

**MICHIGAN DEPARTMENT OF COMMUNITY HEALTH (MDCH)
CARDIAC CATHETERIZATION
STANDARD ADVISORY COMMITTEE (CCSAC) MEETING**

Wednesday September 10, 2014

Capitol View Building
201 Townsend Street
MDCH Conference Center
Lansing, Michigan 48913

APPROVED MINUTES

I. Call to Order

Chairperson Turner-Bailey called the meeting to order at 9:33 a.m.

A. Members Present:

Renee Turner-Bailey, Chairperson, International Union, UAW
Luay Alkotob, MD, Hurley Medical Center
Duane DiFranco, MD, Blue Cross Blue Shield of MI
Georges Ghafari, MD, Beaumont Health System
Ginny Latty, Covenant Healthcare
Brahmajee Nallamothe, MD, University of Michigan Health System
Meg Pointon, UAW Retiree Medical Benefits Trust
Fadi Saab, MD, Metro Hospital arrived at 9:50 a.m.
Frank Tilli, MD, Genesys Regional Medical Center
Douglas Weaver, MD, Henry Ford Health System
David Wohns, MD, Spectrum Health
Karen Yacobucci, Allegiance Health

B. Members Absent:

None.

C. Michigan Department of Community Health Staff present:

Tulika Bhattacharya
Sallie Flanders
Natalie Kellogg
Beth Nagel
Tania Rodriguez
Brenda Rogers

II. Declaration of Conflicts of Interests

No conflicts were declared.

III. Review of Minutes August 14, 2014

Motion by Ms. Pointon and seconded by Ms. Yacobucci to approve the minutes as presented. Motion Carried.

IV. Review of Agenda

Motion by Dr. DiFranco and seconded by Dr. Weaver to accept the agenda as modified. Motion Carried.

V. Presentation BMC2

Dr. Gurm gave an overview of the process and maintenance of the BMC2 database (see Attachment A).

VI. Sub-Committee Updates

A. Science and Prevalence

Dr. Ghafari advised there is no update at this time.

B. Quality & Access

Ms. Yacobucci gave an update on the sub-committee's findings and discussion (see Attachment B).

Discussion followed.

Break from 11:08 a.m. – 11:29 a.m.

C. Cost

Dr. Saab gave a presentation on costs associated with CC procedures (see Attachment C).

Discussion followed.

VII. Summary of CON Application Data

Ms. Bhattacharya gave an overview of the CON application data that was asked for by the CCSAC in the previous meeting (see Attachment D).

VIII. Next Steps and Future Agenda Items

Chairperson Bailey-Turner reminded SAC members that the next meeting will start at 8:30 a.m. to accommodate Dr. Dehmer's schedule and presentation and also asked SAC members to email Dr. Wohns with questions they would like Dr. Dehmer to address.

IX. Public Comment

None.

X. Future Meeting Dates - October 8, 2014, November 6, 2014, and December 17, 2014.

XI. Adjournment

Motion by Dr. Alkotob and seconded by Dr. Wohns to adjourn the meeting at 1:14 p.m. Motion Carried.



State of PCI Services in Michigan

Hitinder Gurm, MD
Project Director, BMC2
University of Michigan



- Overview of BMC2
- PCI rates and trends across states
- Current outcomes of Primary PCI at sites with and without onsite cardiac surgery
- BMC2 perspective on PCI without surgical back up



BMC2



- Developed in 1997 as a partnership between BCBSM and UM.
- All 33 PCI hospitals in Michigan voluntarily participate.
- 14 Primary PCI hospitals mandated to participate per regulatory guidelines.





BMC2 PCI- Goals



- Evaluate evidence-based disease management in patients undergoing percutaneous coronary interventions
- Enhance safety and appropriateness of PCI
 - Implement QI projects
 - Locally (hospital-specific initiatives)
 - Across consortium
 - Decrease practice variation
- Develop risk assessment models and tools



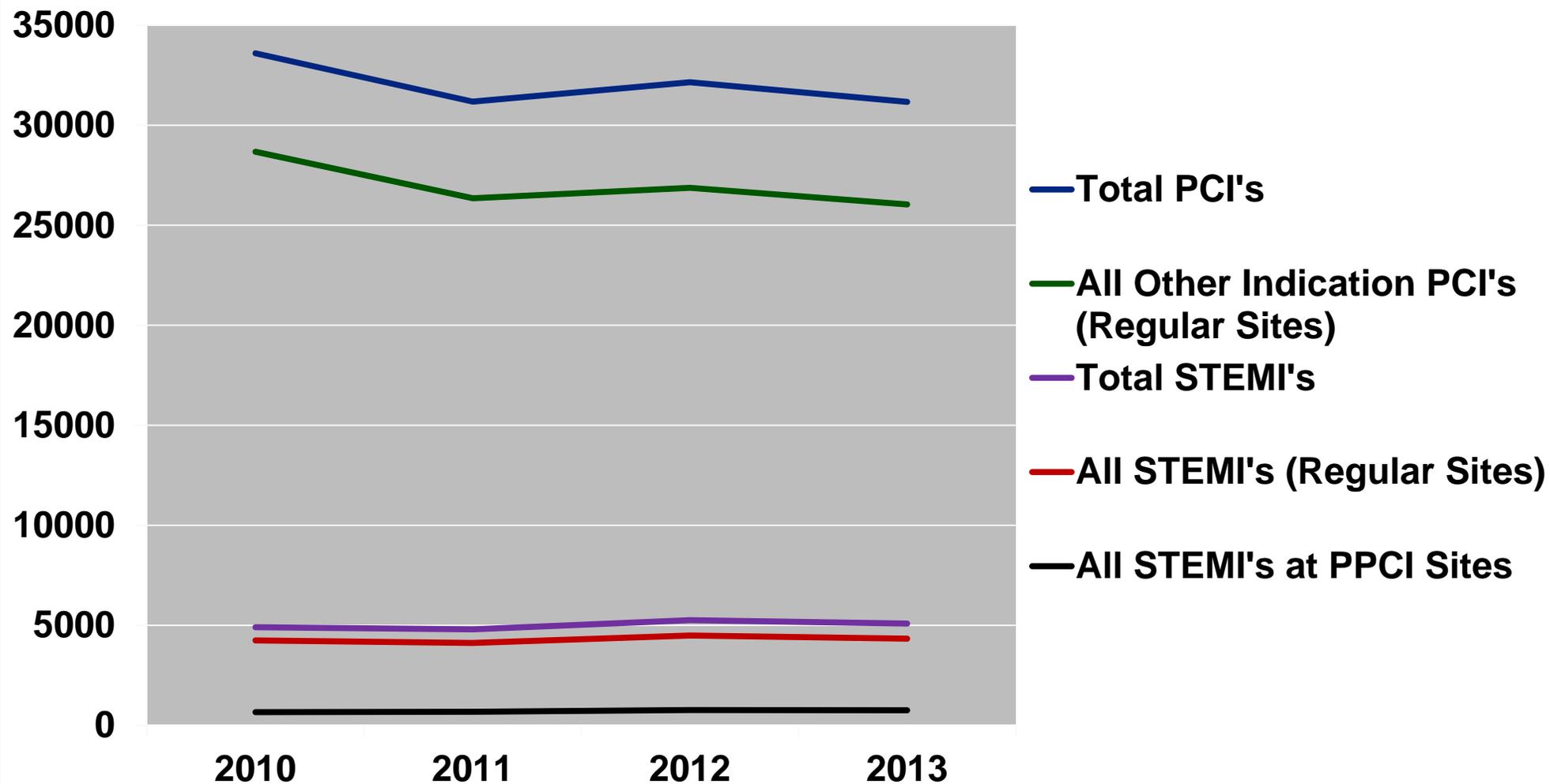
How Do We Do That?



- Issue Quarterly/Year-End summary data, quality performance indicator reports to the 47 participating hospitals and each physician
- Develop risk models to facilitate benchmarking across hospitals and operators.
- Consortium meetings to review consortium data and share best practices
- Conduct site “audits” to ensure quality of submitted data, ensure that reports are shared with physicians and data is used for QI
- Initiate quality improvement projects and develop best practice protocols.
- Research and publication
- Quality improvement consultations with participating sites, as requested by the participating hospitals

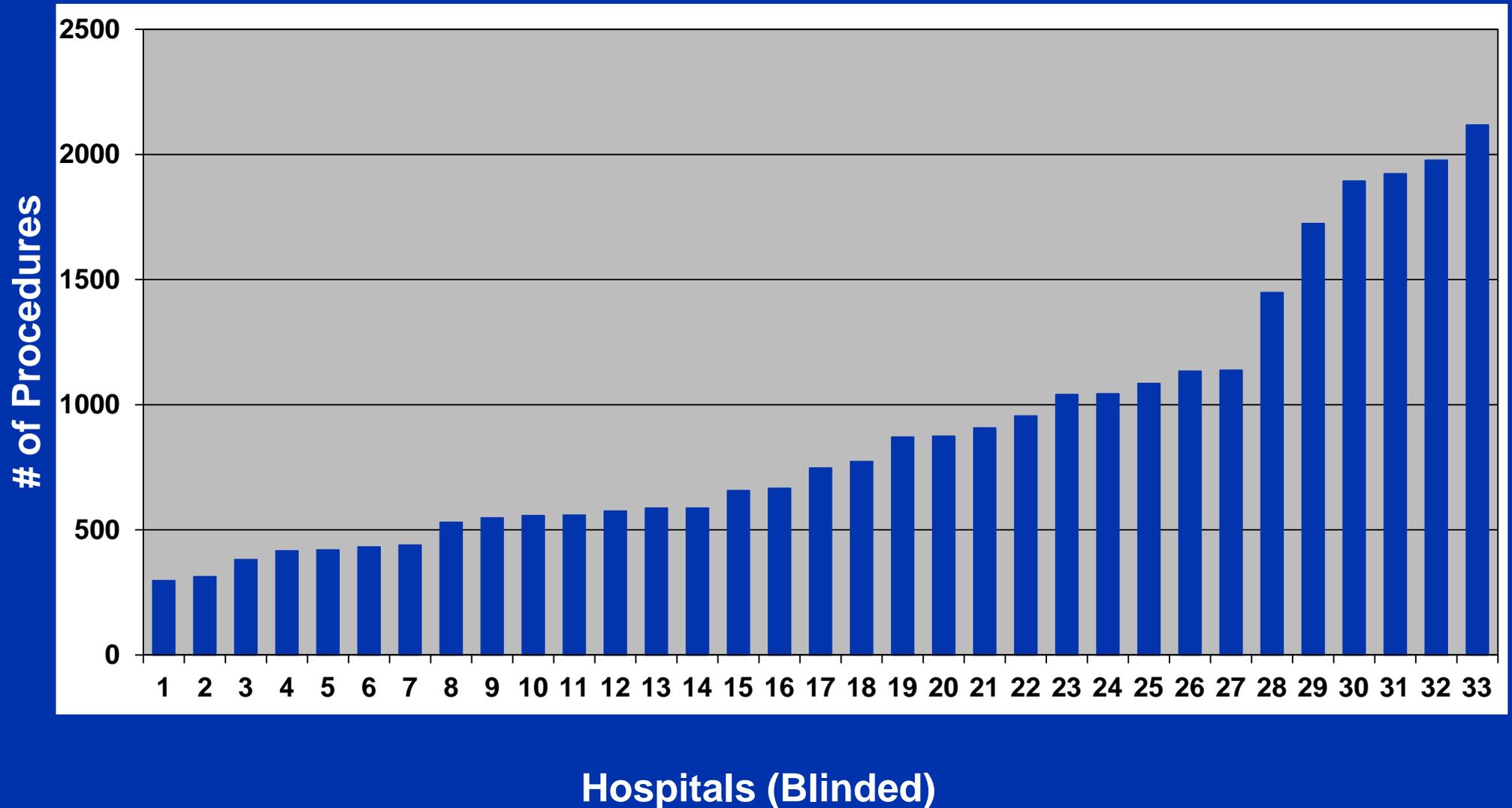


PCI Trends in Michigan



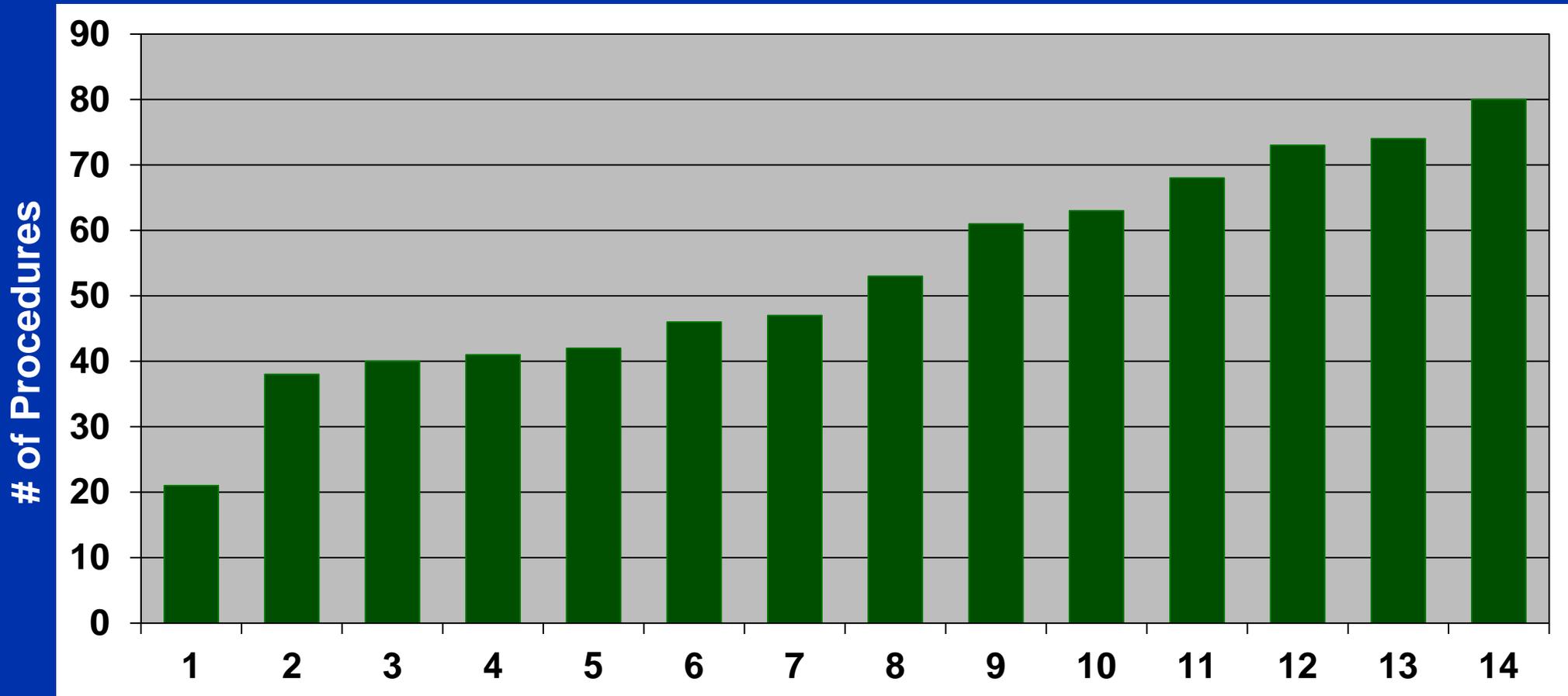


BMC2 PCI Sites – 2013: Number of PCI's Per Site





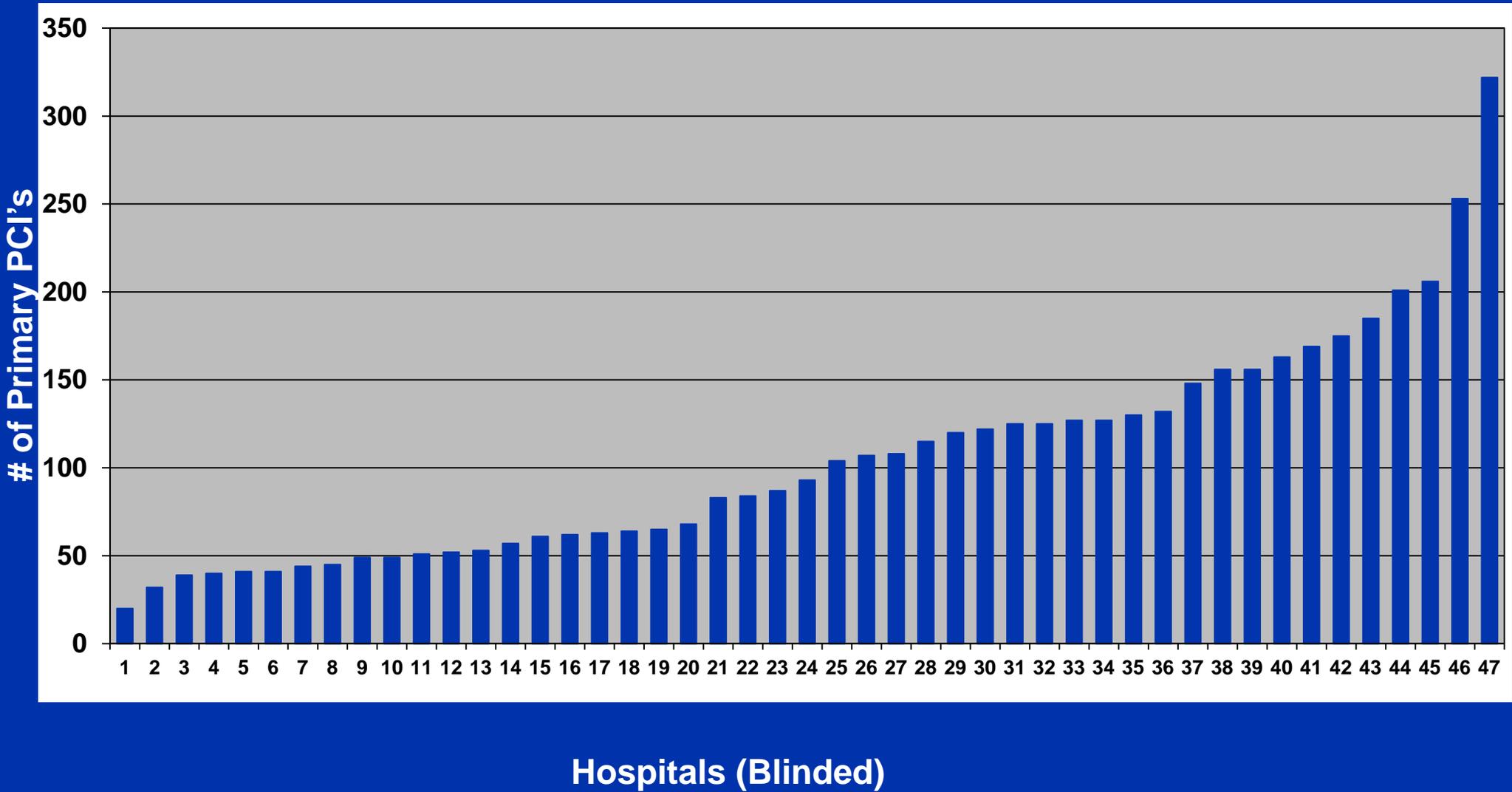
BMC2 Primary PCI Sites – 2013: Number of Primary PCI's Per Site



