterly report library of detailed metrics for each hospital compared with COAP aggregate. Each hospital has access to everyone’s report – identified by name.

![Image of COAP report library]

- [Link to COAP report library]

- **Clinical Risk Factors**
  - Cardiogenic Shock
  - Creatinine >= 2.0
  - EF < 30%
  - Non-Elective Procedure
  - Out-of-Hospital Cardiac Arrest

- **Admission Status**
  - Emergency Department
  - Transfer
  - Other

- **CAD Presentation**
  - STEMI
  - Non-STEMI
  - Stable Angina
  - Unlikely to be Ischemic
  - No Symptoms

- **Native Artery Stenosis**
  - Left Main > 50%
  - Prox LAD > 70%
  - Other LAD > 70%
  - Circumflex > 70%
  - RCA > 70%
  - Ranus > 70%

- **Procedure Information**
  - Mean Stents per PCI
  - Mean Door-to-Balloon time (in minutes)
  - Median Door-to-Balloon time (in minutes)
2009: Online quarterly report library of detailed metrics for each hospital compared with COAP aggregate. Each hospital has access to everyone’s report – identified by name:
Detailed, hospital-identified comparative results shared annually at the statewide meeting - average vs benchmark (best performance by sites making up at least 10% volume)

2013 RBC Transfusion Rate – CABG Only: Average vs Benchmark

- Providence Regional Medical Center Everett
- St. Joseph Medical Center Tacoma
- Providence Sacred Heart Medical Center
- Kadlec Medical Center
- PeaceHealth Southwest Medical Center
- Central WA Hospital
- Providence St. Peter Medical Center
- Virginia Mason Medical Center
- PeaceHealth St. Joseph Medical Center
- Swedish Medical Center: Cherry Hill
- Harrison Medical Center
- Yakima Regional Medical and Cardiac Center
- Northwest Hospital & Medical Center
- Multicare Tacoma General Hospital
- University of Washington Medical Center
- Deaconess Medical Center
- Overlake Hospital Medical Center
Transparency Within COAP Community

Detailed, hospital-identified comparative results shared annually at the statewide meeting - average vs benchmark (best performance by sites making up at least 10% volume)

2013 Prolonged Ventilation Rate (risk adj) – CABG Only: Average vs Benchmark & Comparison with 2012

- Providence Sacred Heart Medical Center
- PeaceHealth St. Joseph Medical Center
- Yakima Regional Medical and Cardiac Center
- Providence Regional Medical Center Everett
- Swedish Medical Center: Cherry Hill
- Virginia Mason Medical Center
- Providence St. Peter Medical Center
- St. Joseph Medical Center Tacoma
- Harrison Medical Center
- Kadlec Medical Center
- Central WA Hospital
- University of Washington Medical Center
- Deaconess Medical Center
- Multicare Tacoma General Hospital
- Northwest Hospital & Medical Center
- Overlake Hospital Medical Center
- PeaceHealth Southwest Medical Center
Step 3: Public Transparency...taking it further yet
External Transparency

2009: Level I, II, III dashboard metrics provided on the COAP public website (www.coap.org) for:

- PCI (single year)
- Isolated CABG (single year)
- AVR (3-year average)
- AVR+CABG (3-year average)
- MVRR (3-year average)
- MVRR+CABG (3-year average)

### Coronary Artery Bypass Graft (CABG) Surgery Outcomes - 2013 Annual

<table>
<thead>
<tr>
<th>Symbols Key:</th>
<th>CABG Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td>‡ Hospital results for 2013 are within the range of the statewide average for that metric</td>
<td>‡ Mortality</td>
</tr>
<tr>
<td> Hospital results for 2013 are statistically better than the risk-adjusted Statewide average for that metric and/or have contributed to setting the benchmark for this measure</td>
<td> Mortality</td>
</tr>
<tr>
<td> Hospital results for 2013 are statistically not as good as the statewide average for that metric</td>
<td> Mortality</td>
</tr>
</tbody>
</table>

Black = Hospitals in full compliance with COAP’s quality standards;  
Blue = hospitals in partial compliance with COAP’s quality standards;  
Red = Hospitals out of compliance with COAP’s quality standards

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Mortality</th>
<th>Renal Insufficiency</th>
<th>Stroke</th>
<th>Arterial Graft Use</th>
<th>Wound Infection</th>
<th>Blood Use</th>
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</thead>
<tbody>
<tr>
<td>Central Washington Hospital, Wenatchee</td>
<td>‡</td>
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<tr>
<td>Deaconess Medical Center, Spokane</td>
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<tr>
<td>Harrison Medical Center, Bremerton</td>
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<td>Kadlec Medical Center, Richland</td>
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<tr>
<td>Multicare Tacoma General Hospital, Tacoma</td>
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<tr>
<td>Northwest Hospital &amp; Medical Center, Seattle</td>
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<tr>
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<tr>
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<tr>
<td>Yakima Regional Medical &amp; Heart Center, Yakima</td>
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</tr>
</tbody>
</table>
Step 4: Public Transparency...

2012 - *We Take The Plunge*
The Impact of Transparency on Decision-making

High transparency  No transparency
Despite much concern, debate and deliberation...

“the sun came up the next day”.

- **Short term goals:**
  - Better define our audience for public reporting & refine our website.
  - Continually review and revise our metrics to ensure we are focusing on practices that are relevant to quality.

- **Long term goal:**
  - Possible provider-level public reports?