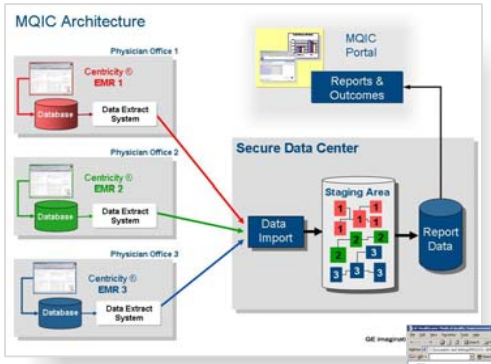
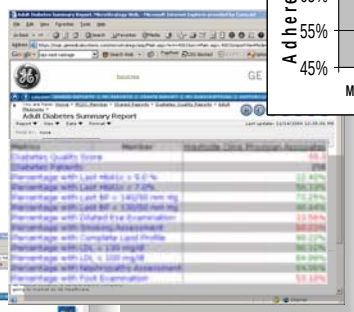
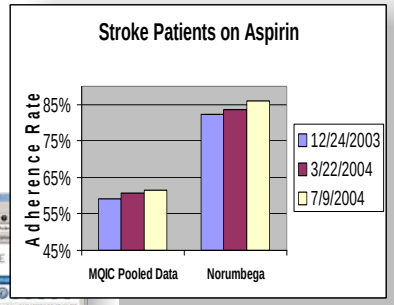
Using Automated EMR-Based Reporting for P4P

Mark Segal, PhD, MBA
Jennifer Benjamin
Michael Lieberman, MD MS
Edward Pullen, MD







Session Outline

1. Introduction and Overview
   Mark J. Segal, PhD, GE Healthcare
2. DPRP Overview
   Jennifer Benjamin, NCQA
3. MQIC
   Michael Lieberman, MD, MS, GE Healthcare
4. C-EMR Customer
   Ed Pullen, MD

Overview: The Importance of Clinical Data in Quality Measurement and P4P

Clinical Data vs. Administrative Data

- Quality measures rely heavily on claims/ administrative data
- Clinical data collection costs high, with most clinical data needing manual abstraction
- Electronic Medical Record (EMR) use low
- Literature questions validity and reliability of administrative data for quality measurement

Comparison of Administrative-only Versus Administrative Plus Chart Review Data for Reporting HEDIS Hybrid Measures

L. Gregory Pawlson, MD; Sarah Hudson Scholle, DrPH;
and Anne Powers, PhD

6. Iezzoni LI. Assessing quality using administrative data. *Ann Intern Med.* 1997;127:666-674.

7. Newschaffer CJ, Bush TL, Penberthy LT. Comorbidity measurement in elderly female breast cancer patients with administrative and medical records data. *J Clin Epidemiol.* 1997;50:725-733.

8. Steinwachs DM, Stuart MR, Scholle S, Starfield B, Fox MH, Weiner JP. A comparison of ambulatory Medicaid claims to medical records: a reliability assessment. *Am J Med Qual.* 1998;13:63-69.

9. Parkinson MD. Clinical performance review for diabetic care comparing medical record versus claims and administrative data. *Am J Manag Care.* 2002;8:607-608.

10. Keating NL, Landrum MB, Landon BE, Ayanian JZ, Borbas C, Guadagnoli E. Measuring the quality of diabetes care using administrative data: is there bias? *Health Serv Res.* 2003;38:1529-1545.

11. Baker DW, Persell SD, Thompson JA, et al. Automated review of electronic health records to assess quality of care for outpatients with heart failure. *Ann Intern Med.* 2007;146:270-277.

12. Kerr EA, Smith DM, Hogan MM, et al. Comparing clinical automated, medical record, and hybrid data sources for diabetes quality measures. *Jt Comm J Qual Improv.* 2002;28:555-565.

Results: Performance rates using administrative data alone were substantially lower than rates using combined data (average difference of 20.4 percentage points). On average, more than half of the plans had different quartile rankings based on administrative-only rates versus combined data rates. Measures relying on laboratory claims or laboratory results had the largest discrepancies.

Conclusions: Currently available health plan administrative data alone do not appear to provide sufficiently complete results for ranking health plans on HEDIS quality-of-care measures with hybrid specifications. The results suggest that reporting of clinical performance measures using administrative data alone should include prior testing and reporting on the completeness of data, relative rates, and changes in rankings compared with the use of combined administrative data and chart review..