Hospitals (Blinded)



BMC2 PCI & PPCI Sites – 2013: Number of Primary PCI's Per Site

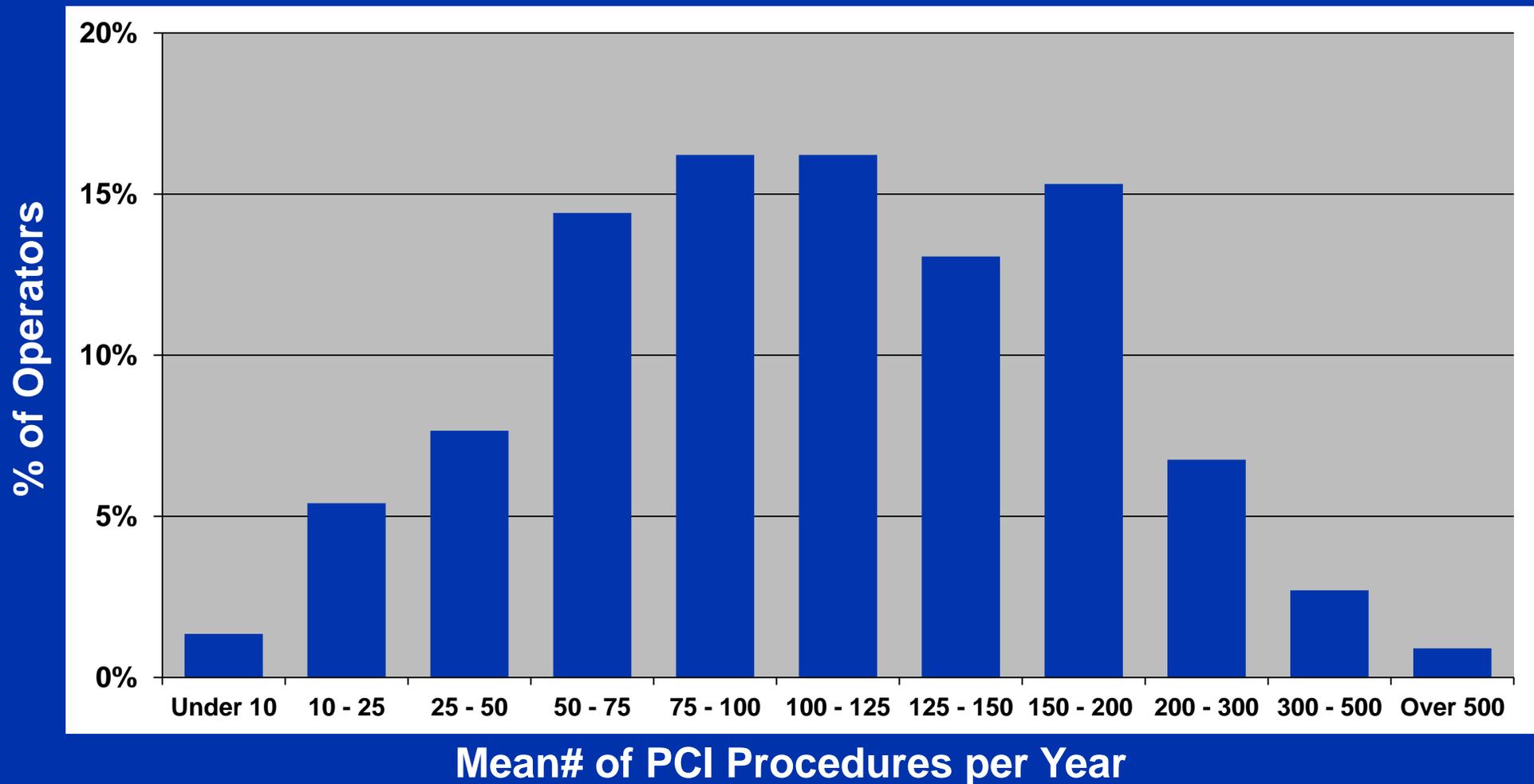




Cases per Operator



Experience Distribution for Operators Performing at Least One PCI Procedure in Each Calendar Year from 2010 – 2013, with at Least One Procedure in the Fourth Quarter of 2013

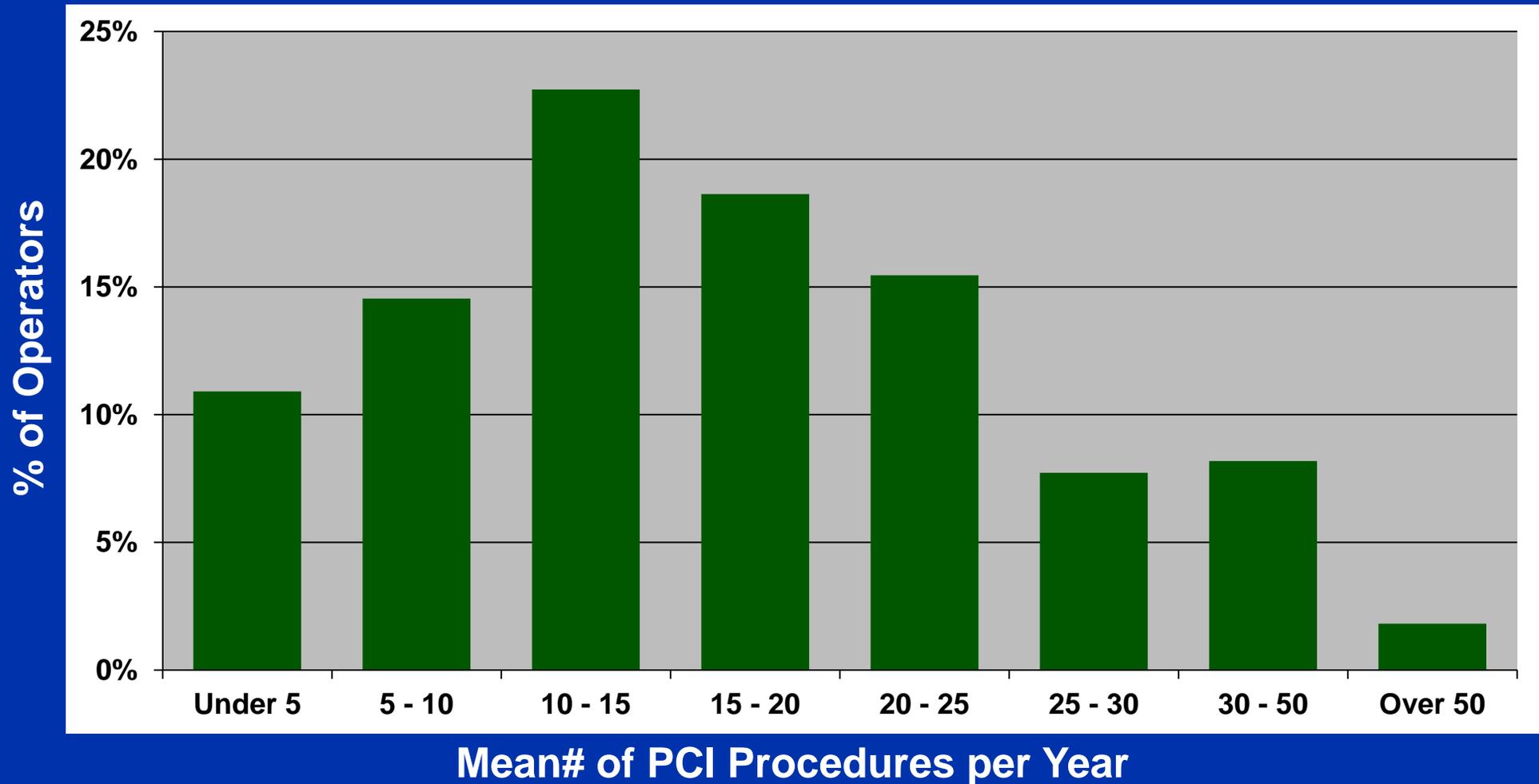




Primary PCI Cases per Operator

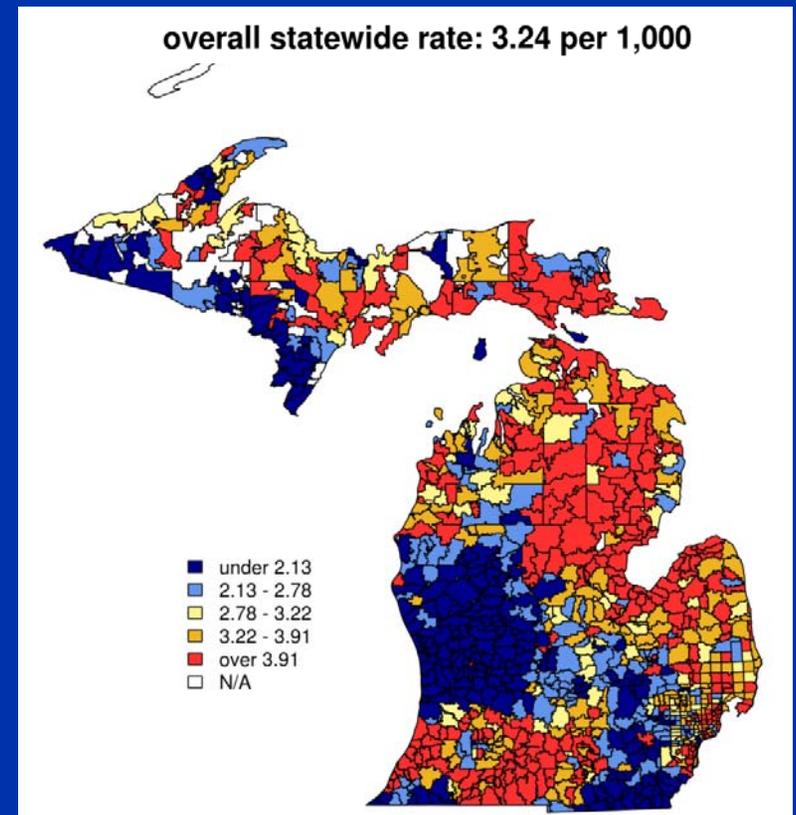
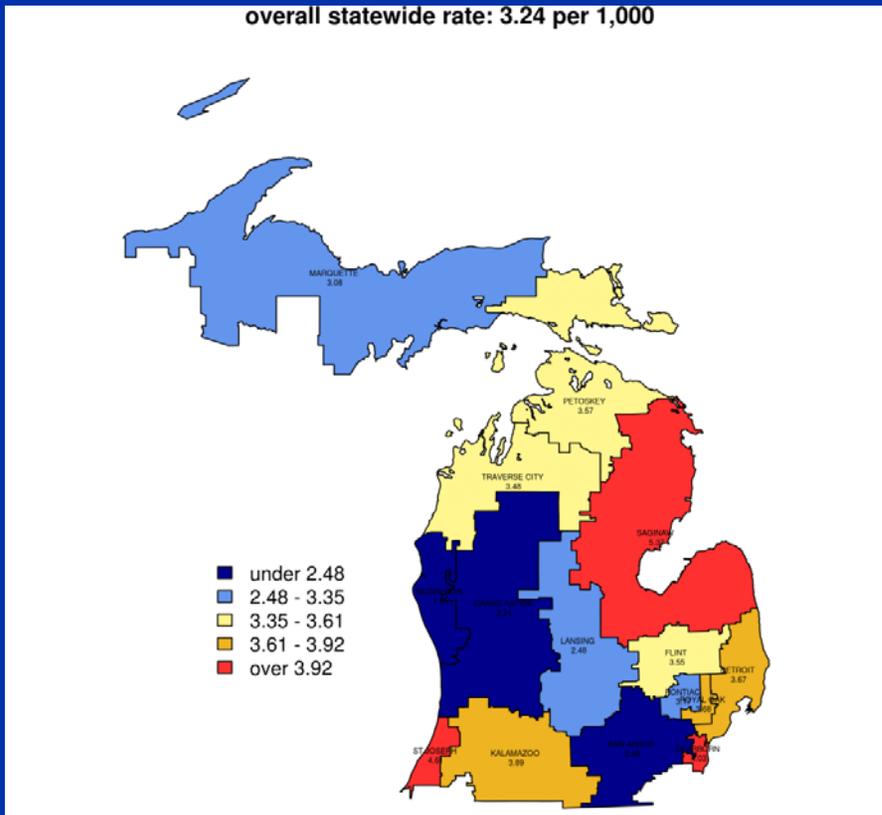


Primary PCI Experience Distribution for Operators Performing at Least One PCI Procedure in Each Calendar Year from 2010 – 2013, with at Least One Procedure in the Fourth Quarter of 2013





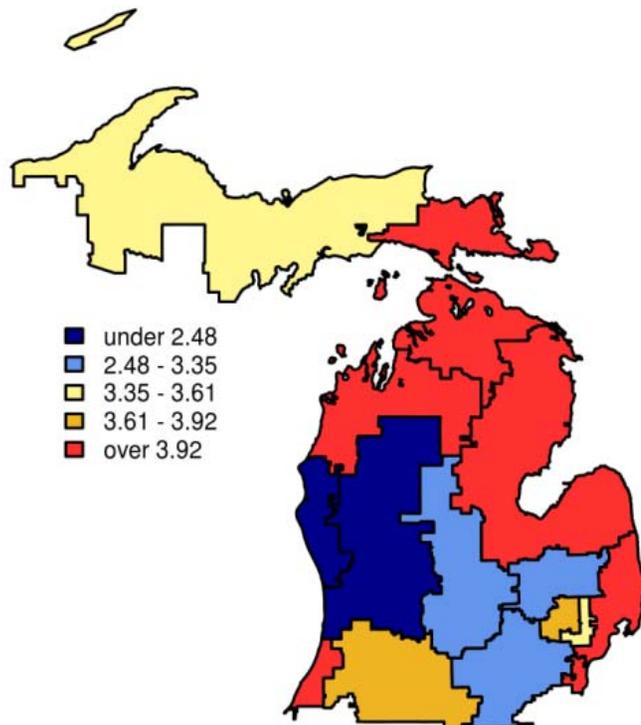
Annualized PCI Rates for all PCI per 1,000 Persons/Year by HRR and zip: 2010 – 2013



