Healthcare Quality Measures: Where we have been; Where we are; Where we might be going

Department of
Family Medicine and Community Health
Faculty Retreat

April 11, 2014

Where we have been

Ancient History

- Early 19th century characterized by disorganized & poor quality of medical education and care
- Rise of Voluntary Professional Organization
- AMA 1847,supported Flexner report to Carnegie Foundation in 1910
- Same year Codman at MGH noted the need to improve hospital conditions and to track patients to verify that their care had been effective. “End result idea"
- 1917 American College of Surgeons established Hospital Standardization Program

ACS Minimal Standards

- Organizing hospital medical staffs
- Limiting staff membership to well-educated, competent, and licensed physicians and surgeons
- Framing rules and regulations to ensure regular staff meetings and clinical review
- Keeping medical records that included the history, physical examination, and laboratory results
- Establishing supervised diagnostic and treatment facilities such as clinical laboratories and radiology departments

JCAH(O)/Joint Commission

- Formed 1952 by ACS ,ACP, AHA, AMA, CMA
- Added standards : physical plant issues, equipment, and administrative structure
- 1966 it moved to optimal achievable standards
- Donabedian's 1966 article described ways to evaluate the quality of health care measured in three areas:
  - structure-the physical and staffing characteristics of caring for patients
  - process-the method of delivery
  - outcome-the results of care.

Slightly More Recent History

- Governmental Regulatory Programs
- State licensing programs established toward the end of the 1800s,
- in 1906 national regulation of medication was undertaken by the FDA
- 1935 Social Security Act first set of federal standards for maternal and children's services

Practically Yesterday

- 1965 Medicare Conditions of Participation for hospitals
  - medical staff credentials
  - 24-hour nursing services
  - utilization review of “appropriateness of admissions“
- 1972 Professional Standards Review organization (PSRO)
  - promote efficiency
  - eliminate unnecessary hospital utilization
- PSRO effectiveness not demonstrated
- physicians and nonphysicians concerned PSRO’s emphasized cost containment over quality

Next Iteration

- Early 1980's: Peer Review Organizations (PRO)
  - responsible for validating assignments to DRGs
  - reviewing readmissions,
  - reducing unnecessary admissions and surgery
  - lowering death and complication rates.

The PRO's Method

- Random chart review
  - The adequacy of discharge planning
  - Medical stability at discharge
  - Unexpected deaths
  - Nosocomial infections
  - Unscheduled returns to surgery
  - Trauma suffered in the hospital

Future Prospects

LUCE, BINDMAN, LEE, MD,
WIM, March 1994

- Greater concern for cost than for quality marked older regulatory efforts
- This may lead to undesirable results
  - co-payments and deductibles to decrease utilization may worsen health if needed services are reduced
- To have a positive effect policies should provide the following
  - Limit services that are of little or no benefit to patients
  - Encourage less costly and more effective care
  - Ensure access to that care
  - Foster integrated health care systems that can provide beneficial services more efficiently

An AQC QM Primer

- NCQA National Committee for Quality Assurance
- “a private, 501(c)(3) not-for-profit organization dedicated to improving health care quality” founded in 1990

- HEDIS
- HMO Employer Data and Information Set (origin 1979 by the HMO trade association)
- Health Plan Employer Data and Information Set (1993)
- Healthcare Effectiveness Data and Information Set (2007

The Healthcare Effectiveness Data and Information Set (HEDIS) is a tool used by more than 90 percent of America's health plans to measure performance on important dimensions of care and service. Altogether, HEDIS consists of 75 measures across 8 domains of care. Because so many plans collect HEDIS data, and because the measures are so specifically defined, HEDIS makes it possible to compare the performance of health plans on an "apples-to-apples" basis.

Chair of the Board of NCQA, Dolores L. Mitchell
Executive Director, Commonwealth of Massachusetts Group Insurance Commission

AQC Performance Modeling Based on CY 2011 Performance*

Hahnemann Family Health Center

Measure Description	Practice Denominator	Practice Performance Period Ending Q4 2011*	AQC Weight	Estimated Practice Weighted Final Points	Network Performance CY 2011 Per BCBS Claims Paid thru 1/31/12	Estimated Network Weighted Final Points
Depression * (2009 MHQP Data)						
Acute-phase Rx	?	68.99	1	2.0	68.99	2.0
Continuation-phase Rx	?	49.86	1	1.1	49.86	1.1
Diabetes						
HbA1c testing (2 times)	**70**	**68.57**	0	**0.0**	70.87	0.0
Eye exams	**70**	**52.86**	1	**0.0**	63.33	1.9
Nephropathy screening	**70**	**82.86**	1	**1.0**	82.28	0.0
Cholesterol management						
Diabetes LDL-C screening	**70**	**87.14**	0	**0.0**	86.67	0.0
Cardiovascular LDL-C screening	**13**	**92.31**	0	**1.0**	91.82	0.9
Preventive screening/treatment						
Breast cancer screening	**215**	**77.21**	1	**0.0**	80.88	1.0
Cervical cancer screening	**257**	**83.27**	1	**0.0**	82.80	0.0
Colorectal cancer screening	**274**	**64.96**	1	**0.0**	67.69	1.6
Chlamydia screening						
Ages 16–20	**27**	**70.37**	1	**1.9**	54.71	0.5
Ages 21–24	**39**	**48.72**	1	**0.0**	62.13	0.9
Adult respiratory testing/treatment						
Acute bronchitis	329	21.53	1	0.0	21.53	0.0
Pediatric testing/treatment						
Upper respiratory infection	399	93.73	1	1.4	93.73	1.4
Pharyngitis	527	93.35	1	2.4	93.35	2.4
Pediatric well-care visits						
<15 months	**5**	**100.00**	1	**5.0**	90.88	0.0
3–6 years	**34**	**85.29**	1	**0.0**	91.71	2.0
Adolescent well-care visits	**172**	**58.14**	1	**0.0**	69.89	2.0
Outcome Measures						
Diabetes						
HbA1c poor control (> 9, lower score is better)	1,769	16.8	3	6.7	16.8	6.7
LDL-C control (<100 mg)	1,769	54.5	3	4.4	54.5	4.4
Blood pressure control (< 130/80)	1,769	35.3	3	0.0	35.3	0.0
Hypertension						
Controlling high blood pressure (< 140/90)	3921	63.0	3	0.0	63.0	0.0
Cardiovascular disease						
LDL-C control (<100 mg)	609	73.0	3	7.9	73.0	7.9
Patient Experience						
CAHPS/ACES)—Adult						
Communication quality	**609**	**94.37**	1	**2.9**	94.00	2.7
Knowledge of patients	**63**	**91.33**	1	**4.0**	89.20	3.5
Integration of care	**57**	**84.46**	1	**2.1**	86.00	2.5
Access to care	**64**	**79.30**	1	**1.1**	83.30	2.0
CAHPS/ACES)—Pediatric						
Communication quality			0	0.0	96.50	4.0
Knowledge of patients			0	0.0	92.20	4.2
Integration of care (low n, excluded from calc.)			0	0.0	87.80	0.0
Access to care			0	0.0	85.40	4.1
AQC Overall Score (Sum Weighted Points / Sum Weights)				**1.3**		**1.6**