(Am J Manag Care. 2007;13:553-558)

"These findings raise questions about the accuracy of administrative data alone for a number of clinical performance measures. The problems with administrative data may be even greater with physician-level measurements, which have smaller sample sizes and greater heterogeneity of patient populations than at the plan level." pp. 556-557

Comparison of Methodologies for Calculating Quality Measures Based on Administrative Data versus Clinical Data from an Electronic Health Record System: Implications for Performance Measures

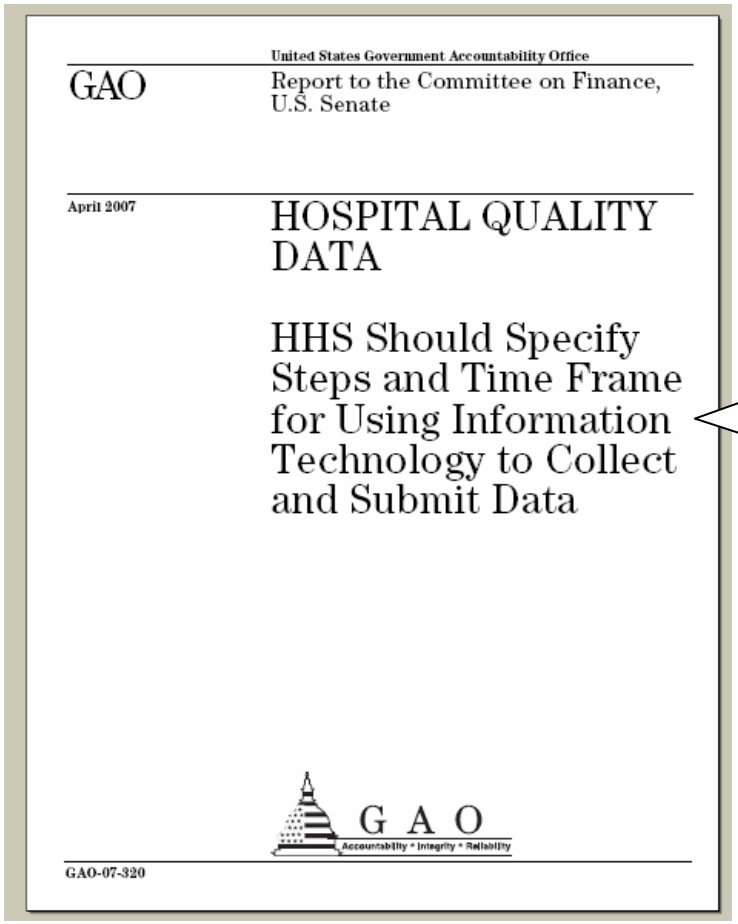
Paul C. Tang, MD, MS, Mary Ralston, PhD, Michelle Fernandez Arrigotti, MPH, Lubna Qureshi, MS, Justin Graham, MD, MS

Abstract New reimbursement policies and pay-for-performance programs to reward providers for producing better outcomes are proliferating. Although electronic health record (EHR) systems could provide essential clinical data upon which to base quality measures, most metrics in use were derived from administrative claims data. We compared commonly used quality measures calculated from administrative data to those derived from clinical data in an EHR based on a random sample of 125 charts of Medicare patients with diabetes. Using standard definitions based on administrative data (which require two visits with an encounter diagnosis of diabetes during the measurement period), only 75% of diabetics determined by manually reviewing the EHR (the gold standard) were identified. In contrast, 97% of diabetics were identified using coded information in the EHR.

The discrepancies in identified patients resulted in statistically significant differences in the quality measures for frequency of HbA1c testing, control of blood pressure, frequency of testing for urine protein, and frequency of eye exams for diabetic patients. New development of standardized quality measures should shift from claims-based measures to clinically based measures that can be derived from coded information in an EHR. Using data from EHRs will also leverage their clinical content without adding burden to the care process.

■ **J Am Med Inform Assoc.** 2007;14:10–15. DOI 10.1197/jamia.M2198.

Collecting Measure Data



United States Government Accountability Office

GAO

Report to the Committee on Finance, U.S. Senate

April 2007

HOSPITAL QUALITY DATA

HHS Should Specify Steps and Time Frame for Using Information Technology to Collect and Submit Data

GAO

Accountability * Integrity * Reliability

GAO-07-320

Existing IT Systems Can Help Hospitals Gather Some Quality Data but Are Far from Enabling Automated Abstraction

Overcoming Claims Data Shortfalls

- Blending claims and clinical data
  - NCQA: Claims-based *and* “hybrid” HEDIS measures
  - CMS: BQI/Chartered Value Exchanges pooling payer data
- Medicare PQRI
  - Special billing codes with *embedded clinical content* – CPT II codes
  - Testing registries and EMRs as quality measure data sources
- Medicare P4P demos:
  - Claims data augmented with clinical data
  - New five-year program for 100 physicians in each of 12 communities who will report quality measures using EMRs
- Enabling EMR-based Quality Measures
  - HITEP: Framework for EMR quality measures
  - AMA/NCQA/EHR Vendors Association Collaborative