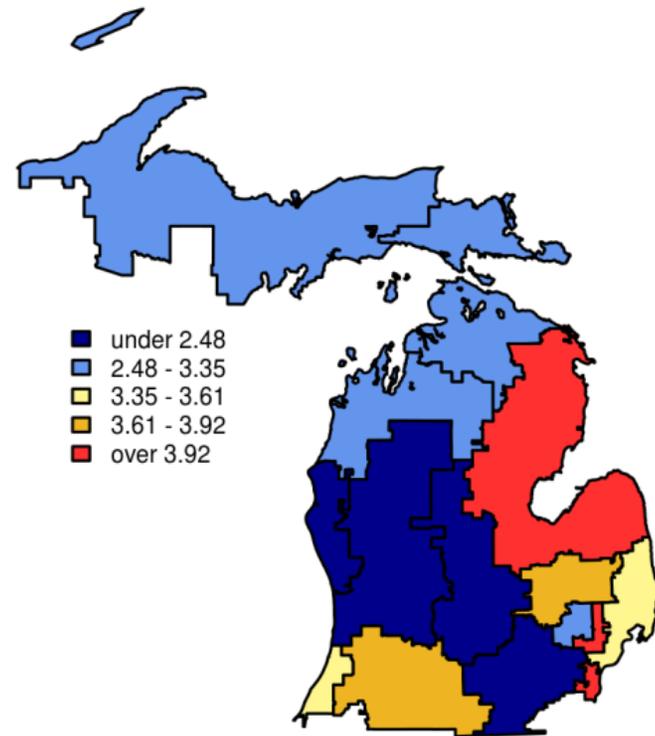
PCI Rates per 1,000 by HRR: 2010 and 2013



PCI rates for 2010 per 1,000 by HRR
overall statewide rate: 3.40 per 1,000

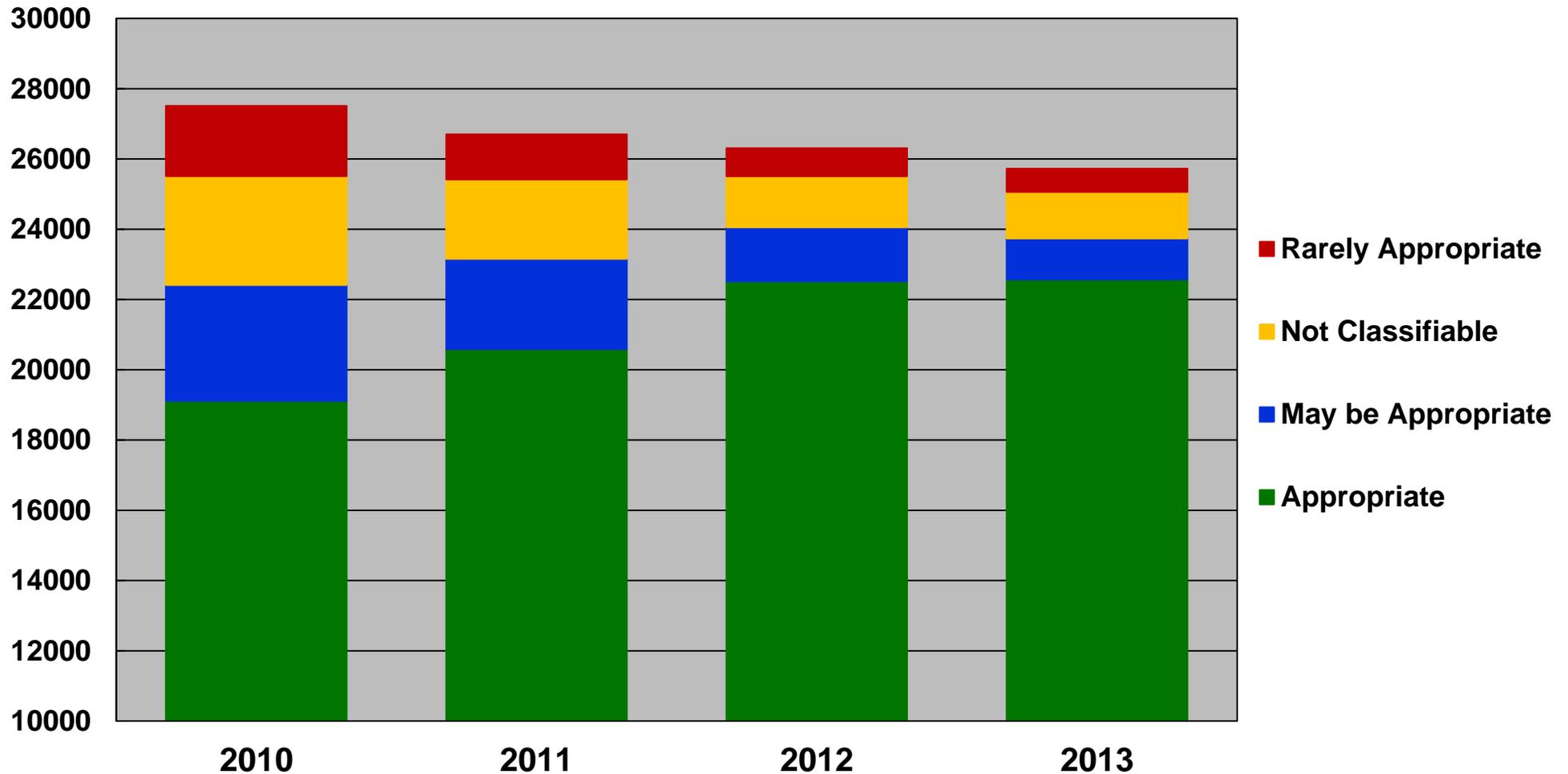


PCI rates for 2013 per 1,000 by HRR
overall statewide rate: 3.15 per 1,000





Trends in Appropriateness & Unclassifiable PCI Cases (2010-2013)**



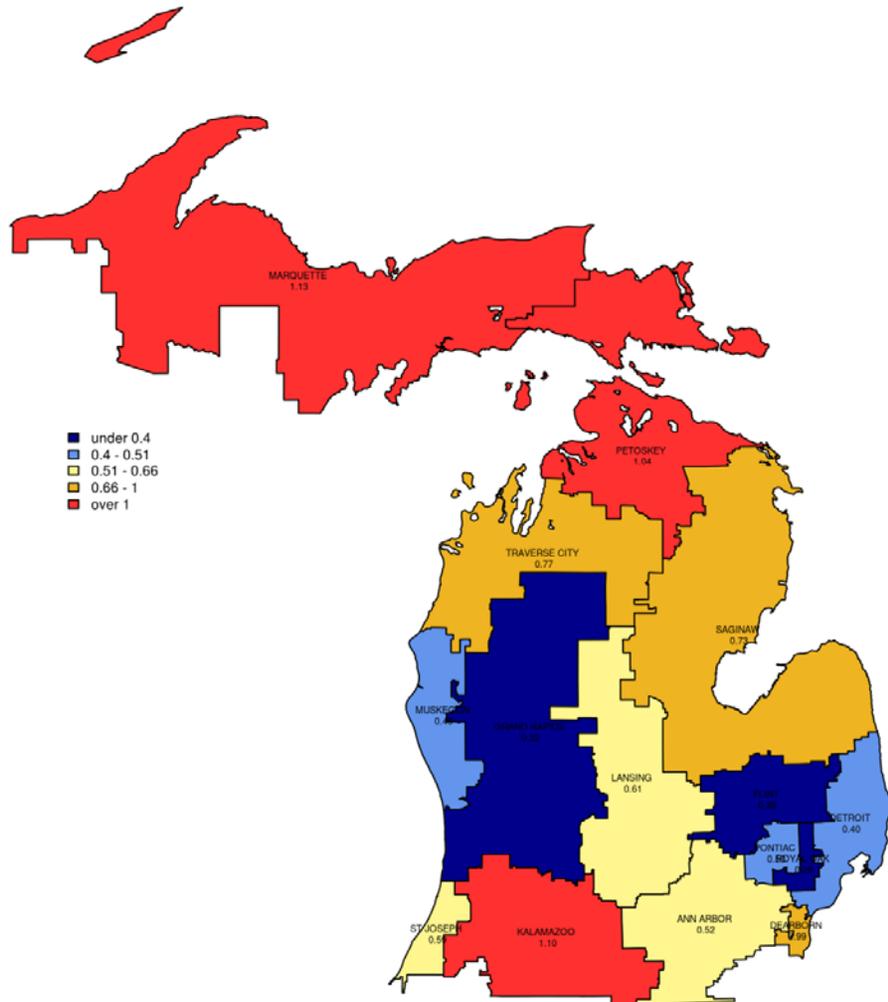
** Primary PCI sites excluded, Only hospitals with complete data for all 4 years included



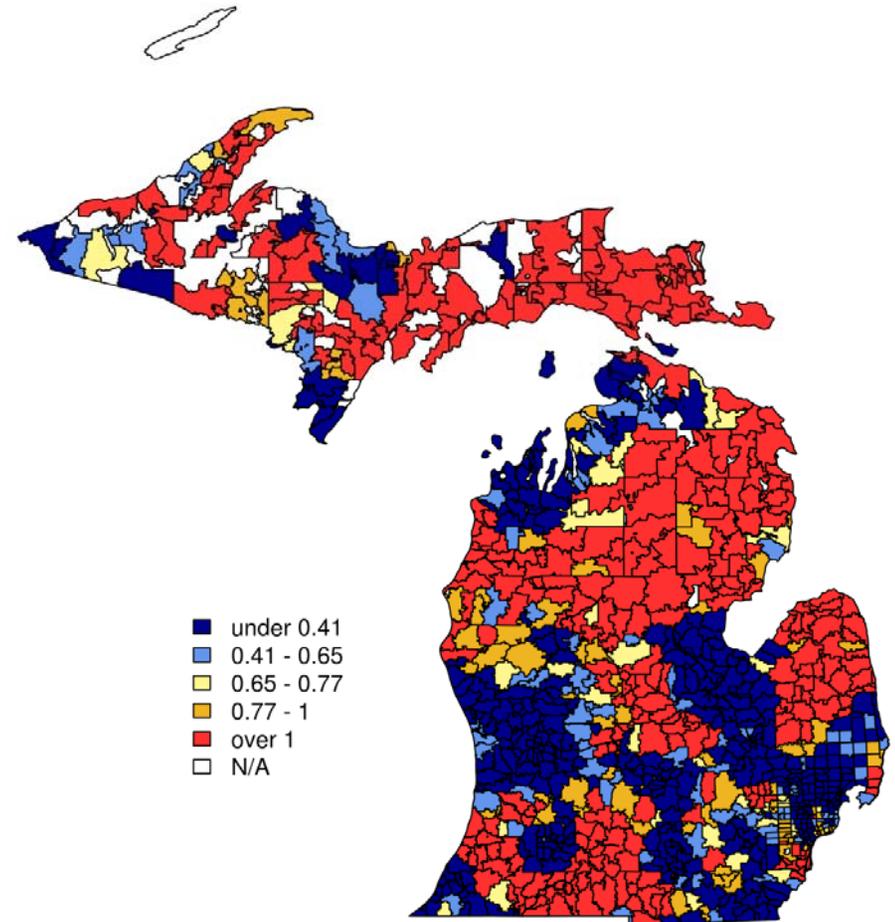
Patients Who are Transferred for PCI



PCI (all indications) after transfer from another acute care facility per 1,000 by HRR based on patient's home zip overall statewide rate: 0.56 per 1,000



2010-2013 annualized PCI rates for PCI after transfer from another acute care facility per 1,000 person-years by patient home zip code overall statewide rate: 0.56 per 1,000

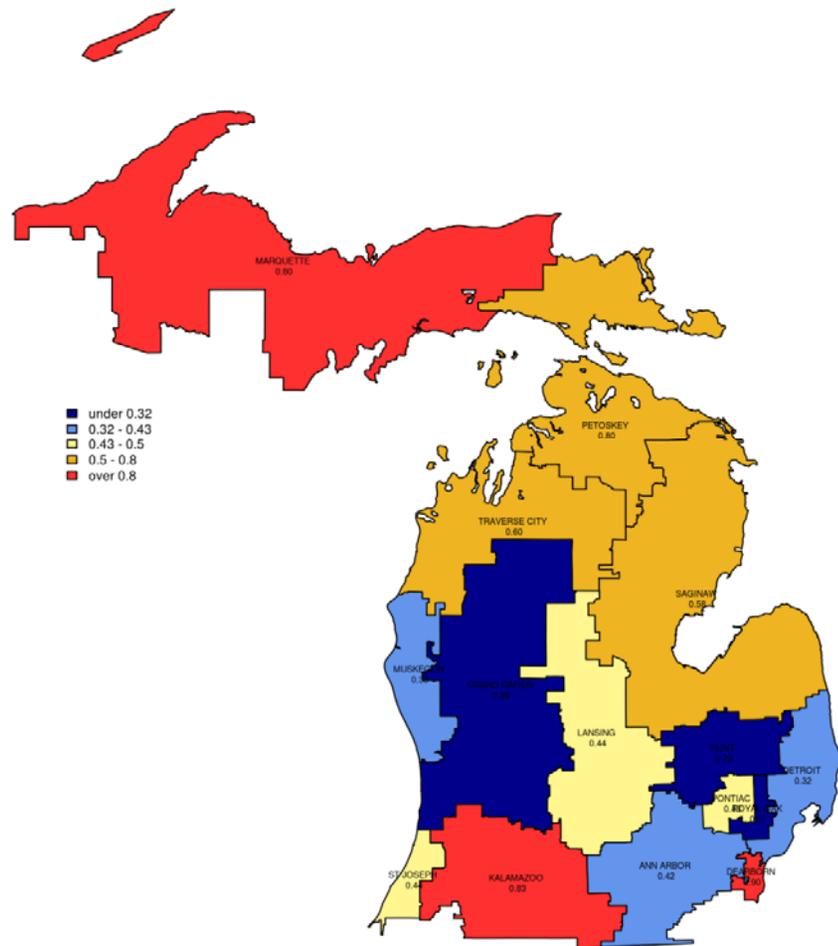




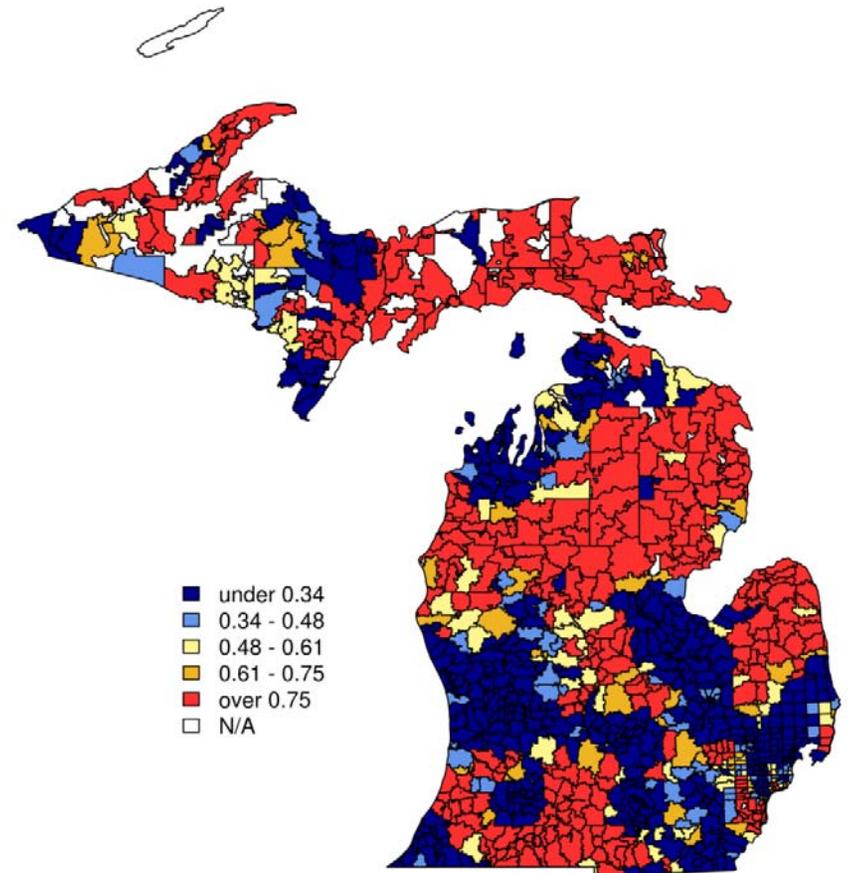
Transfers (Other than STEMI)



PCI (Excluding STEMI) after transfer from another acute care facility per 1,000 by HRR based on patient's home zip overall statewide rate: 0.45 per 1,000