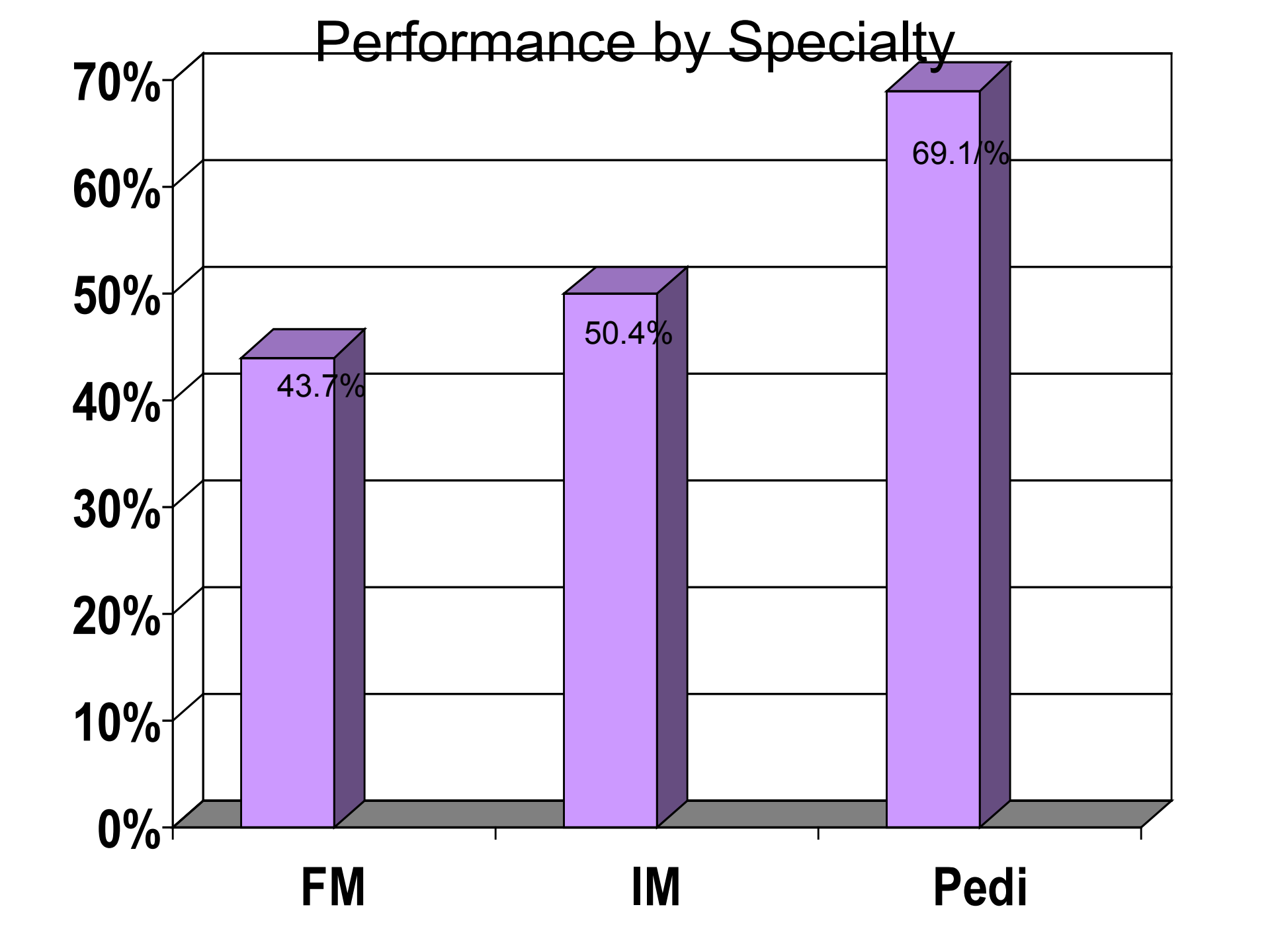
*** CY 2011 Practice Data Except Where Otherwise Noted**

