Massachusetts Quality e-Measure Validation Study (MQeVS)

Eric C. Schneider, MD, MSc

Harvard School of Public Health

Brigham and Women's Hospital

Kathryn L. Coltin, MPH

Independent Consultant

1

Outline of Presentation

- Background
- Translating Community Health Information Exchange data into quality measure results
- MQeVS evaluation

Using the EHR to Improve Performance Measurement

- Detailed, structured clinical data
- Unobtrusive data collection
- Aggregation across care settings can enable sophisticated measures (e.g., care coordination & safety)
- Performance results relevant to physician groups
  - Patients sampled by group, rather than health plan
  - Timely

Schneider et al, Enhancing performance measurement: NCQA's Roadmap for a Health Information Framework. JAMA 1999;282:1184

MQeVS Aims

To compare a quality measurement method using structured, coded EHR data with…

1) Current "hybrid method" involving a combination of aggregated claims data and medical record review.

2) Current "claims-only method" based on a novel database that aggregates claims data from commercial health plans and Medicare.

4

- Built on EHR adoption initiative of MA Chapter of ACP and quality and safety initiatives of MA Health Data Consortium's CIO Forum

- Start-up funding provided by Blue Cross Blue Shield of MA

- Launched in September 2004 as non-profit company registered in the Commonwealth of Massachusetts
  - CEO, Micky Tripathi began in January 2005
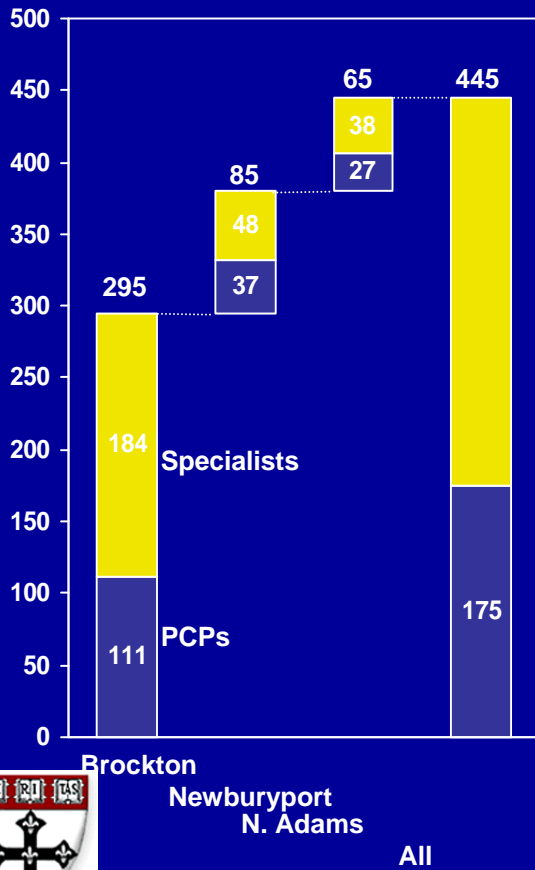- Backed by wide range of stakeholders
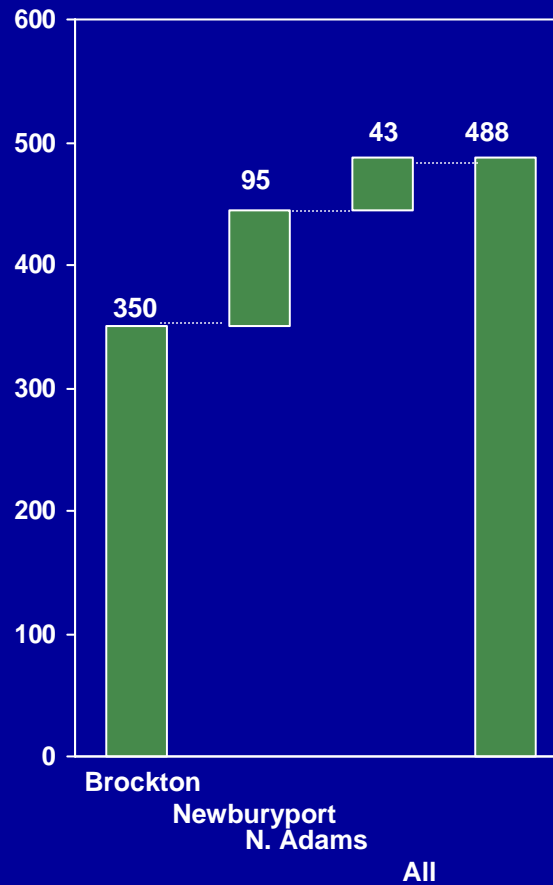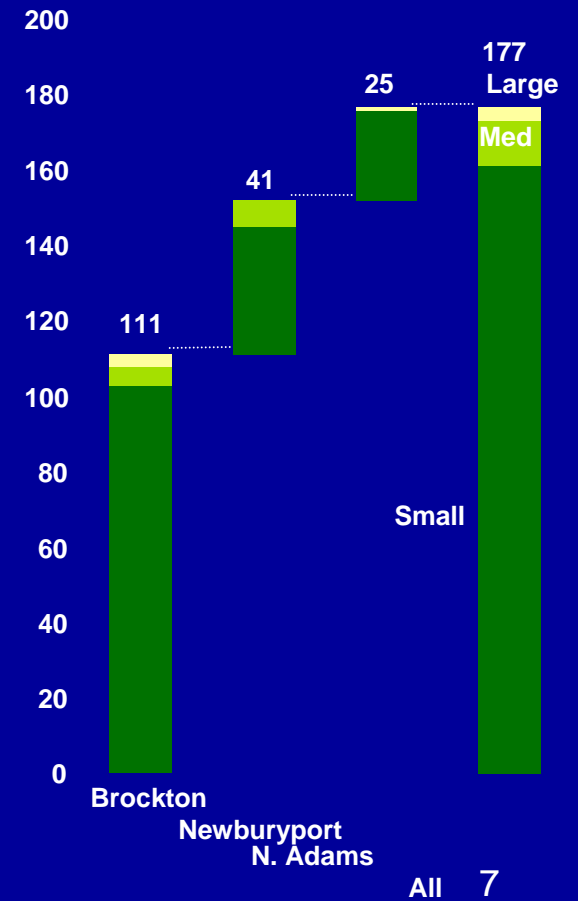
Translating Community Health Information Exchange data into quality measure results