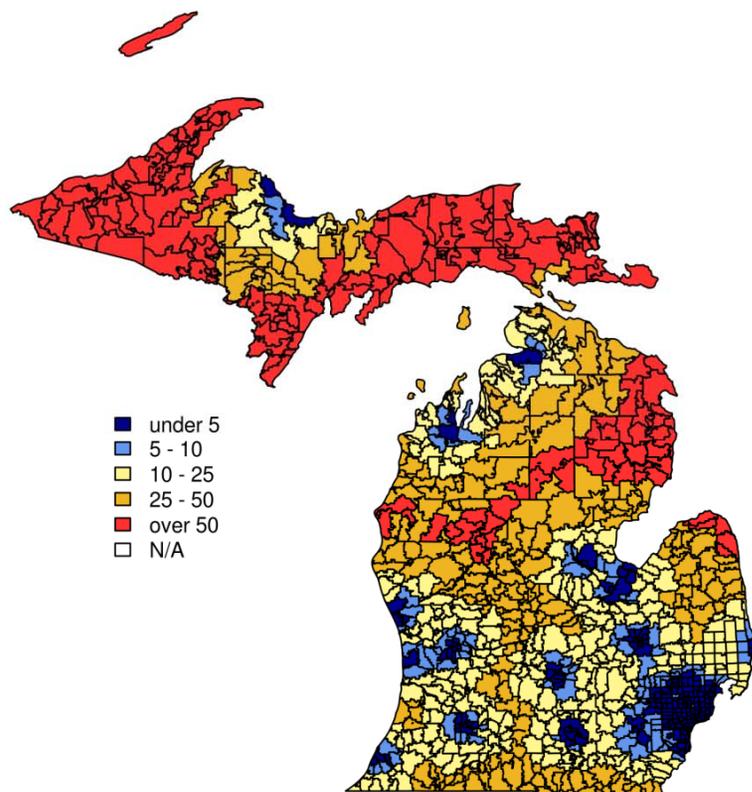


2010-2013 annualized PCI rates for PCI (excluding STEMI) after transfer from another acute care facility per 1,000 person-years by patient home zip code overall statewide rate: 0.45 per 1,000

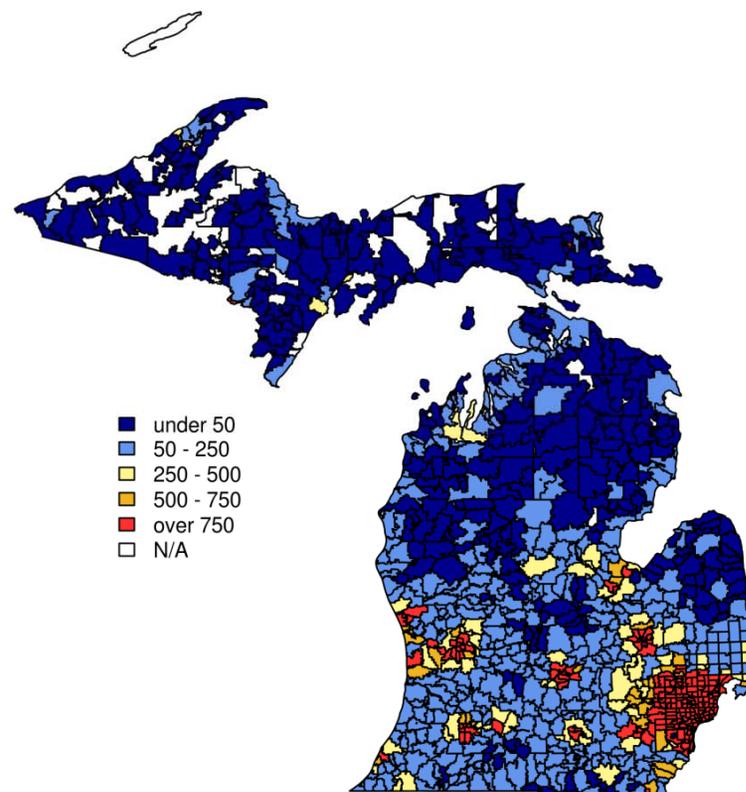


Population Density & Hospital Distance

Distance in miles between zipcode
and closest hospital performing primary PCI
including sites without OCS

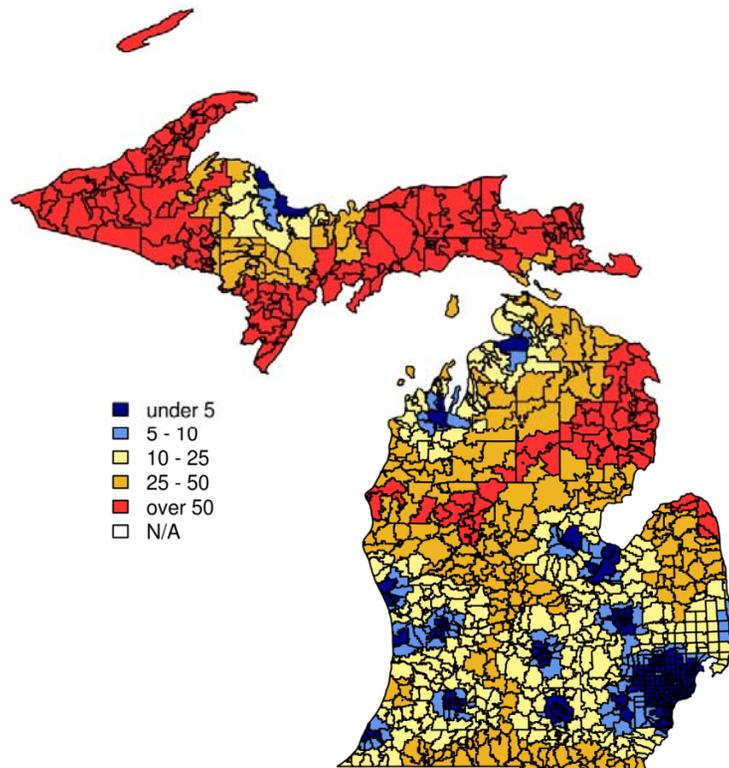


Population density per square mile

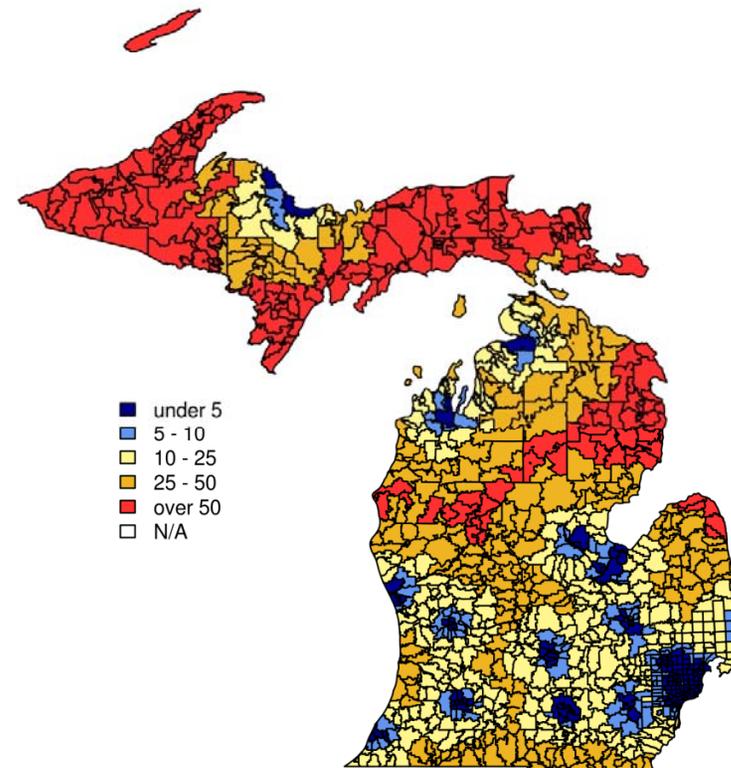


Closest Hospital with and without OCS

Distance in miles between zipcode
and closest hospital performing primary PCI
including sites without OCS



Distance in miles between zipcode
and closest hospital performing PCI with OCS





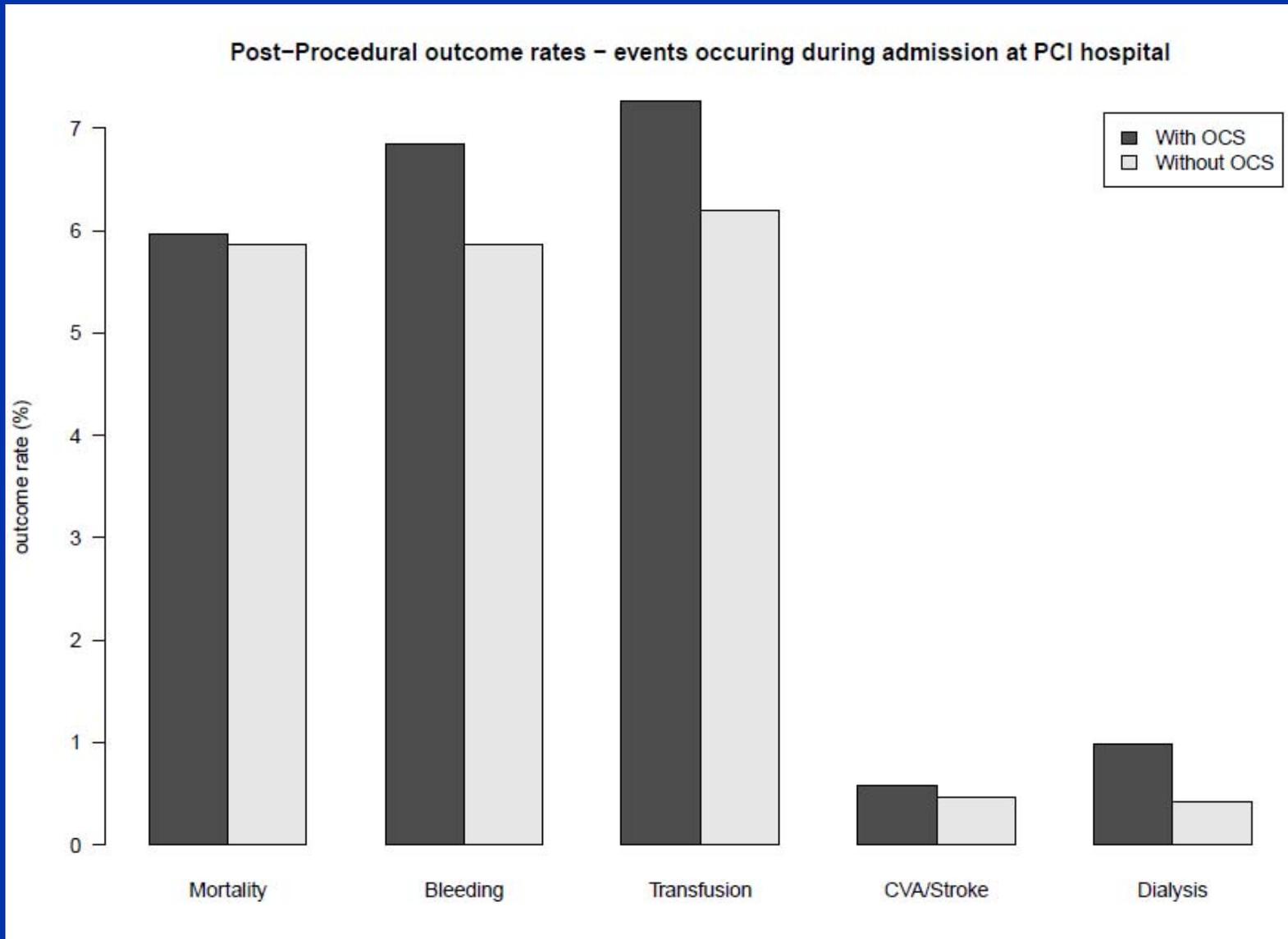
Primary PCI with No Surgical Back Up



- All cases are audited
- Detailed report provided back to sites
- Generally less than 3% patients undergo PCI for indication other than STEMI
 - Most reasonable
 - Occasional outliers
 - Notification of CEO, physician champion, coordinator
- Sites report limited data to State (total volume, D2B time and risk adjusted mortality)



Outcomes PPCI vs. Regular PCI Sites

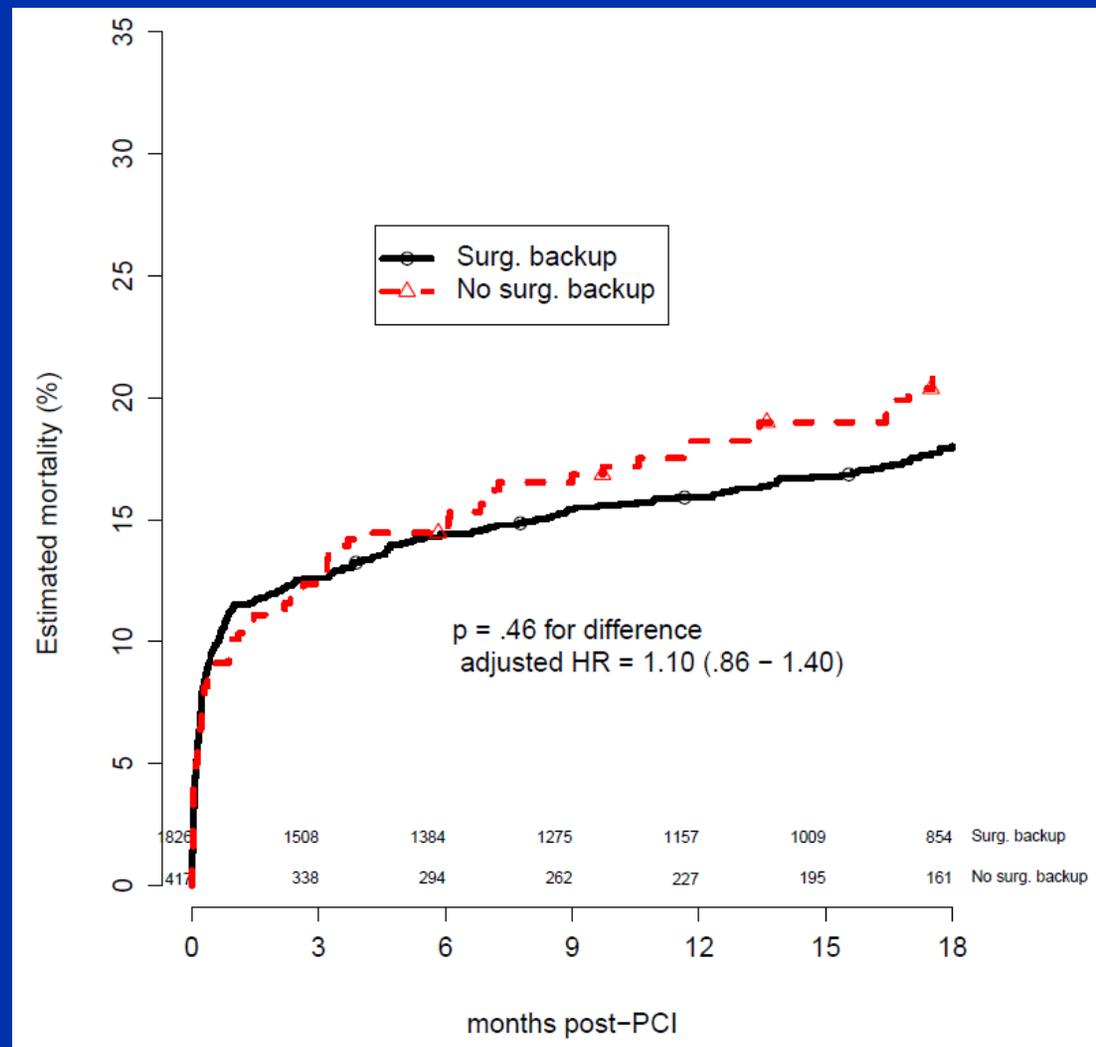




STEMI Outcomes PPCI vs. Regular PCI Sites



Post PCI survival data for a subset of Medicare Fee-For-Service beneficiaries





To Be or Not to Be



- BMC2 is neutral on whether PCI and open heart programs should be delinked
 - Benefits
 - Downsides



BMC2 – PCI QI Goals



- Decrease the rate of:
 - Transfusion to $< 5\%$
 - Contrast Induced Nephropathy to $< 3\%$
 - Vascular Complications to $< 3\%$
 - Nephropathy Requiring Dialysis to $< 0.3\%$
- Increase:
 - the use of Pre-procedure Aspirin to 100% (unless contraindicated)
 - Cardiac Rehab Referral to $> 75\%$
- Reduce the rate of inappropriate procedures



Suggested Indicators to Monitor



- Volume
 - Institutional
 - Operator
- Appropriateness
- Outcomes
- A robust QI process
 - Review of all deaths and major complications
 - Review of all cases classified inappropriate or uncertain
 - Review of random cases



Suggested Benchmarks: 50th or 75th percentile of BMC2 Sites



- Risk adjusted mortality
- Appropriateness
 - Cases – that are Type A
 - Cases not classified
- CIN
- NRD
- Transfusion
- Vascular Complications



What This Committee Should Outline?