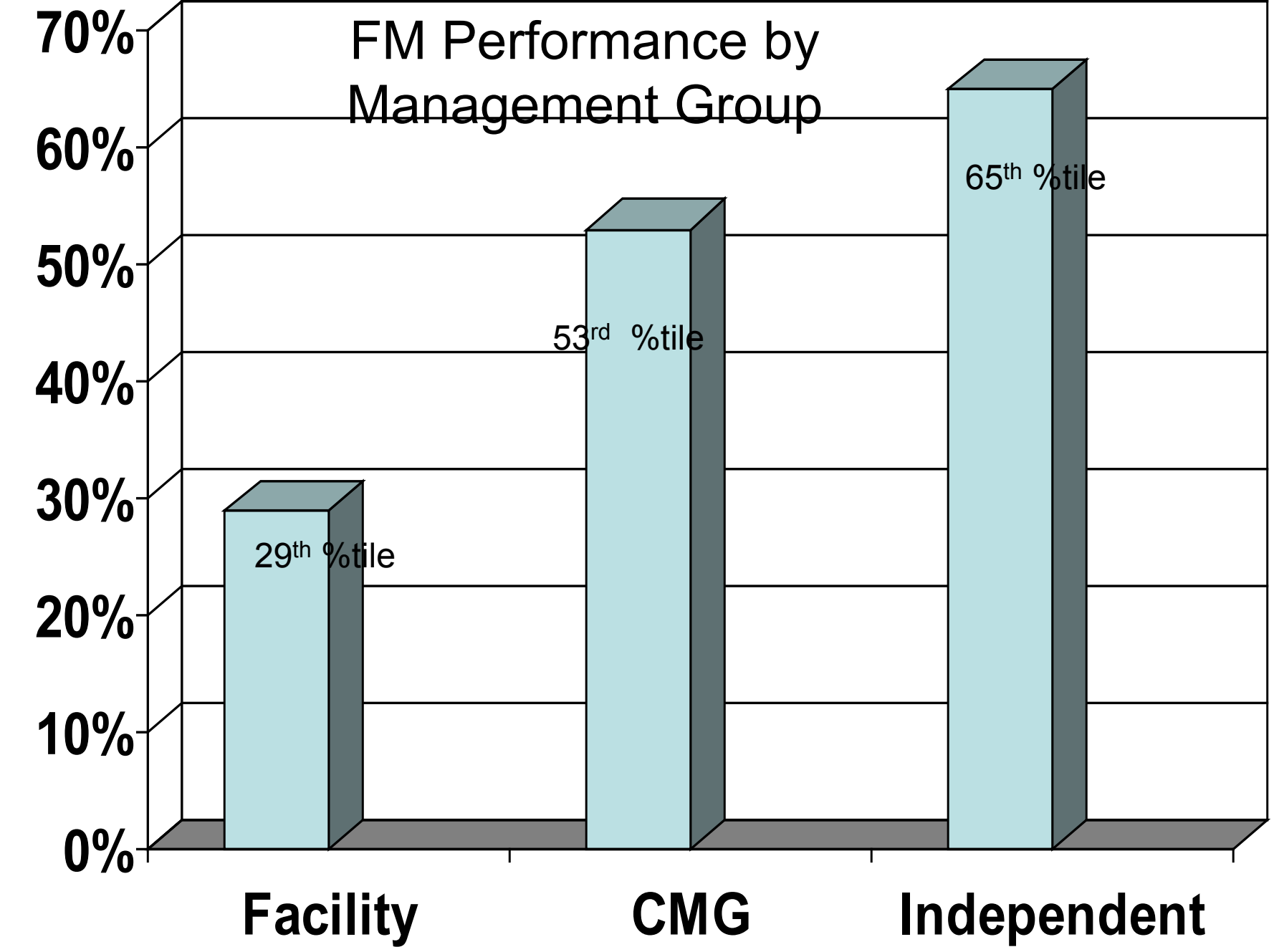
CY 2011 Network Data

CY 2010 Network Data

CY 2009 Performance on Quality Measures

	All UMM_MCN	MCB-FM	Difference
CAD_LDL_Control_RATE	75.90%	61.60%	14.31%
Diabetes_A1C_2Tests_RATE	72.96%	59.02%	13.94%
WCC3to6RATE	84.98%	73.87%	11.11%
Pharyngitis_RATE	86.91%	76.67%	10.24%
WCC7to11RATE	73.03%	63.51%	9.53%
ACEI_ARBs_RATE	79.83%	72.79%	7.03%
Diabetes_Nephropathy_RATE	80.96%	74.11%	6.85%
BreastCS_RATE	79.76%	74.11%	5.65%
Diabetes_A1C_GoodControl_RATE	48.08%	43.63%	4.45%
Diuretics_RATE	77.66%	73.43%	4.23%
WAV12to17RATE	66.42%	63.31%	3.11%
Diabetes_LDL_Testing_RATE	86.16%	83.45%	2.71%
Diabetes_LDL_Control_RATE	62.19%	59.54%	2.66%
URI_RATE	95.65%	93.02%	2.63%
WAV18to21RATE	40.13%	37.85%	2.27%
CervicalCS_RATE	83.09%	83.05%	0.04%
Chlamydia_16_20_RATE	47.44%	47.85%	-0.41%
CAD_LDL_Testing_RATE	88.49%	90.61%	-2.12%
Diabetes_A1C_NotPoorControl_RATE	89.67%	92.19%	-2.53%
Chlamydia_21_24_RATE	55.91%	60.01%	-4.10%
Asthma_18_56_RATE	84.70%	89.58%	-4.89%

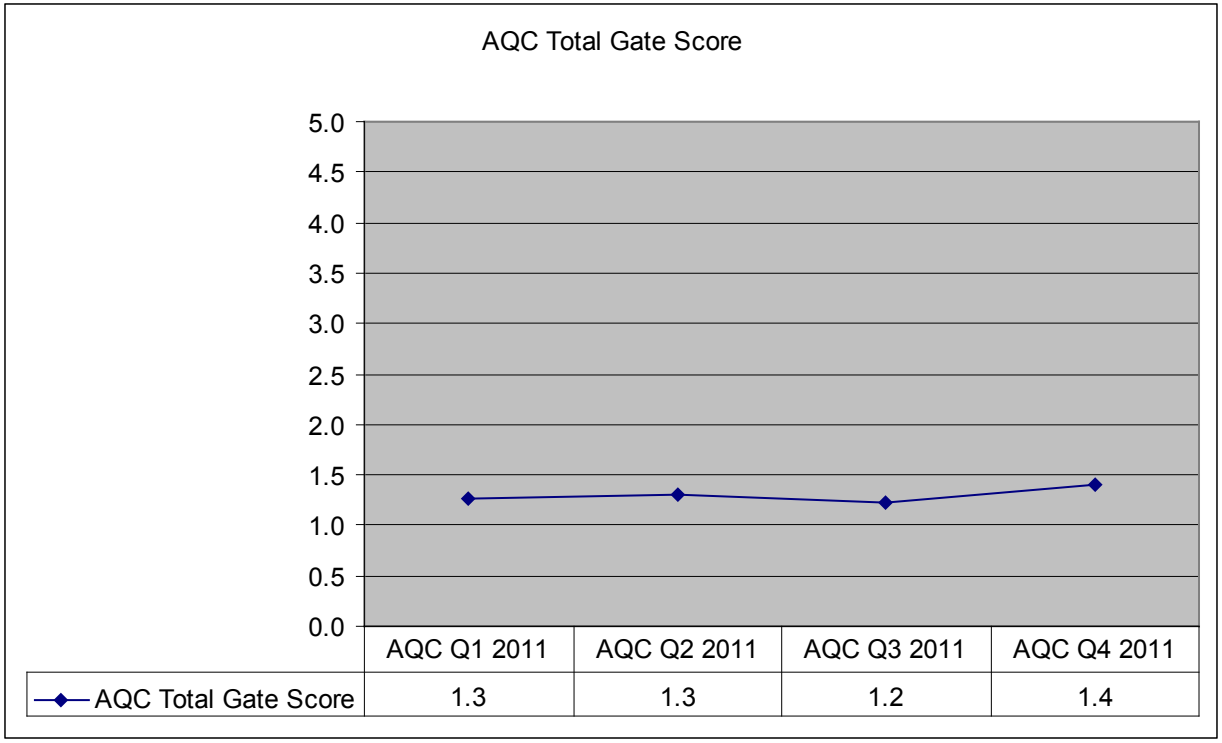

Performance by Specialty
70%
60%
50%
40%
30%
20%
10%
0%
43.7%
50.4%
69.1%
FM
IM
Pedi


FM Performance by Management Group
70%
60%
50%
40%
30%
20%
10%
0%
29th %tile
53rd %tile
65th %tile
Facility
CMG
Independent

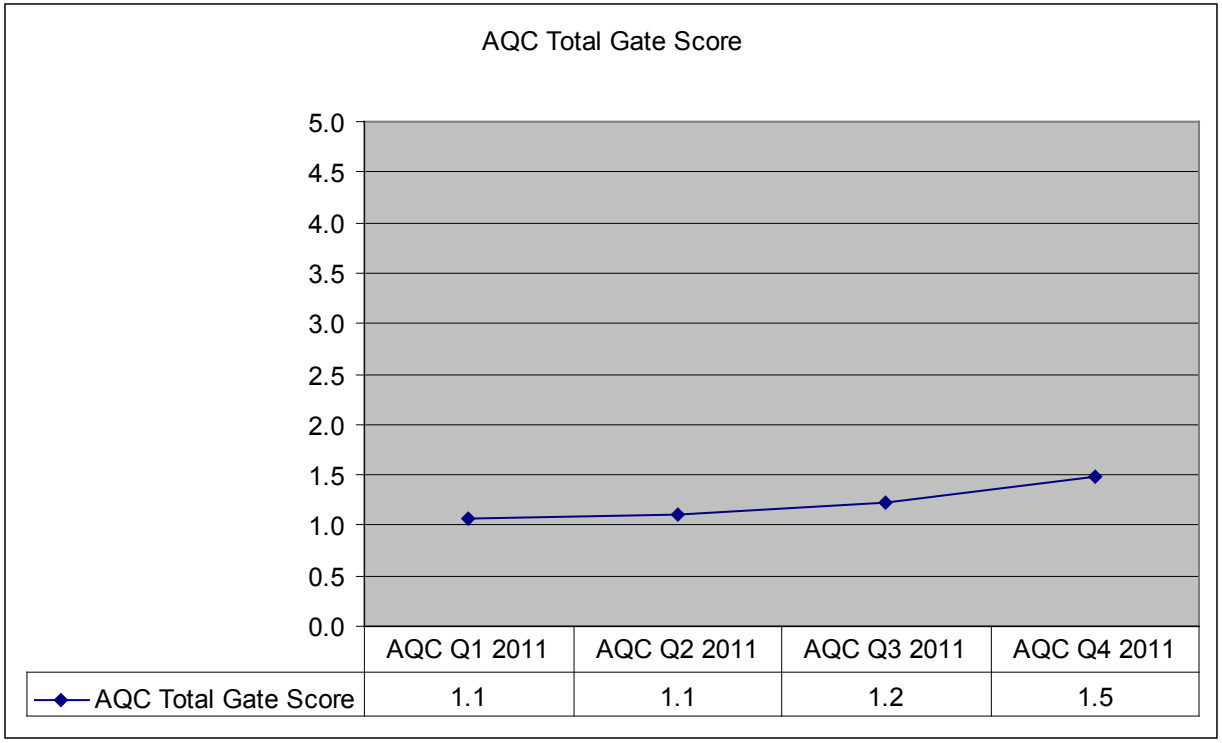
Where Do We Stand?