MAeHC DATA FLOWS

MAeHC-level: Analysis & Reporting

Outcomes analysis

Benchmarking

MAeHC-level: QDC

MAeHC
Massachusetts eHealth Collaborative

Individual re-identification as necessary

Community-level: HIE

Wellogic | Wellogic | eClinicalWorks
Schedule. Prescribe. Chart. Charge.

Brockton   **Newburyport**   **North Adams**

Provider-level: EHR

NextGen   ALLSCRIPTS Inform. Connect. Transform.   GE   eClinicalWorks Schedule. Prescribe. Chart. Charge.

Physician Micro Systems   e-MDs   MEDITECH

9

QUALITY DATA CENTER (QDC) Goals

- Reporting
  - Quality reports to community physicians and physician organizations to help them benchmark their performance & identify clinical areas needing improvement

- Evaluation
  - Enable MAeHC and its research partners to evaluate the impact of HIT on the quality of health care delivery in the pilot communities

QDW DATA VALIDATION PROCESS

- **Purpose**
  - Test availability of necessary information in extracted data fields in Quality Data Warehouse
  - Test assumptions re format and coding of data elements
  - Identify documentation issues that can be remediated with training
  - Identify coding issues and remediation strategies

- Process
  - Identification of common documentation issues affecting measures
  - Development of training tips to improve performance results through better documentation
  - Development of code maps as needed
  - Patient re-identification process to support both patient and chart-based validation of measures

CURRENT ASSESSMENT OF DATA AND CODING ISSUES
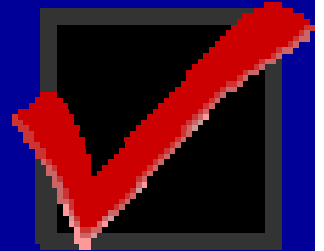
- Measures with *no* data gaps/coding issues
  - Community 1: 7 of 20 measures
  - Community 2: 18 of 20 measures
  - Community 3: in progress
- Data gaps and coding issues (examples):
  - Missing historical screening and surgical procedure codes
  - E & M codes not transmitted (remedied)
  - Incompatible coding systems (lab/billing)
  - Lack of data on inpatient/ED orders

MQeVS Evaluation

MQeVS Evaluation

- ## Sample

  - Aim 1: 2100 patients recruited from MAeHC communities via patient survey

  - Aim 2: All "measure eligible" patients with EHR-HIE data and health plan administrative data (de-identified data analysis)

- ## Data Sources for comparison

  - Quality data from Quality Data Center (Community HIEs)

  - Survey of patients about measured services

  - Office medical record review (including paper records)

  - Health plan claims data

Quality Measures:
Deconstructing Data Needs

E=exclusion criteria; D=denominator inclusion; N=numerator inclusion; Var=varies

	Age/ Sex	Den Time Window	Num Time Window	Enc Data	Dx Data	Rx Data	Proc Data	Test	Test Result
Colorectal Screening	D	2 yr	10 yr	N	E		N	N	
Beta-blocker after MI	D	1 yr	7 d	D	D,E	N			
HbA1C Control	D	1 yr	1 yr		D,E			D, N	N
Eye exam	D	1 yr	1 yr	D,N	D	E	N,E		E

Analysis

Availability of Inclusion Criteria Data for Colonoscopy?			
		Through EHR Data Method	
		Yes	No
Through Hybrid Method	Yes	a	b
	No	c	d

Where: Availability through the EHR = (a+c) / (a+b+c+d) = 92%
And: Availability through Hybrid method = (a+b) / (a+b+c+d) = 98%

Challenges

- Logistical
  - HIE implementation
  - Data sharing (privacy/confidentiality)
- Analytic
  - Lack of a "gold standard"
  - Complex correlation among data sources
  - Identifying and interpreting "missing" data
  - Small sample sizes for some measures

"Crossing the Quality Chasm?"