- Clear guideline on what procedures cannot be done
 - Procedures with higher complication rate, (eg atherectomy, CTO)
 - Ad hoc PCI in those where surgery should be considered as potential treatment
 - Diabetes with 3 vessel or 2 V disease with proximal LAD
 - High Syntax score



What This Committee Should Outline?



- How much data should be reported to the State ?
- Clear guidelines on what the impact of not meeting the benchmarks would be
 - Sites would have 1 year to fix the problem or lose the ability to do PCI



Proposed Level of Audit



- All cases versus selective audit
 - We propose a change of STEMI model to a more focused audit
 - All deaths
 - All patients needing transfer for emergency CABG
 - 25% (or at least 50) cases of USA, and non ACS
 - 50% of 2-3 vessel PCI
 - 10% of NSTEMI, STEMI



Thank you



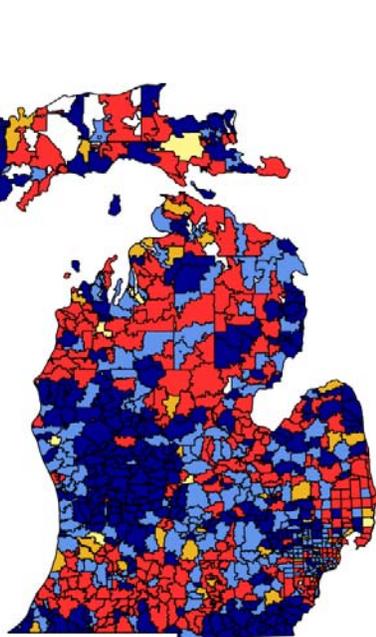
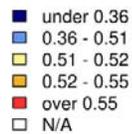


Annualized PCI Rates for PCI per 1,000 Persons/Year by Patient Zip Code: 2010 – 2013



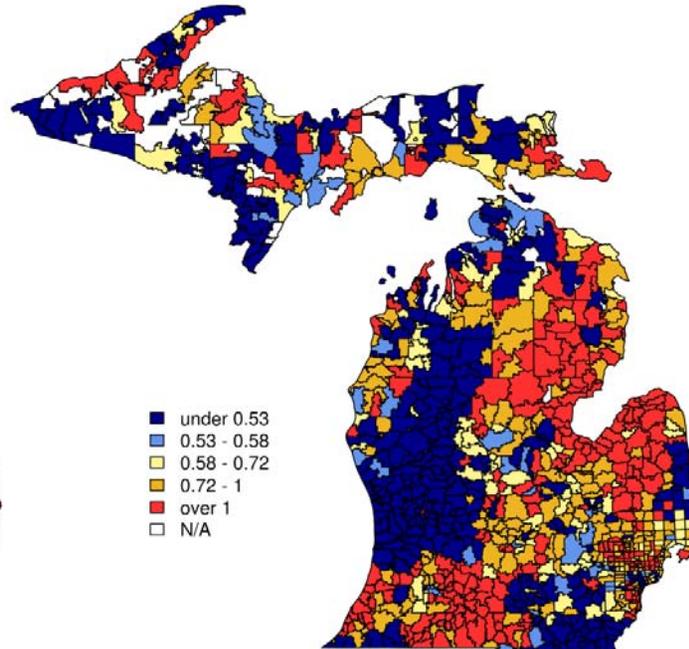
STEMI

overall statewide rate: 0.51 per 1,000



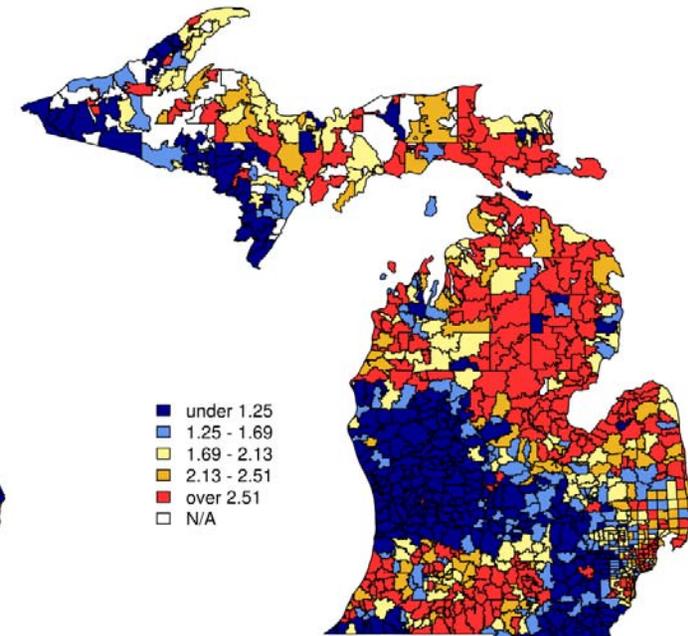
Non-ACS Indications

overall statewide rate: 0.76 per 1,000

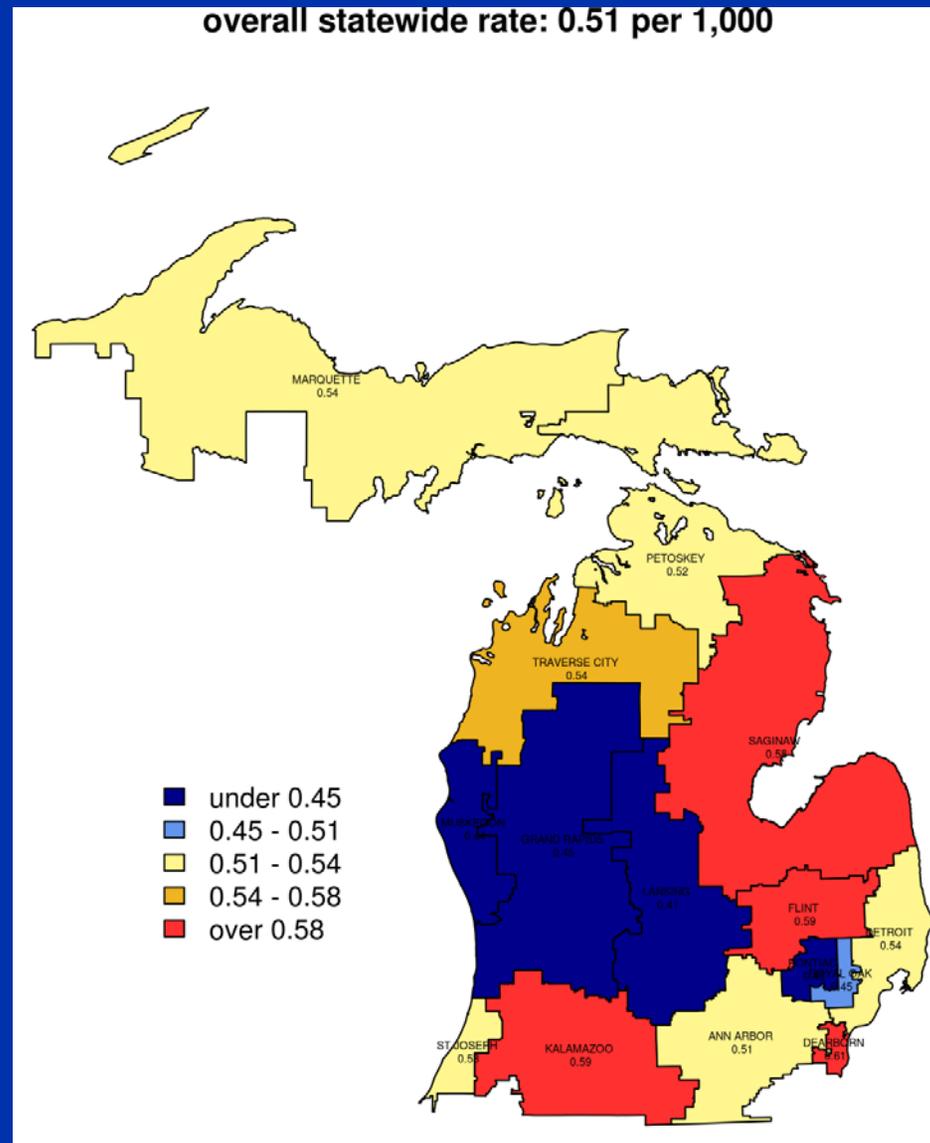


NSTEMI/UA

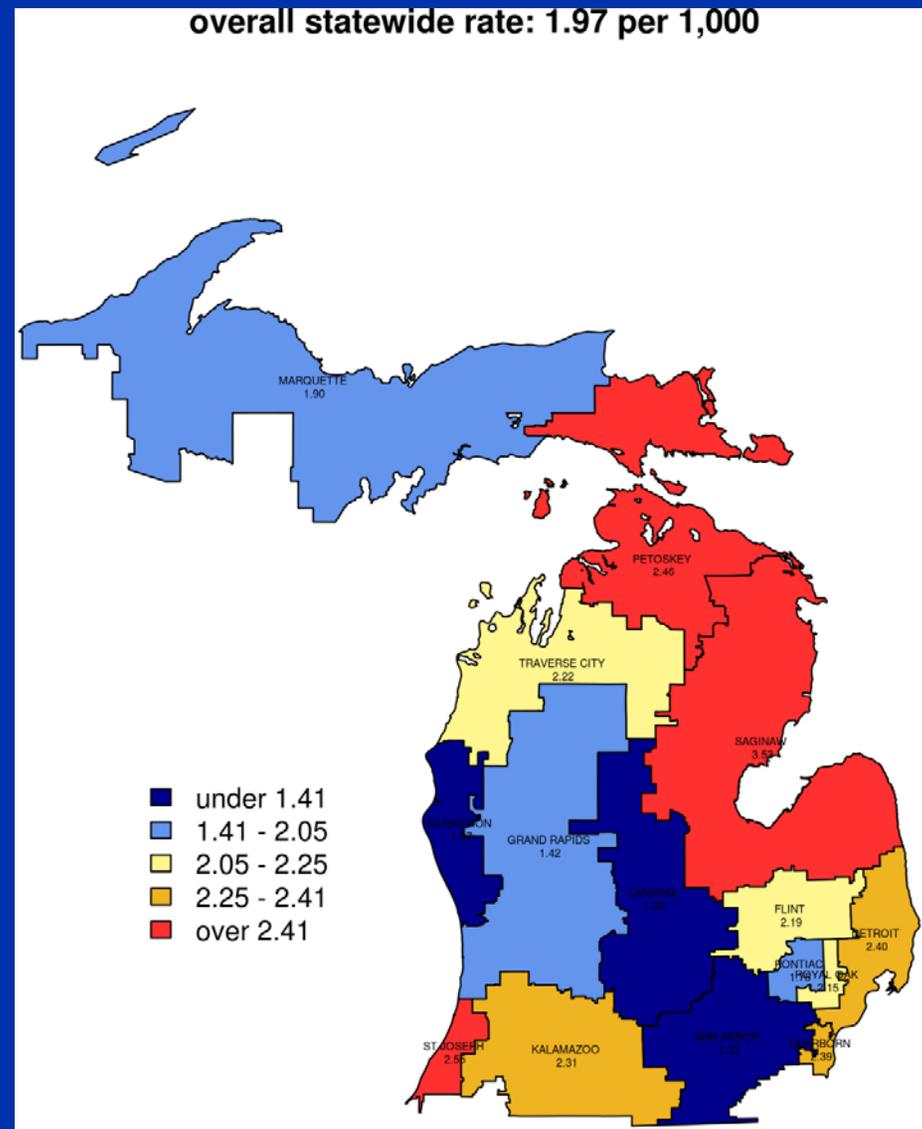
overall statewide rate: 1.97 per 1,000



Annualized PCI Rates for PCI for STEMI per 1,000 Persons/Year by HRR: 2010 – 2013

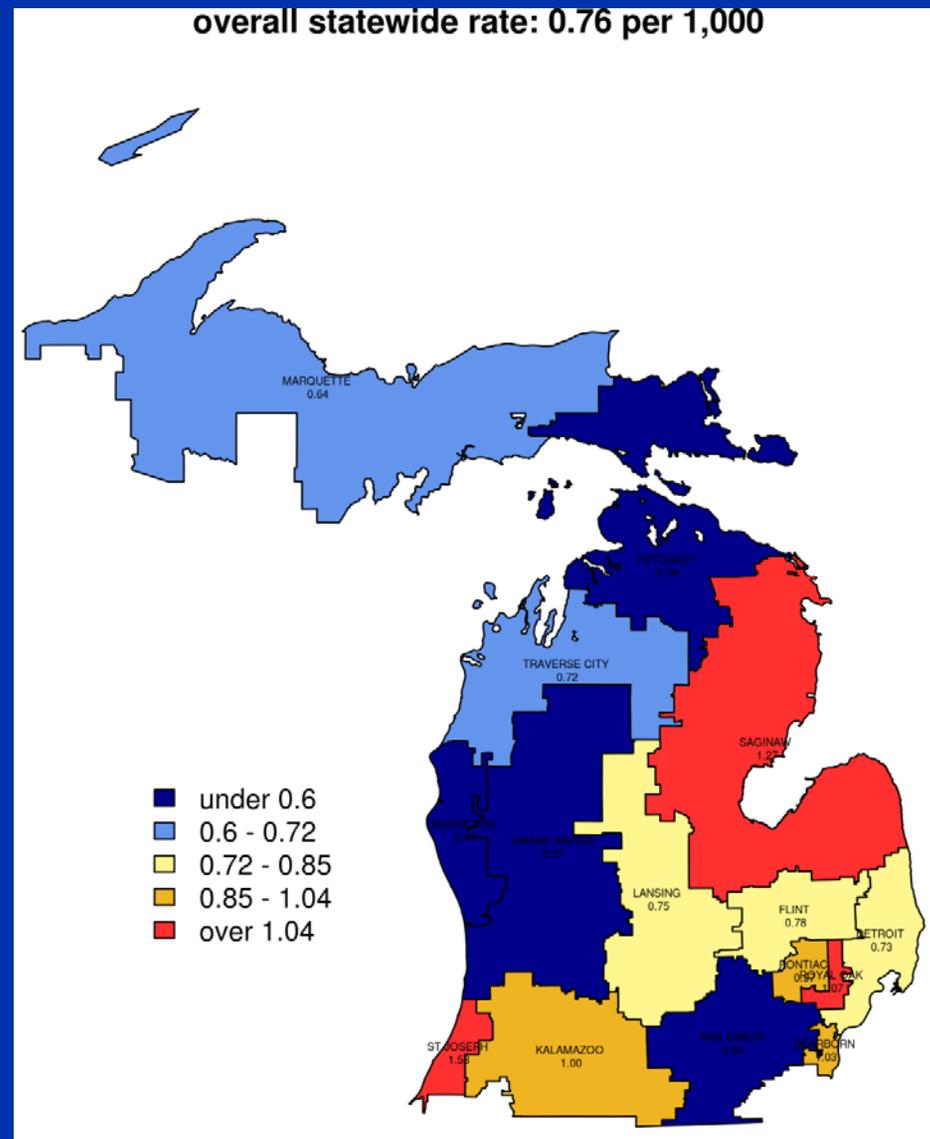


Annualized PCI Rates for PCI for NSTEMI/UA per 1,000 Persons/Year by HRR: 2010 – 2013