- 209 MCN PCP's 53 are FM
- Top 50%
  - 3 med group
  - 9 CMG
  - 6 Independent
- Bottom 50%
  - 24 med group
  - 7 CMG
  - 4 Independent

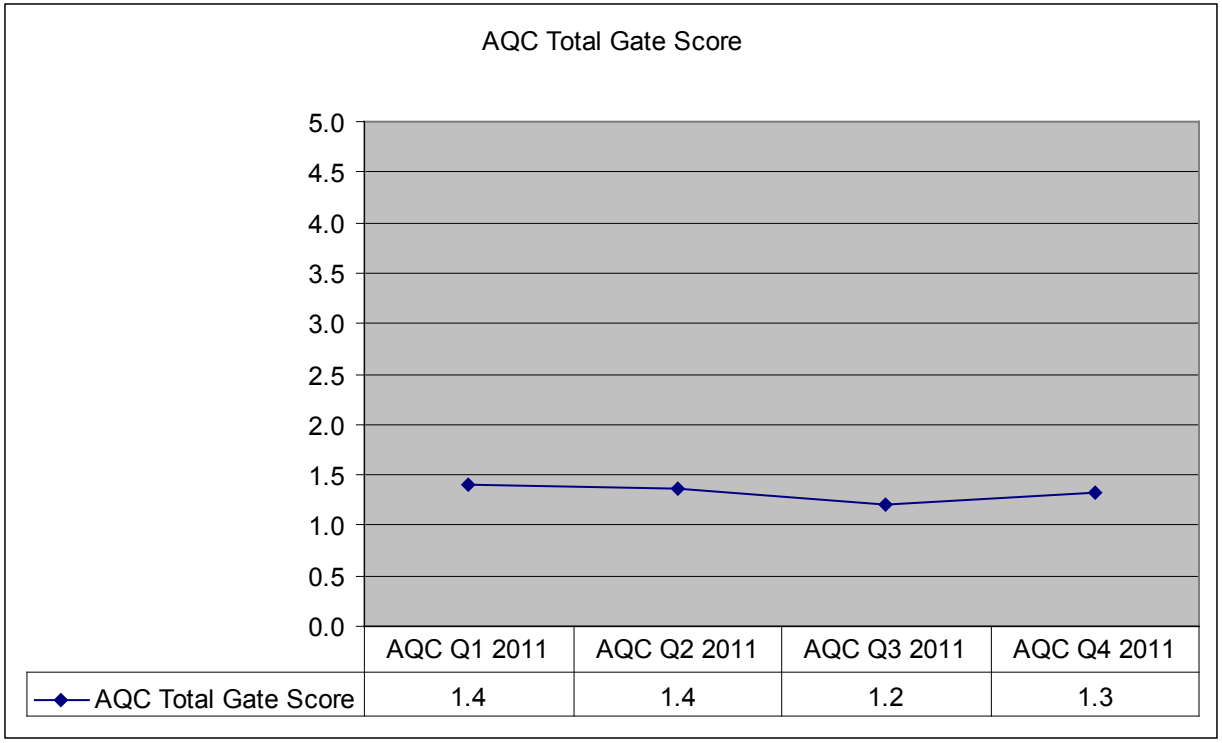
Barre Trend


AQC Total Gate Score
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
AQC Q1 2011
AQC Q2 2011
AQC Q3 2011
AQC Q4 2011
AQC Total Gate Score
1.3
1.3
1.2
1.4

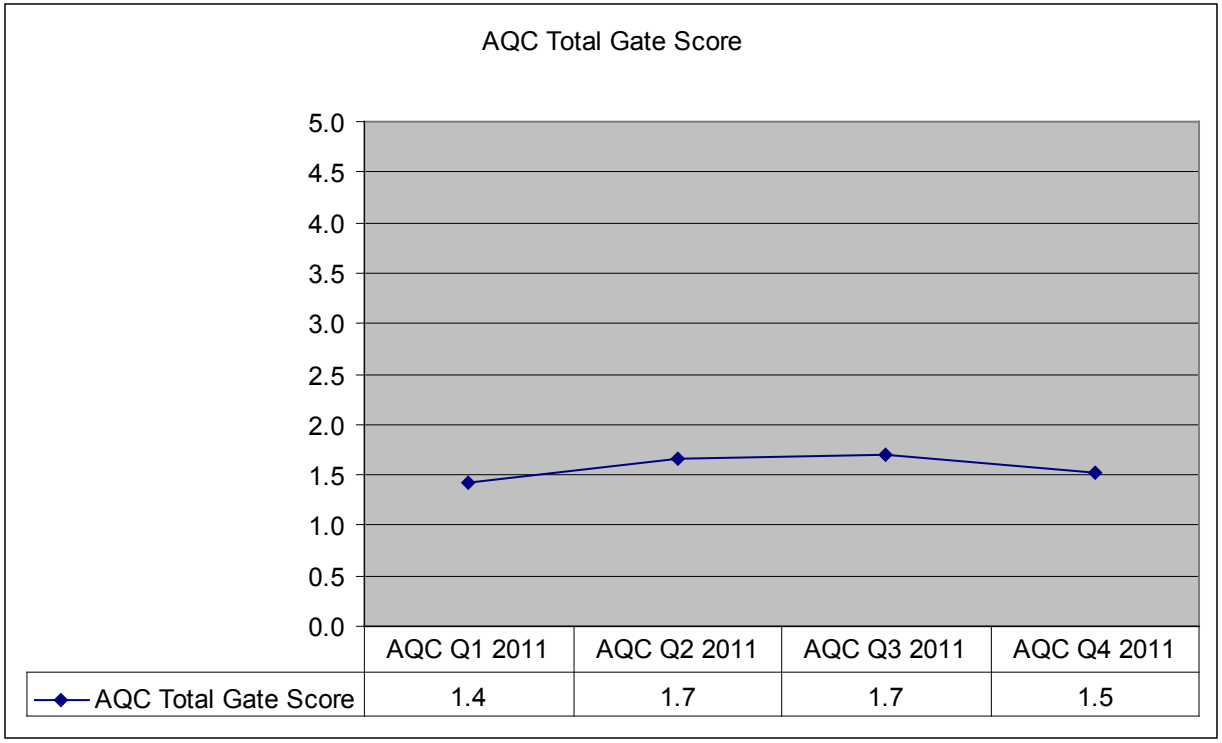
Benedict Trend



HFHC Trend


AQC Total Gate Score
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
AQC Q1 2011
AQC Q2 2011
AQC Q3 2011
AQC Q4 2011
AQC Total Gate Score
1.4
1.4
1.2
1.3

PVHC Trend


AQC Total Gate Score
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
AQC Q1 2011
AQC Q2 2011
AQC Q3 2011
AQC Q4 2011
AQC Total Gate Score
1.4
1.7
1.7
1.5