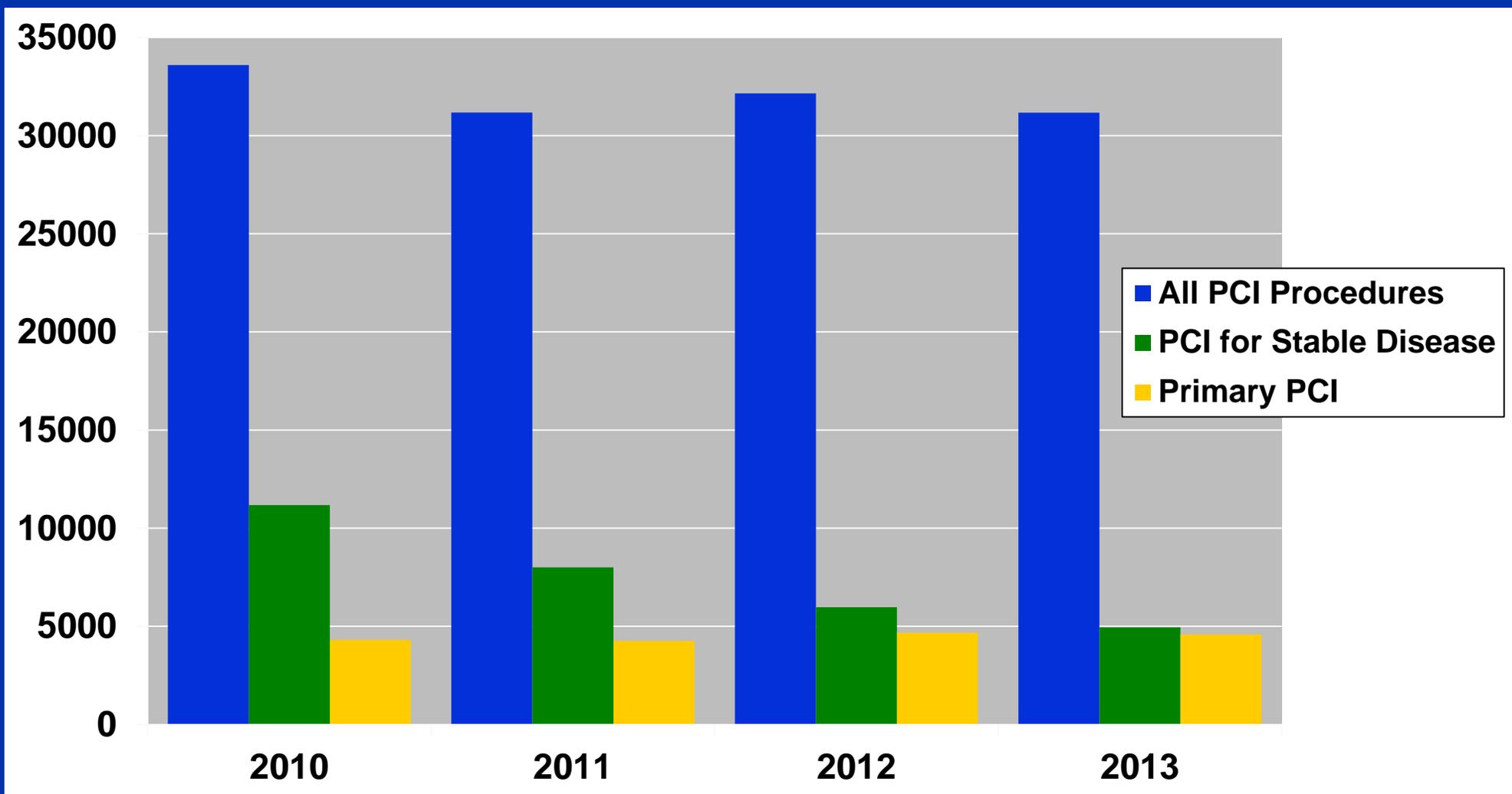


Annualized PCI Rates for PCI for Non-ACS Indications per 1,000 Persons/Year by HRR: 2010 – 2013





Trends in PPCI, all PCI, PCI for Stable Disease: 2010 – 2013



SAC- PCI Quality & Access Sub-Committee Update

September 2014



Allegiance
HEALTH

PCI-Quality & Access Sub-Committee

Questions & Deliberations:

1. What are the best practice quality indicators?
 - A. A.C.E. Accreditation
 - B. BMC2 Collaborative
2. Do the Quality Indicators have hard-wired accountability and implications?
3. What subjective disparities in access should be considered as we make recommendations?
4. Is there truly a net need based on geographic access issues?

Continued Sub-Committee Considerations and Deliberation

- Access – the objective data does not indicate the need for expansion based on numbers alone. The current (declining need) is being met by the existing providers
- Although objective data does not suggest need, there is merit to the points made at our last meeting relative to patient experience- we will further discuss
- Quality appears to be related to the volume per operator and per lab vs. the decoupling

Considerations- Continued

- New research suggests an increased cost of 2-3 BILLION in overall costs in the US. A 2008 estimate of introducing a new PCI program was \$7.8 million per PCI program if surgical back up already existed and \$16.4 million if it did not, per program. Hence the 2 billion dollar spread was at 2B if all programs has surgery programs, 4B if none did. The paper goes on to discuss impact of CON and the concern that proliferation of programs will hurt quality.
- As healthcare reform is moving toward system consolidation, hub and spoke models and efficiencies, is the pendulum of open access moving back in the other direction?

Considerations- Continued

- The Advisory Board recently published new projections for Subspecialty volumes 2012 through 2017. PCI's are projected to continue to decrease 15% due to:
 - Improved ambulatory disease management
 - RAC Audits discourage inappropriate utilization
- If PCI volumes continue to decline and we open up smaller volume sites, there would be additional costs:
 - duplication of capital investment
 - underutilization of current capital investment (where procedures are currently being performed)
 - auditing (whether through ACE accreditation or additional BMC2 resources/fees)

Next Steps

- Utilize the volume guidelines as related to quality
- Establish volume recommendations and quality monitoring language



Allegiance
HEALTH

Cost Assessment of PCI

Cost Sub-Committee



Cost

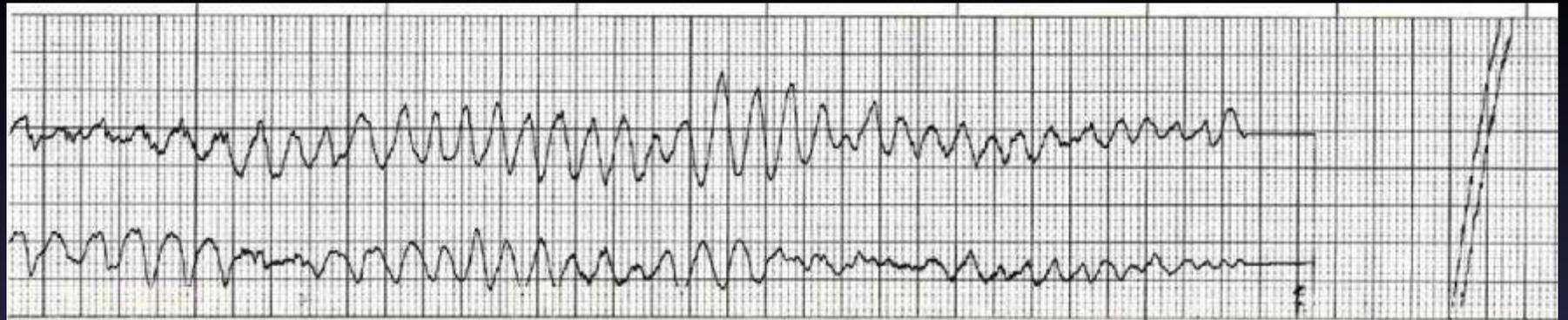
1. Definition of Cost
2. Direct and In-direct financial Cost
3. Un-measured Cost
4. Cost for the payers
5. Cost for the patients
6. Cost of the un-insured or under insured

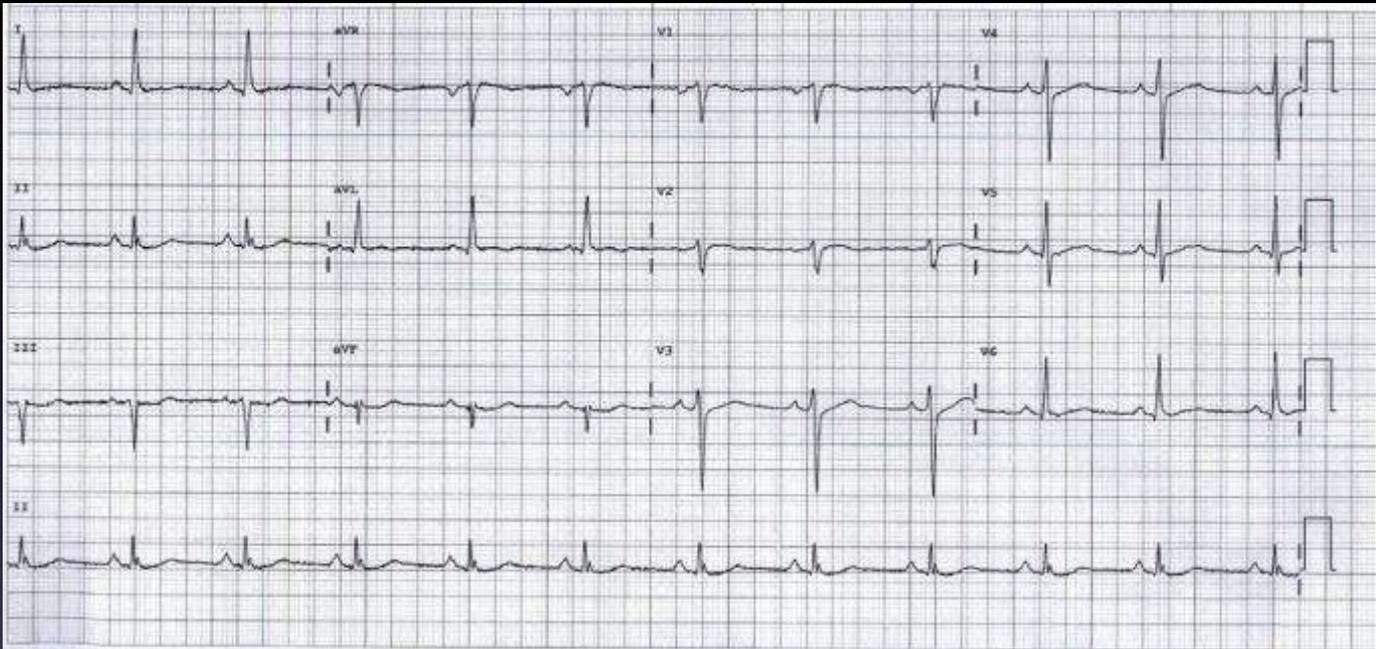
Points to consider

- Cost associated with patient transfer
- Cost associated with patient repeat procedure
- Cost associated with complication management
- Cost associated with duplicated processes

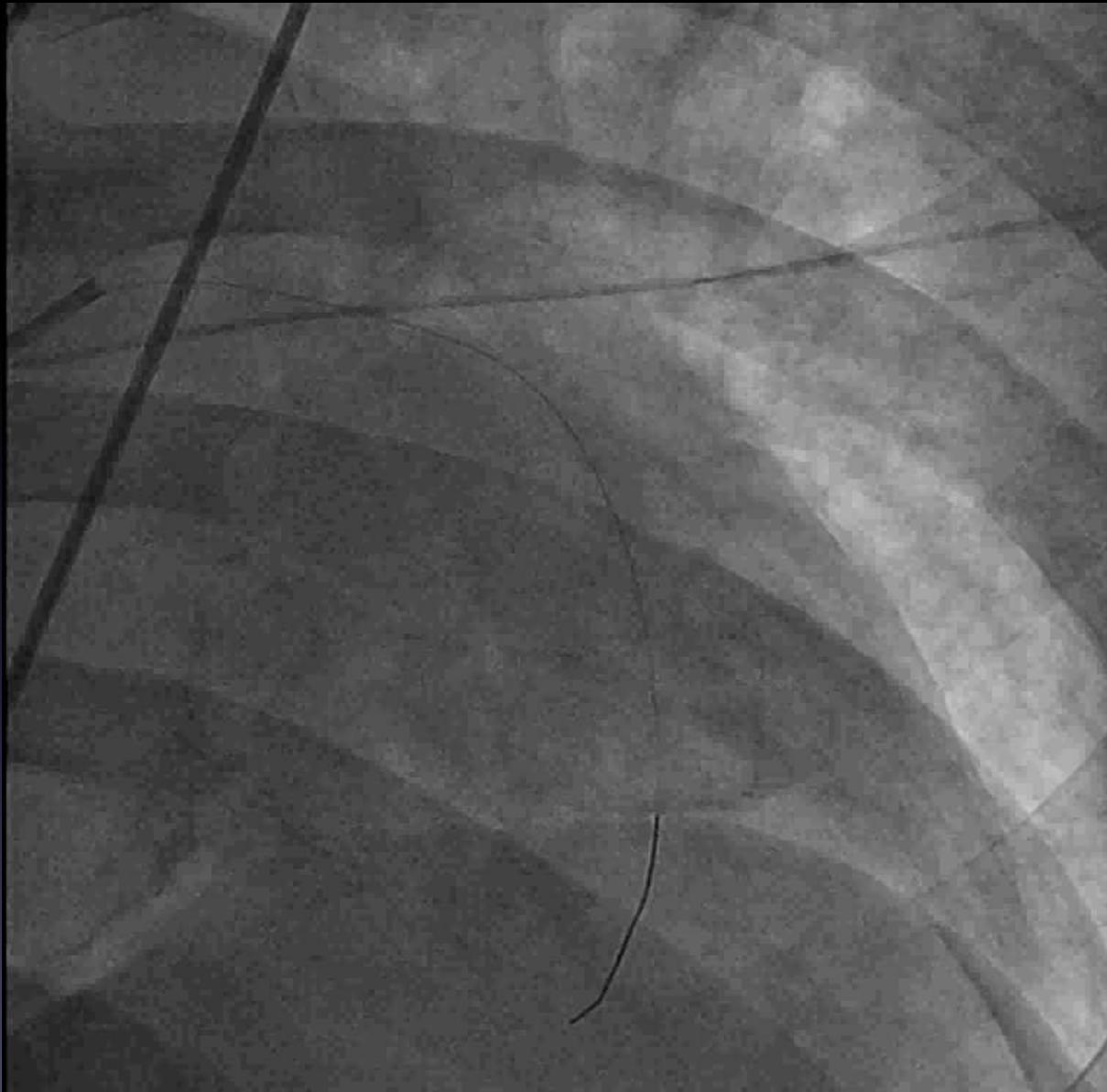
Case Presentation

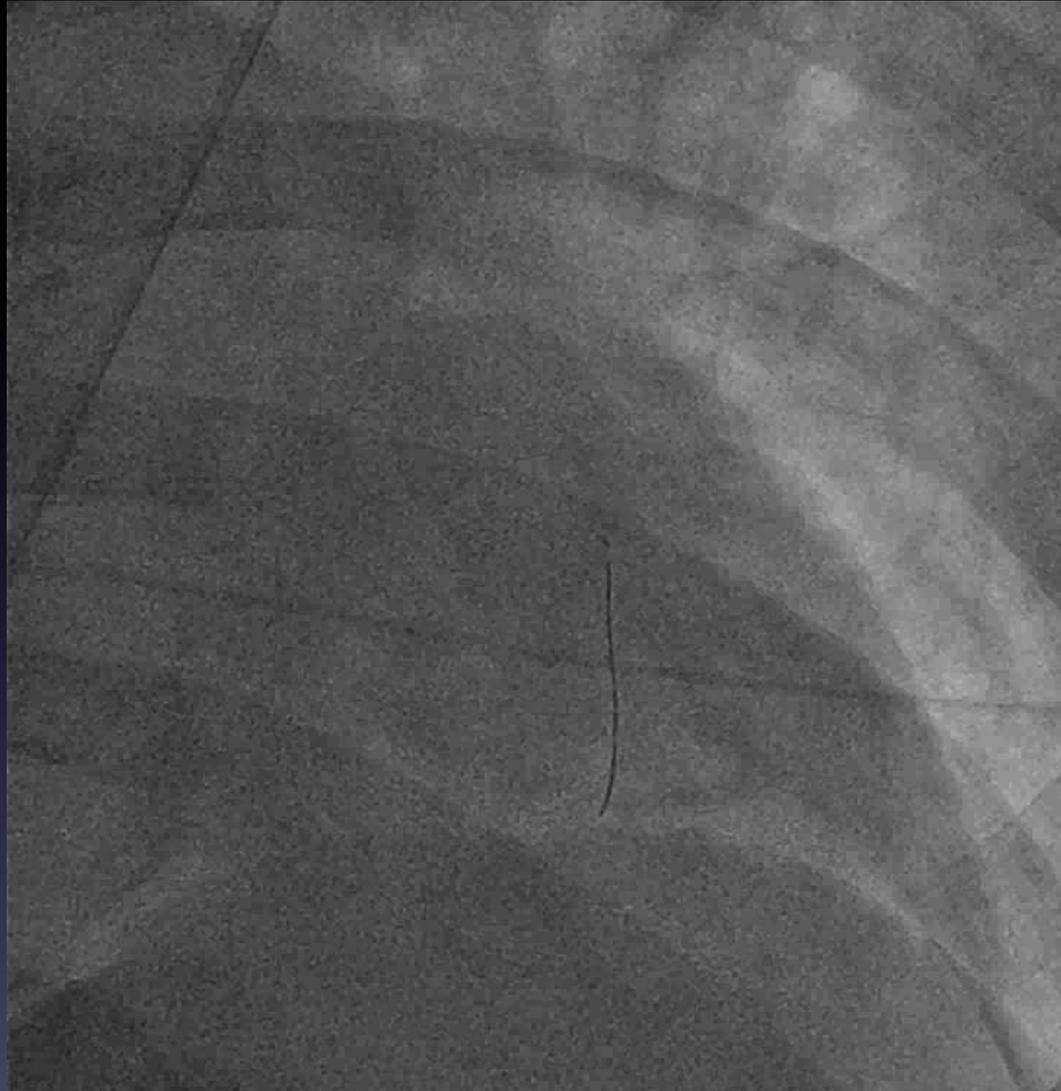
- 57 year old male presented to hospital after collapsing at home
- Wife administers CPR
- EMS at site in less than 5 minutes