The National Track Record

The Quality of Health Care Delivered to Adults in the United States

McGlynn, et.al. N Engl J Med 2003; 348:2635-2645June 26, 2003

1. Only 54.9% of recommended care delivered
2. No significant difference between preventive (54.9%), acute (53.5%), and chronic (65.1) care delivered
3. Wide variation: 78.7% recommended care for cataracts to 10.5% for EtOH dependence. HTN 64.7 % A-Fib 24.7%

Why is This Important

- The measures are valid agreed upon indicators of quality of care
- Better performance on these measures is associated with increased revenue
- Such performance will be increasingly reported publicly
- It makes us (FM, dep't HC's) look (and feel) bad

The department themes for the year(s) to come

- Improving measures of quality of care
- To do so must engage
  1. Faculty
  2. Staff
  3. Residents
- Everyone must know what is on the list of measures
- We need the right tools
- A new way of getting paid

Areas of Concentration
3-5 years
(from 2009 SLT Retreat)

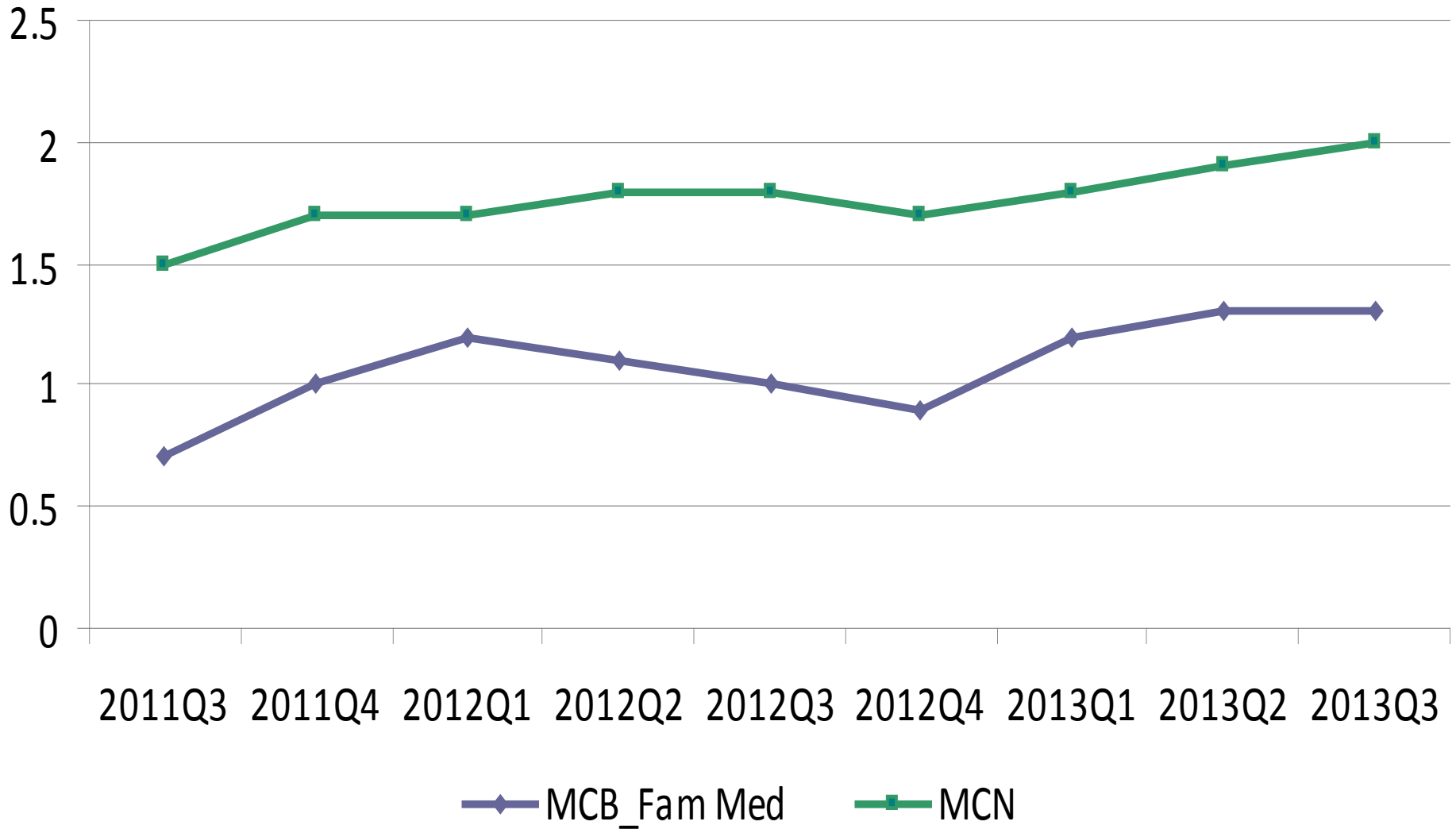
- Evolving the 3 Family Health Centers (Barre, Benedict, HFHC) and as many other department associated practices as possible into Patient Centered Medical Homes

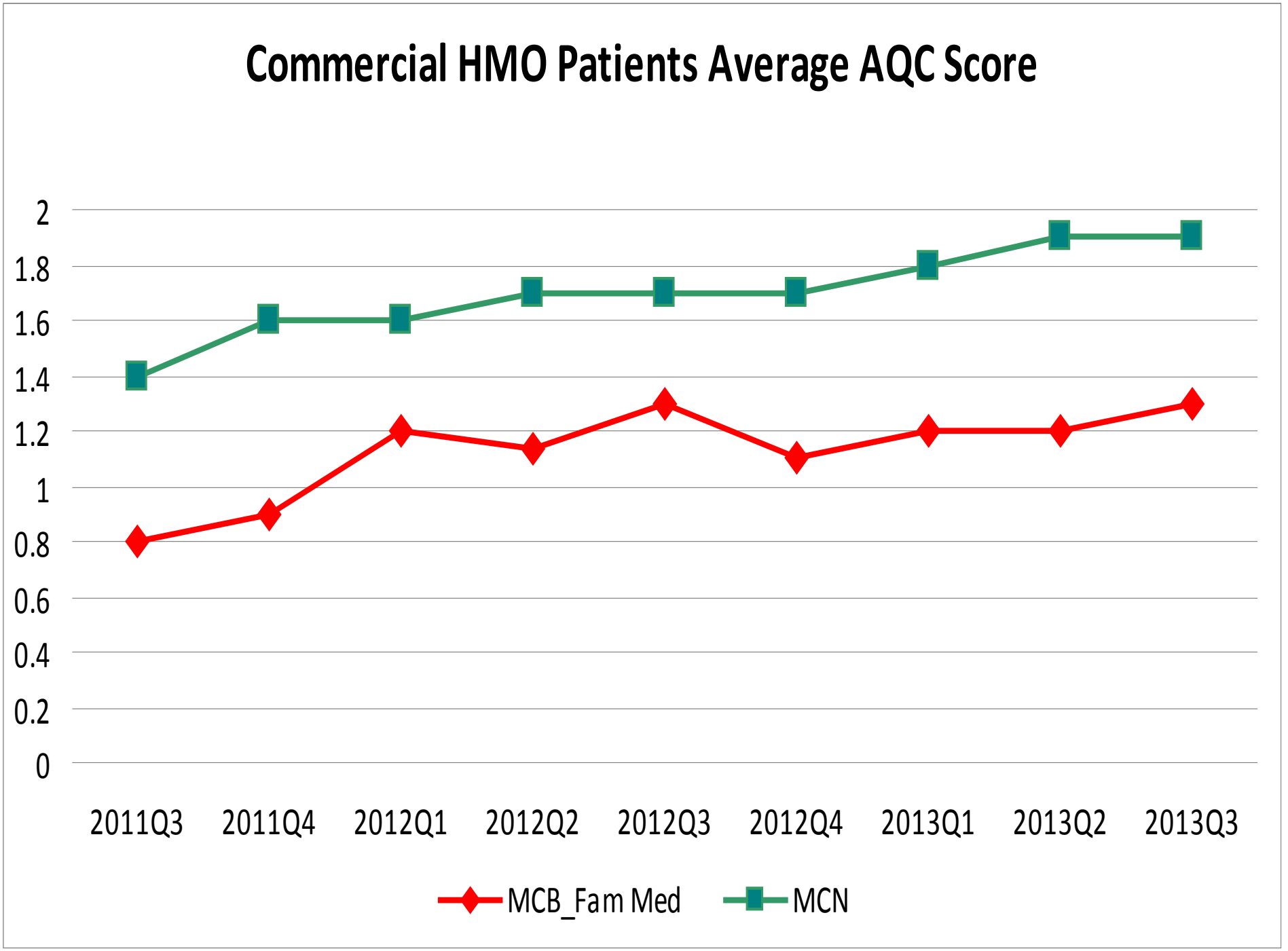
Where we are

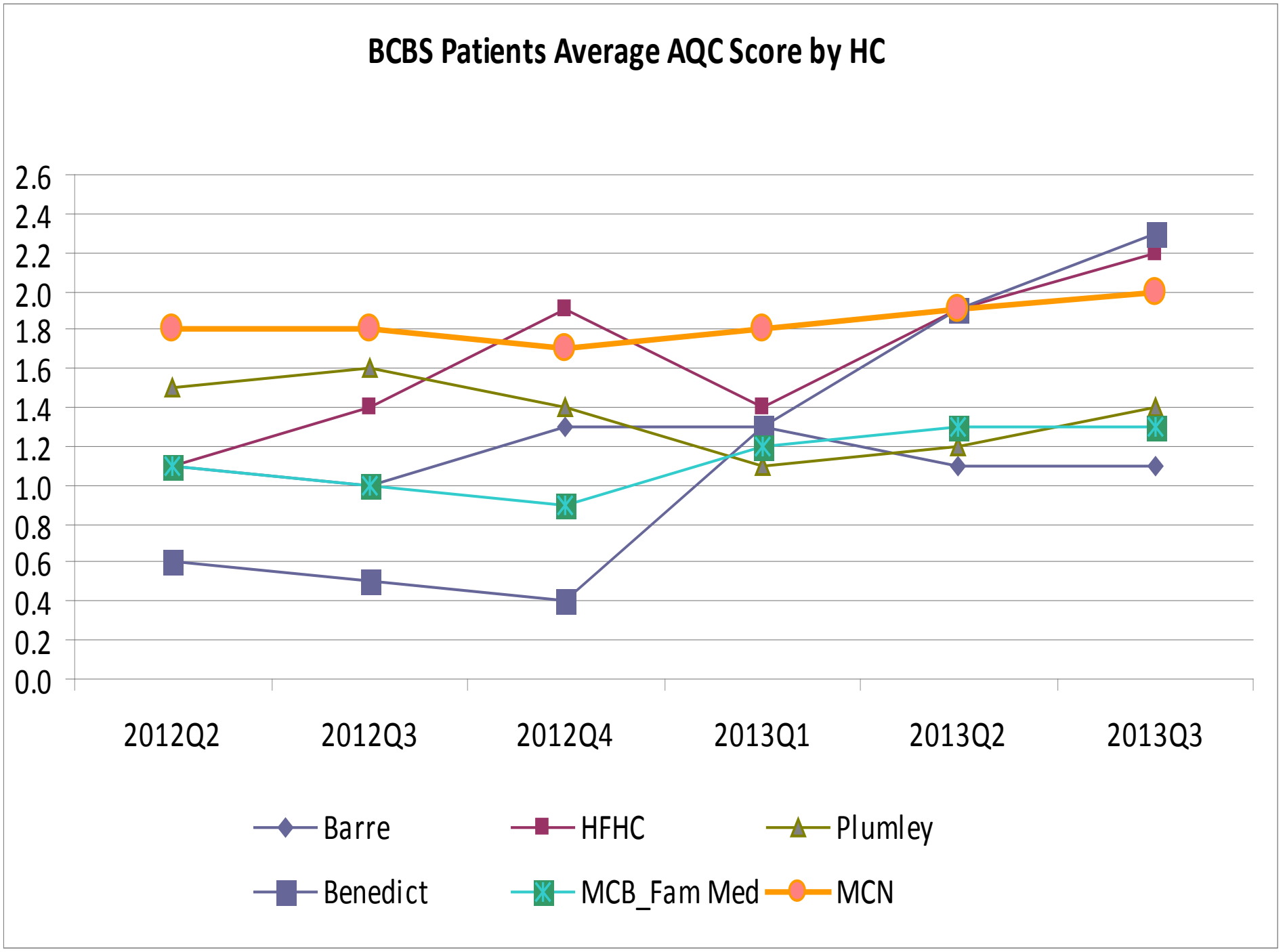
Where Are We Now

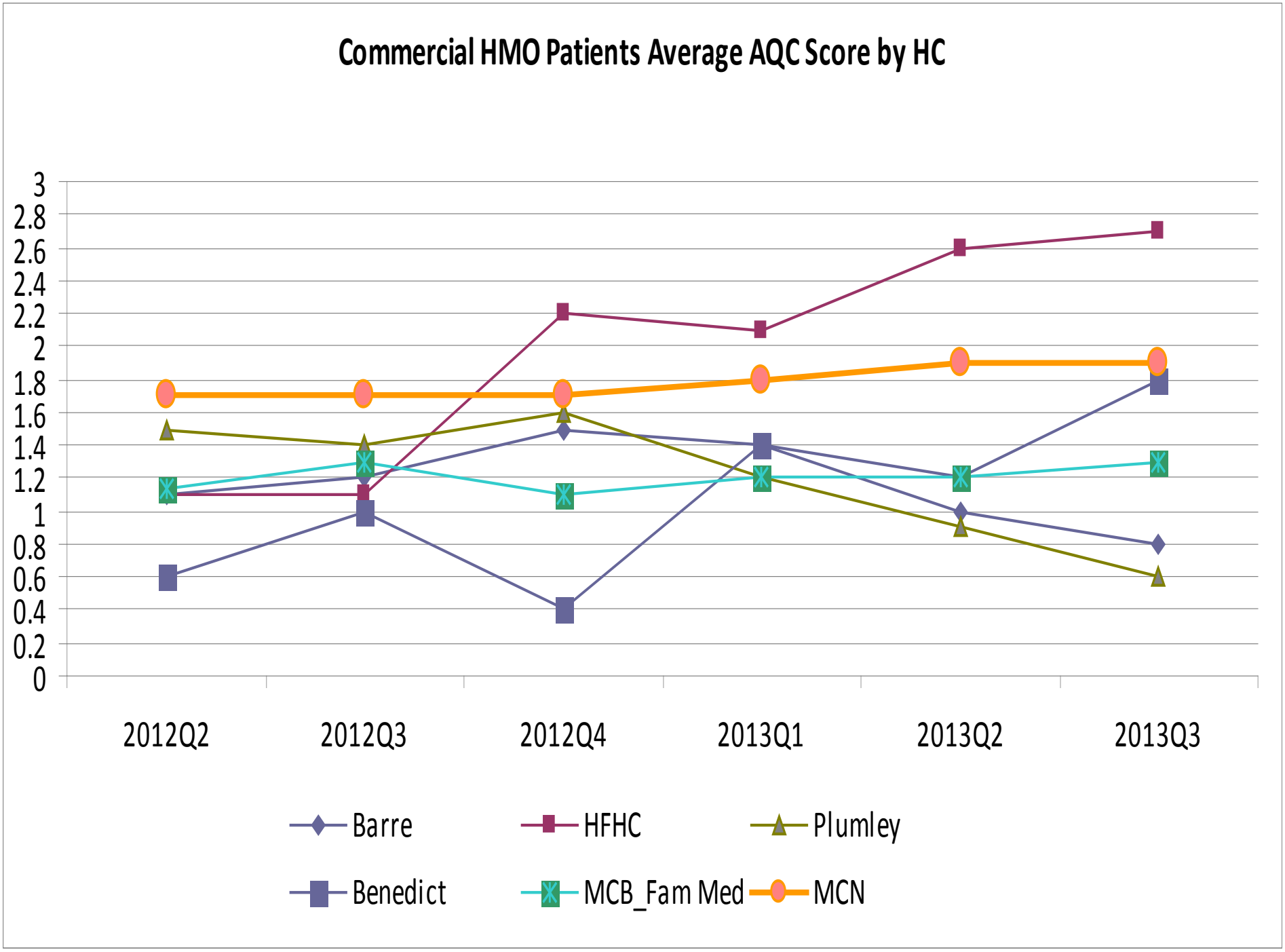
- Barre, Plumley, and Hahnemann have achieved level 3 NCQA PCMH certification
- Benedict has begun work on their application
- FHCW has achieved level 2 PCMH certification