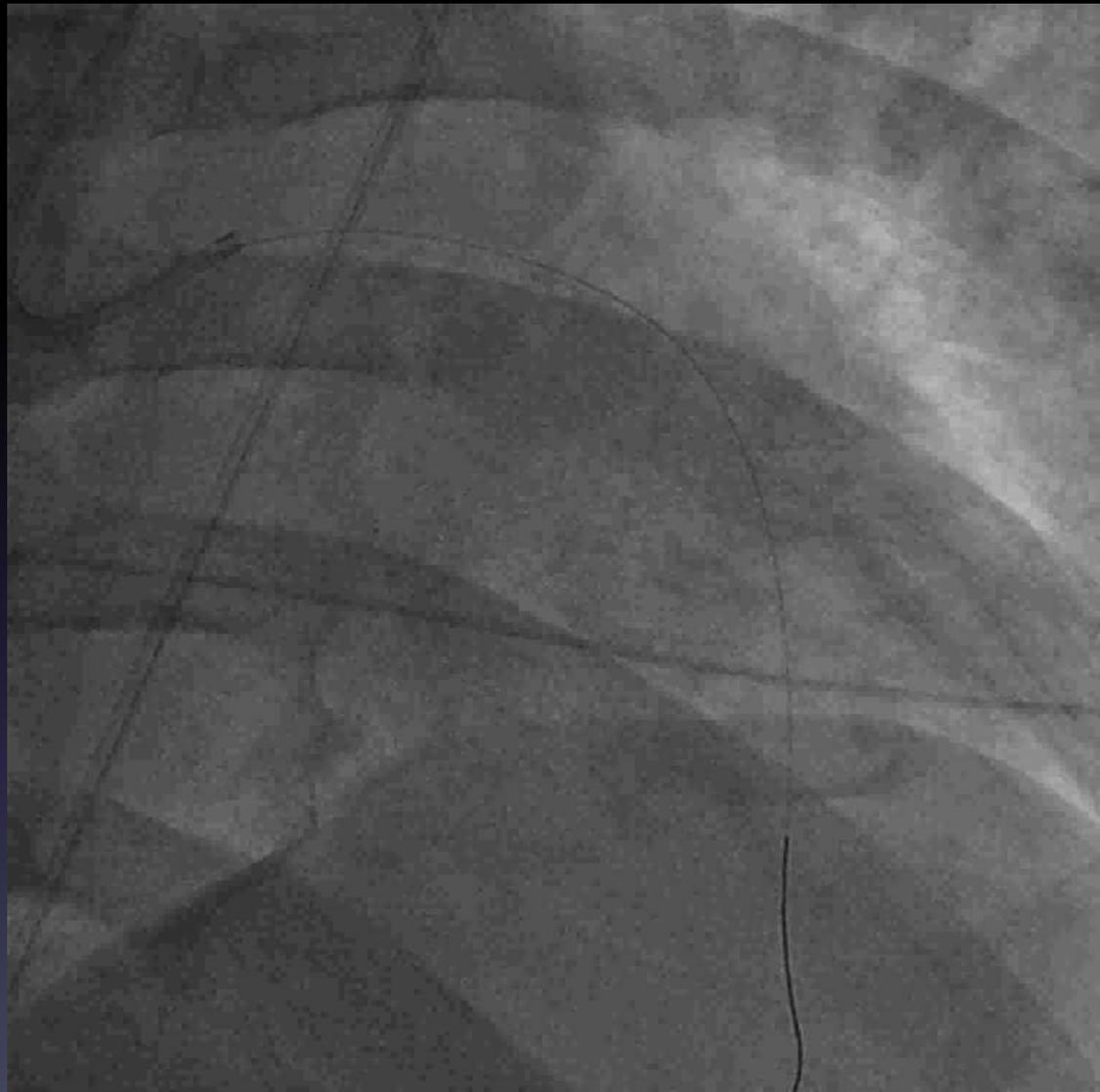




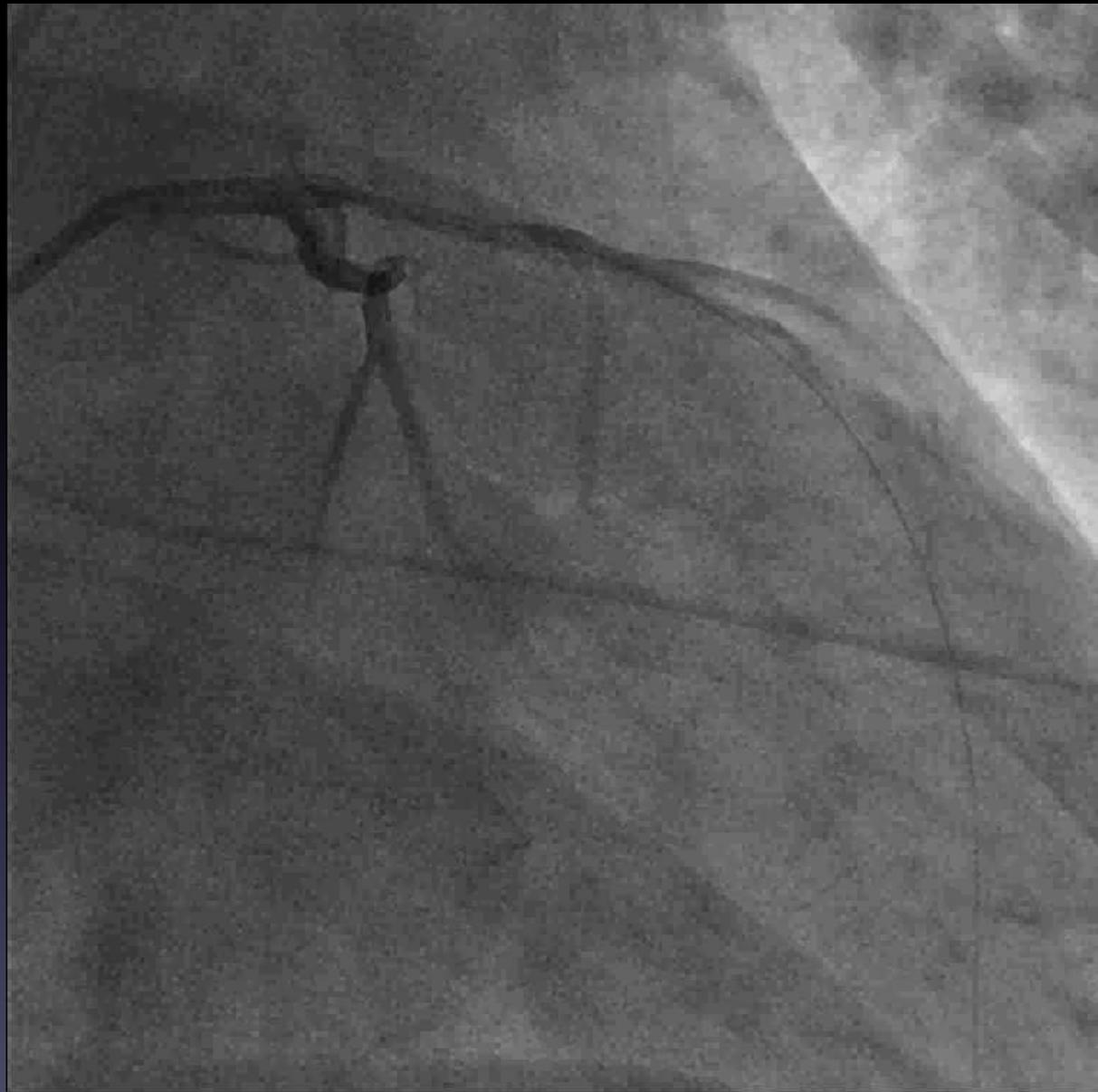




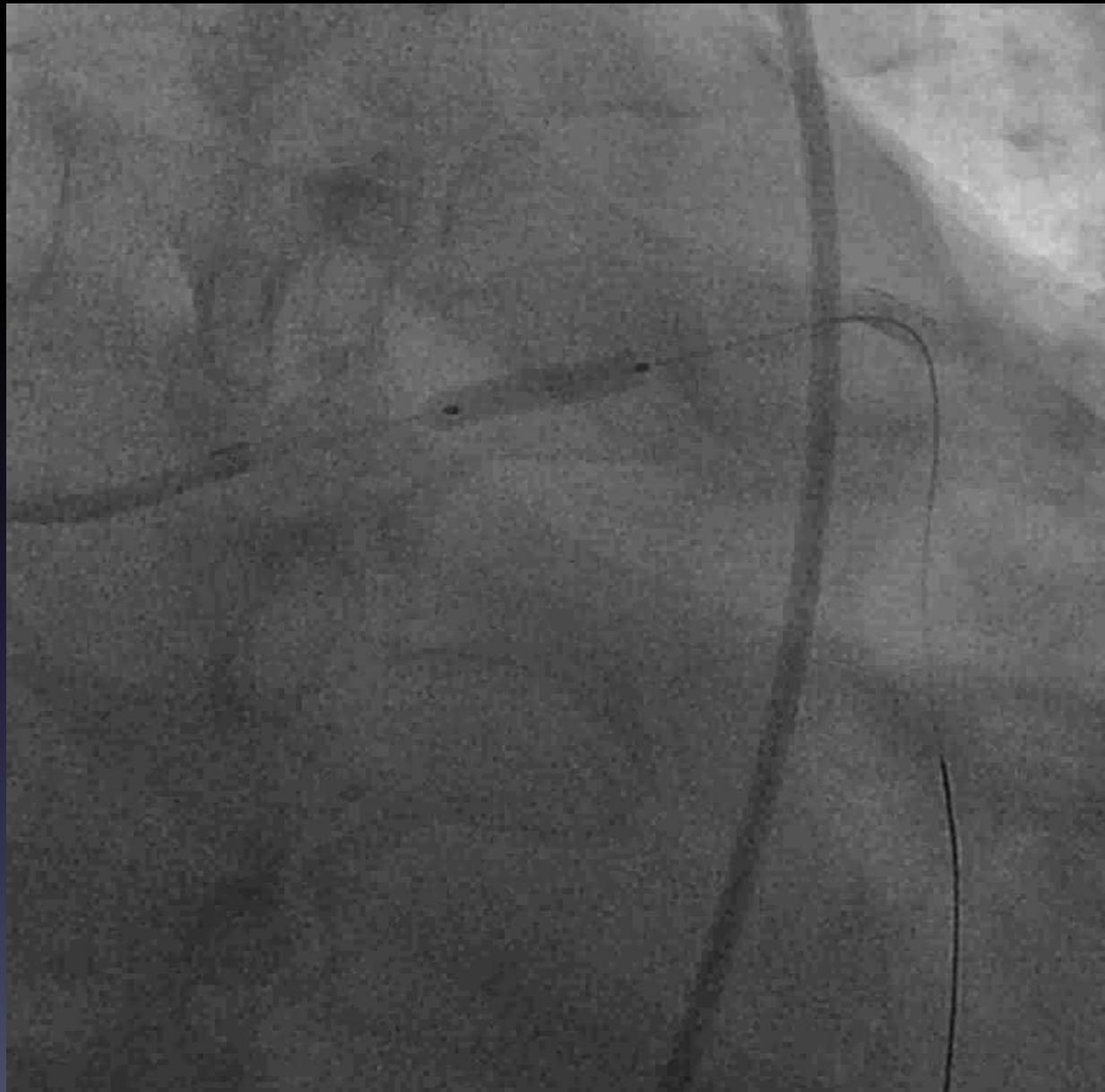




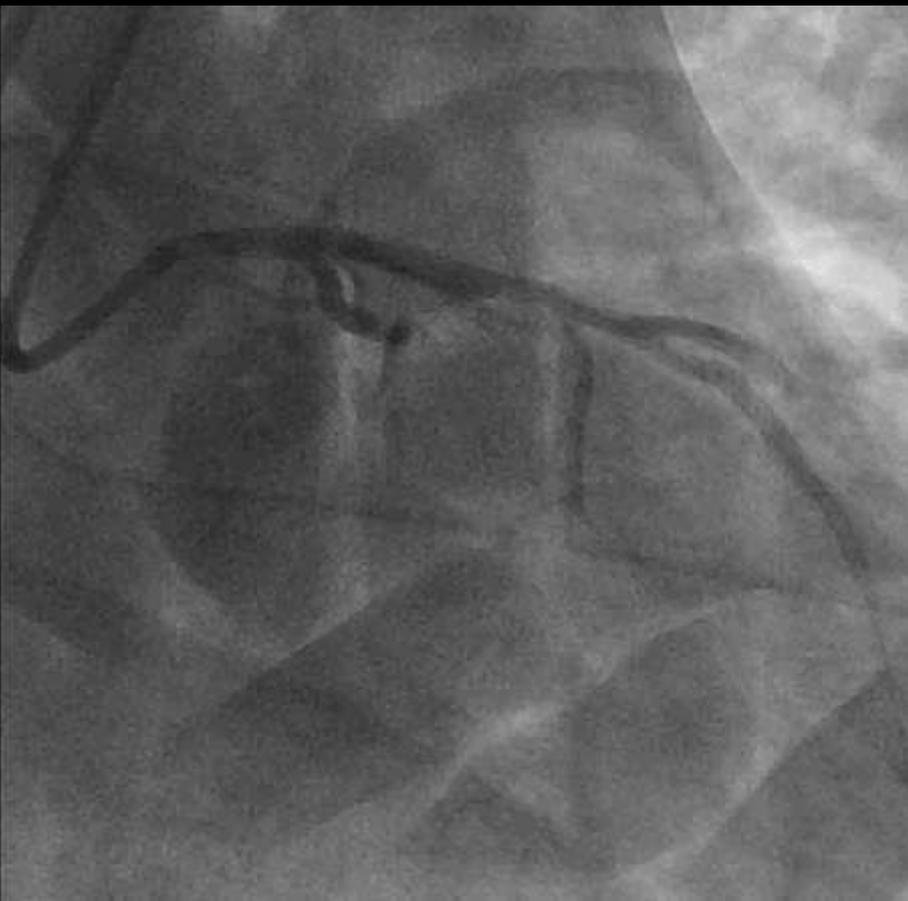
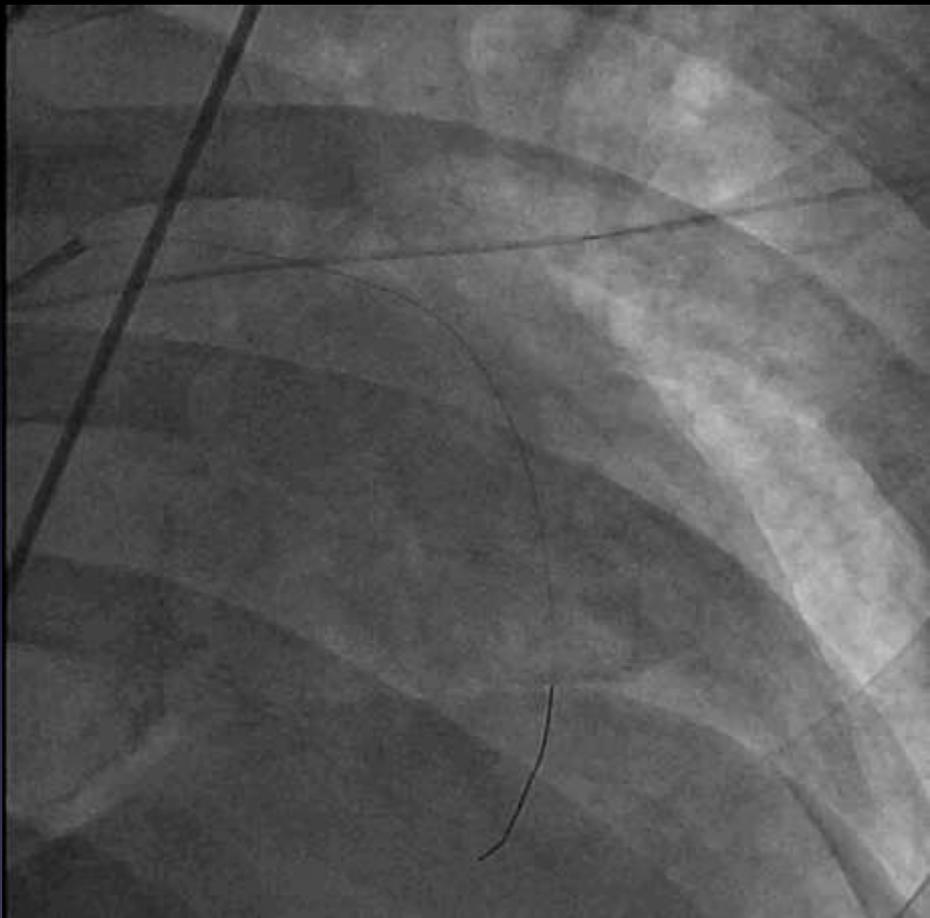












Hospital Course

- The patient transferred out of the ICU in 24 hours
- Monitored
- On the 7th day, the patient was transferred to the accepting facility due to physician order
- The patient was transferred on the 7th day. Received treatment and was discharged on the 8th day from the accepting facility

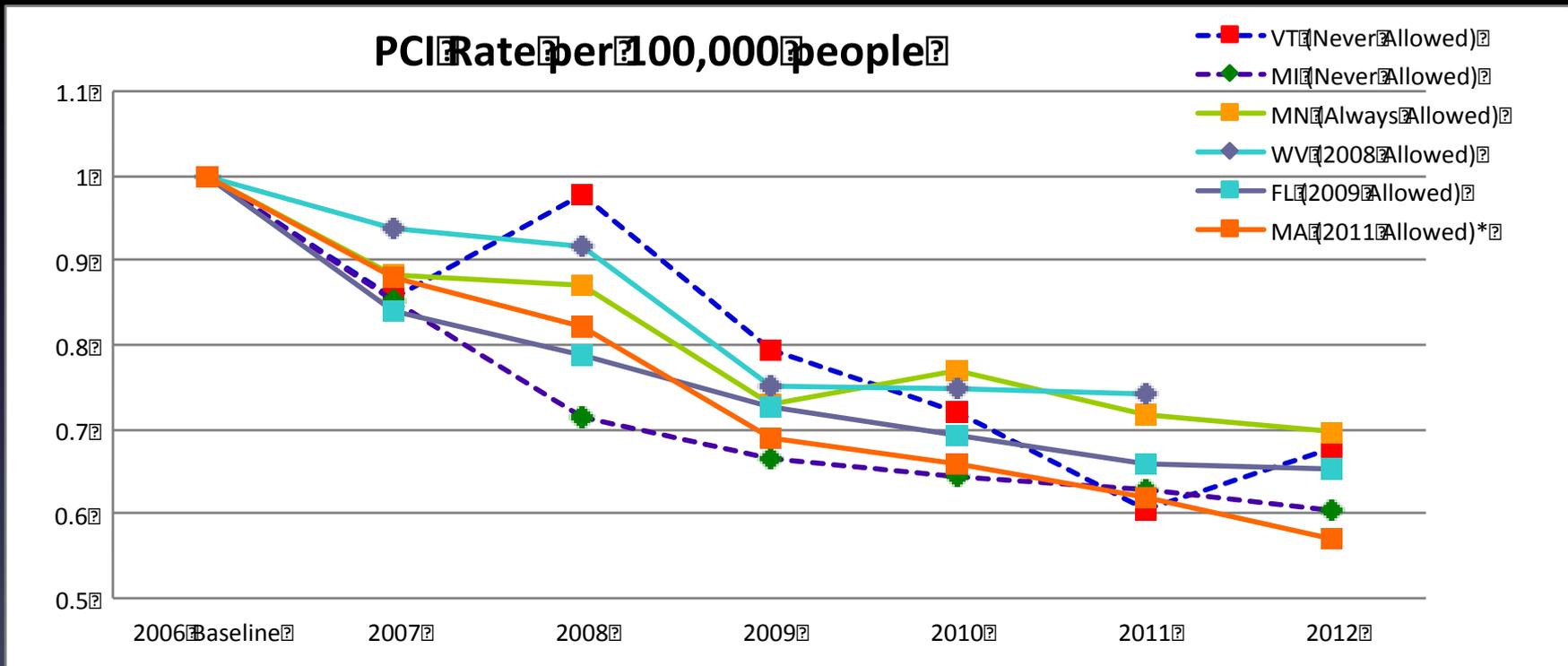
POSSIBLE 3 DAY
DIFFERENCE

Access to Appropriate Care

- Most patients drive to the ER that accepts their insurance and is affiliated with their physicians
- Continuity of care provided by Patient Centered Medical Homes (PCMH) and Primary Care referral relationships
- Insurance network requirements
- Accountable Care Organizations (ACO) designed to manage costs

Quality is Essential

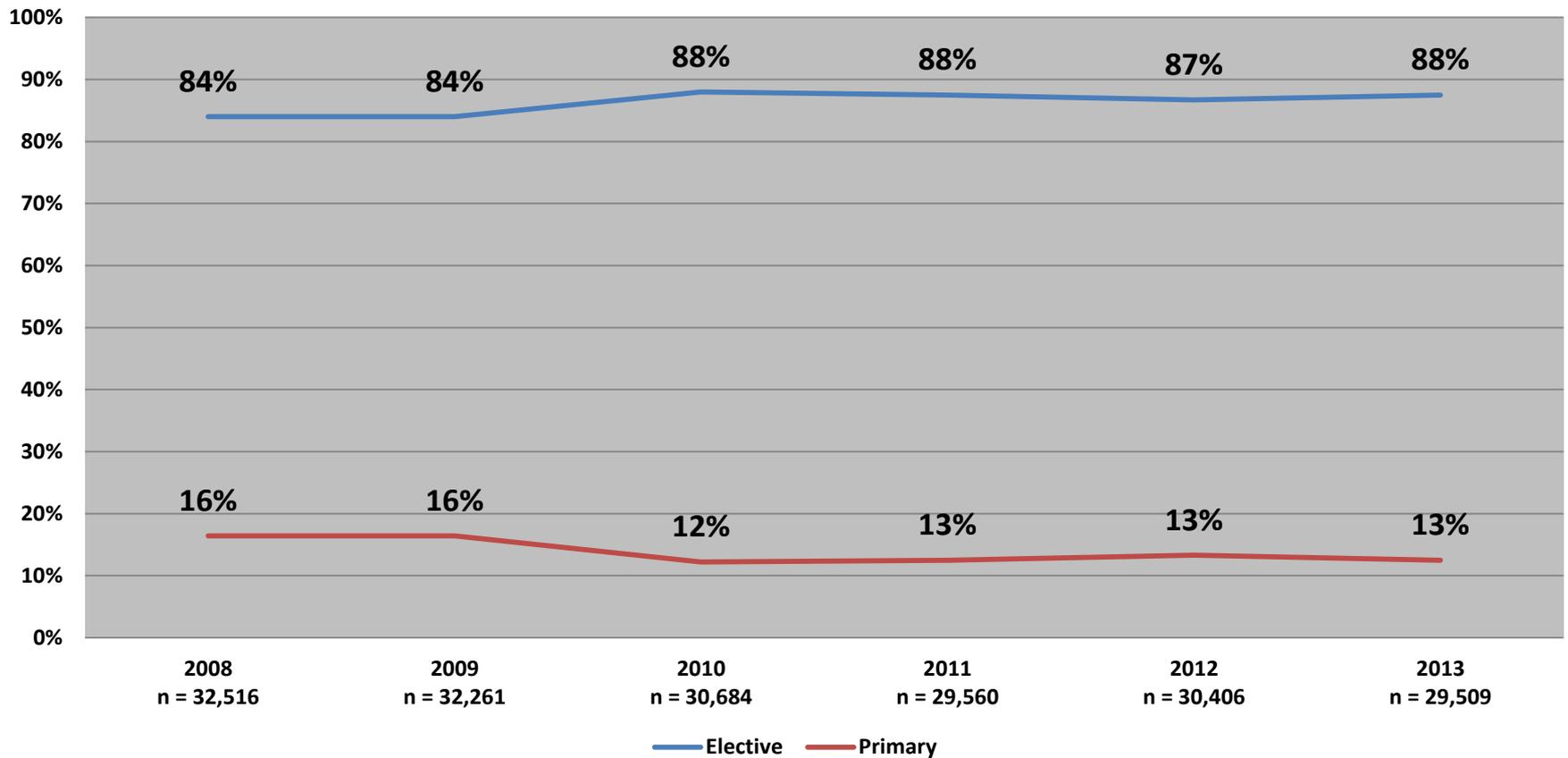
There has been no increase in utilization in states that began allowing PCI without on-site OHS.



From Healthcare Cost and Utilization Program (HCUP) State Inpatient Databases (SID) from the Agency for Healthcare Quality and Research. Prepared by David R. Nerenz, Ph.D., Director of the Center for Health Policy and Health Services Research, Henry Ford Health System, 2014.

BMC² PCI data

PCI Status



Requirements

Primary

- Cardiac Catheterization Labs
- Trained Nurses and techs
- 24 hour coverage with physicians and STEMI call team
- Transfer protocol
- Angioplasty devices and equipment
- ER and receiving units training to stream and treat patients
- Participation in BMC2 with data reported and audited independently

Elective PCI

**Zero Additional
Requirement**

Cost Implications

No investment is required to begin elective PCI at current PPCI programs

- The same equipment is used to perform primary and elective PCI, therefore no capital costs will be incurred.
- All PPCI programs already provide 24/7/365 call, so have appropriate staff to provide elective PCI

Question to Answer

- Does Allowing Elective Angioplasty without surgical back up costs less or more THAN the current treatment protocol??

Economic Outcomes of Percutaneous Coronary Intervention Performed at Sites With and Without On-Site Cardiac Surgery (CPORT-E) Trial

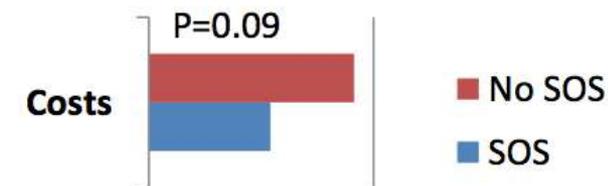
Background: The Cardiovascular Patient Outcomes Res... outcomes for patients undergoing non-primary percu... surgery (SOS vs. No-SOS)

Objectives: Comparison of medical resource use and c... diagnostic cardiac catheterization scheduled to have n...

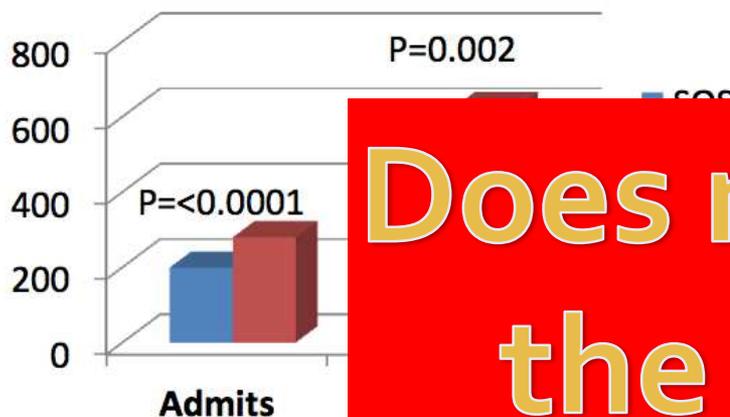
Cost Difference was attributed

To

1. ICU Admissions
2. Higher rate of re-admission at 9 months



\$3724. > in 'No SOS' Hospitals



Results: Values are per 100 patients. At 9 months.

- Use of Medical Resources: Admission Total for SOS = 199.4; No

ays; No SOS=623.1 days

; No SOS= 29,136

stantly reduced by having

Does not answer the question



Elective
Angioplasty
without SOS



Elective
Angioplasty
With SOS



Cost Implications

- Beaumont Hospital, Troy admits a patient for care. During the stay it is determined the patient requires elective PCI. Patient receives PCI.
 - Average Medicare payment: **\$12,900**
- Beaumont Hospital, Grosse Pointe admits a patient for care. During the stay it is determined the patient requires PCI. Patient is transferred to Troy where elective PCI is performed.
 - Average Medicare payment: **\$20,014**

DIFFERENCE - \$ 7,014 or 55% increase

Cost Implications

Current CON rules force insurers to pay more for care

Estimated rates Medicare would pay hospitals if current PPCI programs were allowed to perform elective PCI.

Facility Payment Rates Medicare 2014	Inpatient Diagnostic Cath followed by PCI	Inpatient PPCI followed by PCI
Same Session	\$ 15,148	\$ 18,985
Transferred (separate sessions)	\$ 31,296	\$ 38,970

Source: Medicare Proposed National Average Payment Rates, CY2014. CathLabDigest, Vol 21, Issue 10. October, 2013.

Estimated rates Medicare is paying up to under the current CON requirements.

Hospital Experience

- In 2013, Metro Health Hospital transferred at least **90 patients** with the diagnosis of **acute coronary syndrome**
- On average, immediate cost related to patient transfer and placement in the other institution is estimated **at 1200 \$**.
- This does not cover costs related to other facility caring for the patient
- No information documented regarding cost related to complication management
- Uninsured and underinsured patients will deal with two bills and two separate costs.

Cost Implications

West Michigan

Estimated rates Medicare would pay hospitals if current PPCI programs were allowed to perform elective PCI.

Facility Payment Rates Medicare 2014	Inpatient Diagnostic Cath followed by PCI	Inpatient PPCI followed by PCI
Same Session	\$ 17,290	\$ 26,966
Transferred (separate sessions)	\$ 35,093	\$ 54,447

Source: Medicare Payment Rates, West Michigan, CY2014. CathLabDigest, Vol 21, Issue 10. October, 2013.

Estimated rates Medicare is paying up to under the current CON requirements.

Cost Implications



Current
Procedure Cost



Allowing Elective
PCI without SOS

Cost Implications

Current CON standards incentivize some facilities to maintain very costly, low volume open heart surgery programs.

- Low volume open heart surgery programs are likely to close if the elective PCI is allowed at facilities without on-site open heart surgery.

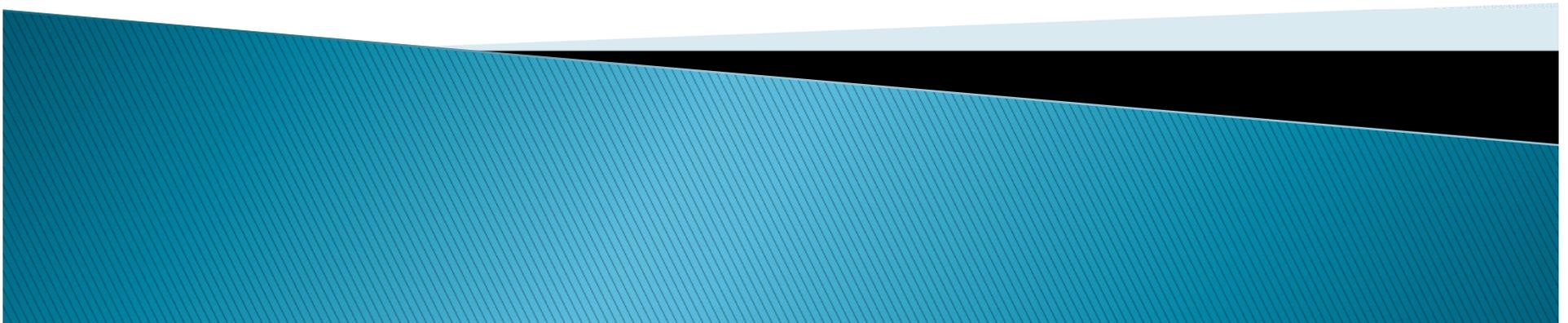
What have we learned So Far

Elective PCI at facilities without open heart surgery:

- Is proven to be **safe and equivalent**– 45 states already allow
- Access **may not be improved** geographically
- **Current available evidence** does not suggest increase utilization
- Allowing elective angioplasty without SOS **will translate into Lower costs for patients and insurers**
- Would encourage low volume open heart surgery programs to close
- **Awaiting Quality Data??**

Cardiac Cath Standard Advisory Committee

Overview of Application Data
Tulika Bhattacharya
CON Evaluation Section



CC, OHS & Primary PCI (CY2013)

- ▶ 62 hospitals provide cardiac cath (CC) services
- ▶ 33 hospitals provide adult OHS & therapeutic CC service (of which 2 provides pediatric OHS/therapeutic CC also)
- ▶ 1 hospital provide pediatric OHS & therapeutic CC service
- ▶ 14 hospitals provide Primary PCI w/o on-site OHS backup
- ▶ 14 hospitals provide diagnostic only CC service



Cardiac Cath Applications

(Jan 1, 2002 - To Date)

- ▶ 16 Primary PCI programs started operations

Year	2004	2005	2006	2007	2008	2009	2012
No#	1	8	2	0	1	1	3

- ▶ 13 diagnostic only programs started operations
- ▶ 4 Open heart surgery and therapeutic cardiac cath programs started operations



Cardiac Cath Applications

(Jan 1, 2002 – To Date)

- ▶ 71 additional cardiac cath laboratories were added

02	03	04	05	06	07	08	09	10	11	12	13	14
2	4	13	7	6	9	6	6	3	4	5	5	1

- ▶ 4 of the primary PCI programs added additional cath labs after initiation of PCI (within 1.5 years up to 4 years timeframe)
 - ▶ 12 hospitals expanded cardiac cath labs more than once
 - ▶ The timeframe for adding labs varied from 1 year to 9 years (average 5 years)
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Questions

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