BCBS Patients Average AQC Score




Commercial HMO Patients Average AQC Score
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2011Q3
2011Q4
2012Q1
2012Q2
2012Q3
2012Q4
2013Q1
2013Q2
2013Q3
MCB_Fam Med
MCN


BCBS Patients Average AQC Score by HC
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
2012Q2
2012Q3
2012Q4
2013Q1
2013Q2
2013Q3
Barre
HFHC
Plumley
Benedict
MCB_Fam Med
MCN


Commercial HMO Patients Average AQC Score by HC
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2012Q2
2012Q3
2012Q4
2013Q1
2013Q2
2013Q3
Barre
HFHC
Plumley
Benedict
MCB_Fam Med
MCN

Root Causes

- HC silos contribute to non-standard approaches and differential improvement rates.
- Limited idea sharing site to site across the MCN.
- Some faculty at HC's have balked at the use of AQC measures, challenging their validity.
- Little financial incentive to date to cause clinicians to prioritize improvement of quality scores.
- Variability of support services between the health centers.
- Poor patient engagement in improving health outcome measures.
- Top-down approach to improvement (Hospital system → administration/leadership → medical directors/POD leaders → providers → staff) with little incentive for staff to innovate or participate in quality-improvement work.
- Competing demands and priorities which distract clinicians and leadership from QM improvement work.
- EMR does not support real time reminders

Where we might be going

Saver, Martin, et. al.

(personal communication unpublished manuscript)

Core Principles

- *Principle 1:* Quality measures must address clinically meaningful, patient-centered outcomes.
- *Principle 2:* Quality measures must be developed transparently and supported by robust scientific evidence linking them to improved outcomes.
- *Principle 3:* Availability of current data, the burdens of new data collection, and the risk of gaming should be considered when developing quality measures

The Importance of Data Analytics in Physician Practice

"The tracking of quality metrics should be incidental to the care patients are receiving and should not be the object of care"

Presentation to Massachusetts Medical Society
March 30, 2012

James L. Holly, MD
Adjunct Professor
Family and Community Health
The University of Texas Health Science Center at San Antonio

Practice Pattern Variation Analysis

The Institute of Medicine committee has defined clinical effectiveness research (CER) as "the generation and synthesis of evidence that compares the benefits and harms of alternative methods to prevent, diagnose, treat, and monitor a clinical condition or to improve the delivery of care. The purpose of CER is to assist consumers, clinicians, purchasers, and policy makers to make informed decisions that will improve health care at both the individual and population levels."

Practice Pattern Variation Analysis

Practice Pattern Variation Analysis provides (hopefully) clear, succinct and clinically based answers to five very important questions:

- What Disease Conditions account for the Highest Cost?
- What are the Key Cost Drivers within each Disease Condition?
- What variation exists within each Key Cost Driver?
- How does one select the right opportunities to reduce costs?
- How does one achieve measurable savings while maintaining or Improving Quality?

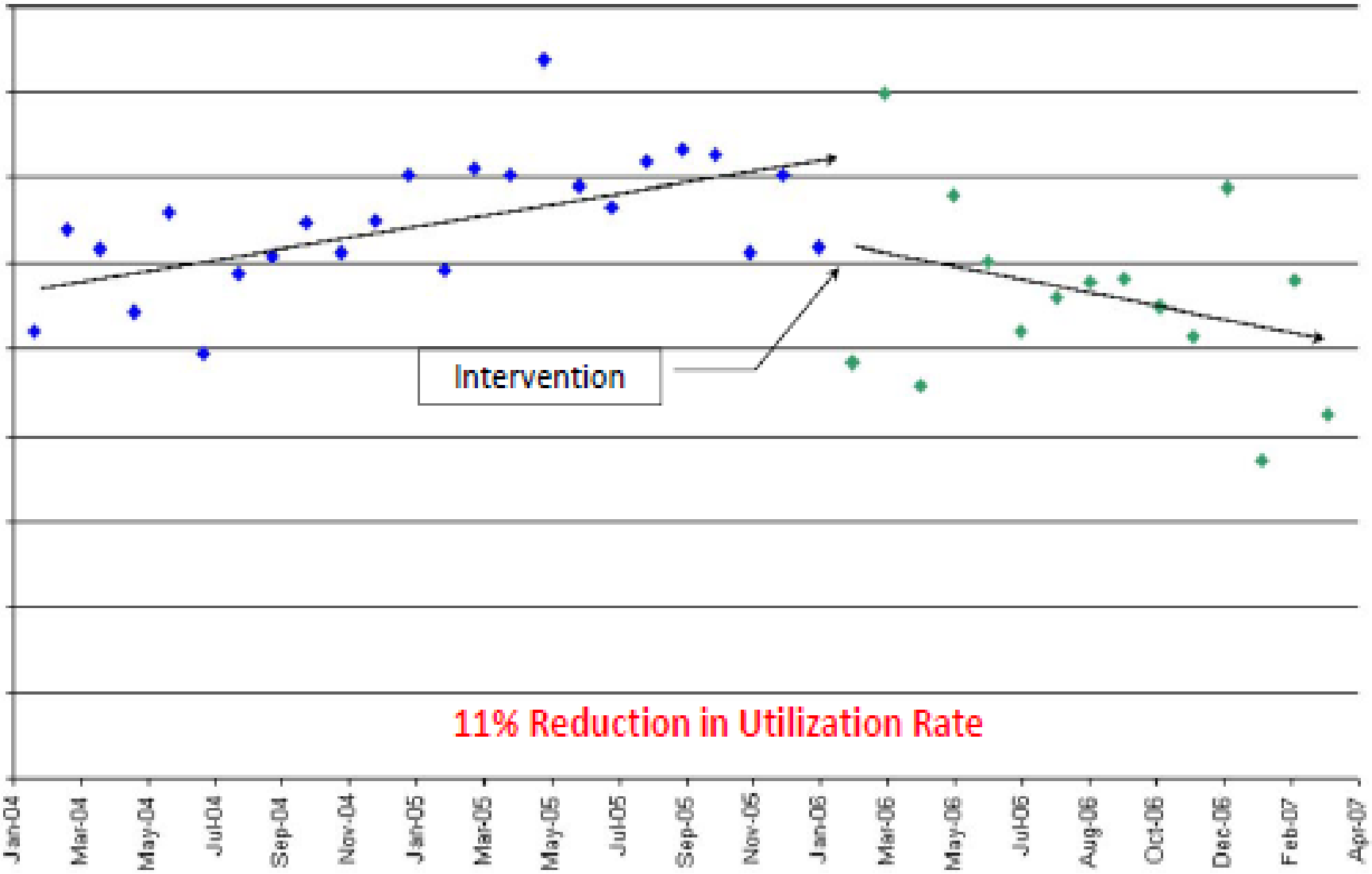
Howard Beckman, MD, FACP
Chief Medical Officer, Focused Medical Analytics
Clinical Professor of Medicine,
University of Rochester School of Medicine & Dentistry

Outcomes of PPVA

- Promoting prevention by addressing underuse
- Improving chronic disease care
- Reducing overuse of unwarranted services

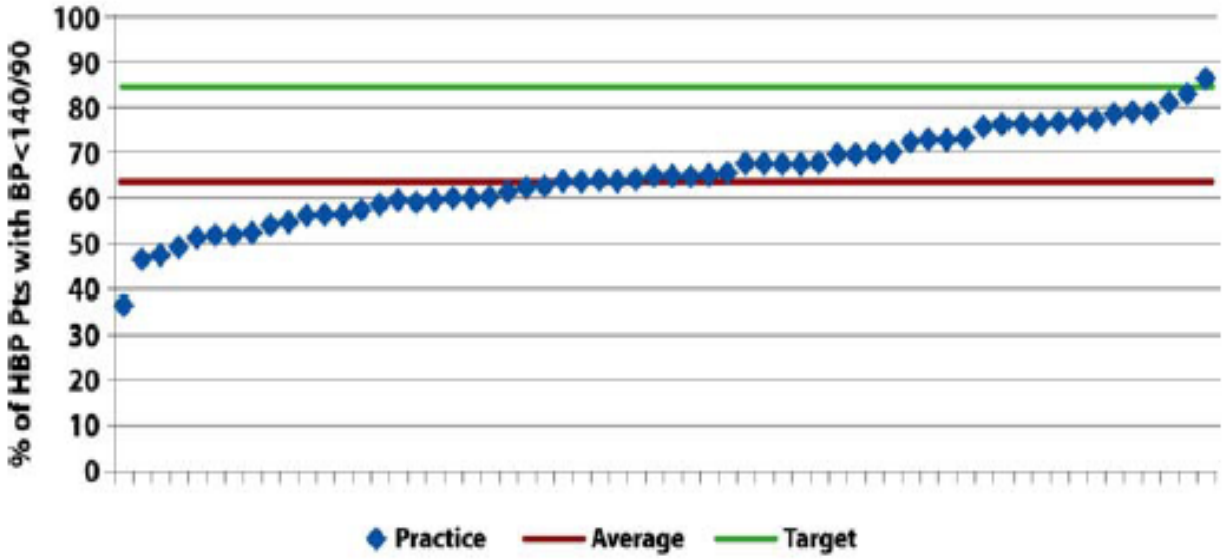
(Beckman)

Outcome on ENT Fiberoptic Laryngoscopy



Greene RA, Beckman HB, Mahoney T. Beyond the Efficiency Index: Finding a better way to reduce overuse and increase efficiency in physician care. Health Affairs. 2008;27:w250-w259. (Published online May 20, 2008:10.1377/hlthaff.27.4.w250.

% of HBP Patients with BP<140/90 by Practice Group, December 2011 Registry



Practices with more than 100 HBP patients in registry with known status
Control rate for patients with BP read within last 13 months
Source: December 31, 2011 High Blood Pressure Registry

Howard Beckman, MD, FACP
Chief Medical Officer, Focused Medical Analytics
Clinical Professor of Medicine,
University of Rochester School of Medicine & Dentistry

Massachusetts Center for Health Information and Analysis (CHIA)

Mission is to monitor the Massachusetts health care system and to provide reliable information and meaningful analysis for those seeking to improve health care quality, affordability, access, and outcomes.

All Payer Claims Data Base

The charter also called for enhancing the data and making the database widely available: to the public to help inform policy; to consumers to support health care purchasing decisions; and to physicians to support care management and coordination.

CHIA

- CHIA is actively soliciting input on appropriate measures of quality of care in 2 areas

- Private reporting to practices to improve quality of care, suggestions include
  - Provider Portal: tailored reports to practices based on APCD and practice panels
  - Diagnostic error
    - Reinvigoration of Betsy Lehman Center for Patient safety and Medical Error Reduction

CHIA

- Public reporting monitoring the performance of the MA health care system
  - Data pt's use to pick a physician
  - Data physicians use to pick hospitals and consultants
- Currently Using Standard Quality Measure Set (SQMS)

SQMS

Chapter 224: “Nationally accepted measure sets also be represented in the SQMS”

- Centers for Medicaid and Medicare Services’ Hospital Process Measures (for Acute Myocardial Infarction, Heart Failure, Pneumonia, and effective surgical care),
- Hospital Consumer Assessment of Healthcare Providers and Systems Survey (HCAHPS),
- Healthcare Effectiveness Data and Information Set (HEDIS), and
- Ambulatory Care Experiences Survey (ACES).
- Together, measures from these four mandated sets made up 95 of the 130 measures in the initial SQMS.

SQMS

Measures were evaluated on the following four criteria:

- *Reliability and Validity*: How strong is the empirical evidence indicating that the measure is reliable and valid?
- *Ease of Measurement*: How straightforward is data collection and reporting for this measure?
- *Field Implementation*: How widespread is the dissemination of the measure in the field?
- *Amenability to Targeted Improvement*: How reasonable is the expectation that targeted improvement at the level of analysis can affect performance on the measure?

SQMS

- Gaps included behavioral health, pediatrics, care coordination, and efficiency and utilization measures.
- Patient-centered measures such as patient-reported outcomes, shared decision-making and functional status need to be included
- Priority areas for 2013 were:
  - Behavioral health
  - Care coordination
  - Patient-centered care

The QM Holy Grail?

- Eliminating Diagnostic (and therapeutic?) Error
- Difficult to define and detect
  - EHR based surveillance of diagnostic errors in primary care

    Singh et al BMJ Quality and Safety Feb 2012
    - Triggers to detect error
      - Admit <14 days after PCP visit
      - ED or unscheduled PCP visit <14 days after index PCP visit
    - Still missed most errors

Triggers

Osler: triggers from H&P generate a differential to then be narrowed

Relied on human memory

Genius diagnosticians make great stories, but they don't make great health care.

The idea is to make accuracy reliable not heroic.

Don Berwick

Boston Globe 7/14/2002

Eliminating Error

- The single greatest impediment to error prevention in the medical industry is that we punish people for making mistakes.

- Safer practice can only come about form acknowledging the potential for error and building in error reduction strategies at each stage of clinical practice.

Lucian Leape