Pooling Public and Private Data

- BQI: Medicare's *Better Quality Information to Improve Care for Medicare Beneficiaries*
  - Demonstration sites: Six collaboratives
  - Goal: Pool private data with Medicare claims to produce accurate, comprehensive provider-level quality measures
  - Results: Used to provide performance feedback to physicians and Medicare beneficiaries
- Wisconsin Collaborative for Healthcare Quality: BQI site using a mix of claims and clinical data
- BQI transitions to Chartered Value Exchanges in 2008

PQRI: Coding Specifications

Heart Failure

Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Left Ventricular Systolic Dysfunction (LVSD

Coding Specifications

Codes required to document patient has heart failure and a visit occurred:

An ICD-9 diagnosis code for heart failure and a CPT E/M service code are required to identify patients to be included in this measure.

Heart Failure ICD-9 diagnosis codes

- 402.01, 402.11, 402.91 (hypertensive heart disease with heart failure)
- 404.01, 404.03, 404.11, 404.13, 404.91, 404.93 (hypertensive heart and renal disease with heart failure)
- 428.0, 428.1, 428.20, 428.21, 428.22, 428.23, 428.30, 428.31, 429.32, 428.33, 428.40, 428.41, 428.42, 428.43, 428.9 (heart failure)

AND

CPT E/M service codes

- 99201, 99202, 99203, 99204, 99205 (office-new patient),
- 99212, 99213, 99214, 99215 (office-established patient),
- 99221, 99222, 99223 (initial inpatient),
- 99238, 99239 (discharge),
- 99241, 99242, 99243, 99244, 99245 (outpatient consult),

CPT II Code descriptors

- ***CPT II 3022F:*** Left ventricular ejection fraction (LVEF) ≥40% or documentation as normal or mildly depressed left ventricular systolic function
- ***CPT II 3021F:*** Left ventricular ejection fraction (LVEF) <40% or documentation of moderately or severely depressed left ventricular systolic function
- ***CPT II 4009F:*** Angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy prescribed
- ***CPT II 4009F–1P:*** Documentation of medical reason(s) for not prescribing angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy
- ***CPT II 4009F–2P:*** Documentation of patient reason(s) for not prescribing angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy
- ***CPT II 4009F–3P:*** Documentation of system reason(s) for not prescribing angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy
- ***CPT II 4009F–8P:*** Angiotensin converting enzyme (ACE) inhibitor or angiotensin receptor blocker (ARB) therapy not prescribed, reason not otherwise specified

Source: CMS PQRI Module III, May 2007

HITEP Process

NQF charged to establish a Health IT Expert panel:
Accelerate current efforts to identify a set of common data elements to be standardized in order to enable automation of a prioritized set of AQA and HQA measures through EHRs

1. Establish a priority order for a subset of existing AQA and HQA measures.
2. Identify a set of common data elements to be standardized to enable automation of AQA and HQA measures through electronic health records and health information exchange;
3. Develop an overarching quality measure development framework to facilitate developing, using, and reporting on quality measures from EHR systems

Convened twice in Washington, DC on May 31, 2007 and September 24, 2007.

Measure Development Framework
Data Quality Criteria

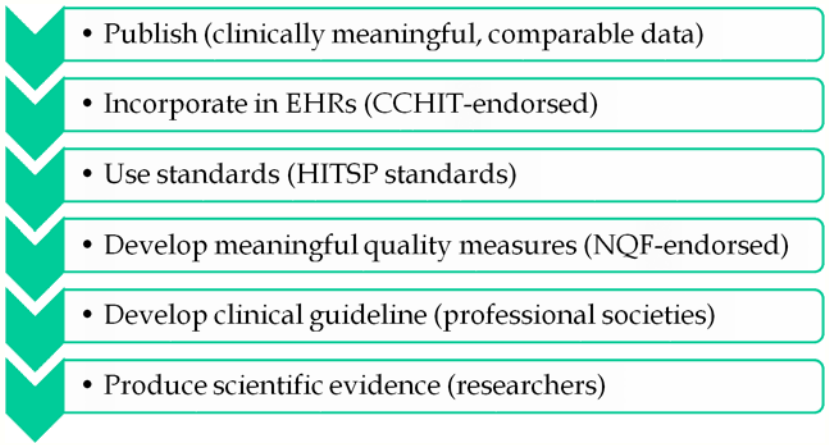
1. **Authoritative source/accuracy:** Is the entry in the EHR from an authoritative data source? What is the accuracy of the data element in EHRs? [Weight 5]
2. **Use of data standards:** Does the data element use standardized data elements for coding? [Weight 5]
3. **Fit workflow:** Does capture of the data element by the most appropriate healthcare professional fit the typical EHR workflow for that user? [Weight 4]
4. **Availability in EHRs:** Is the data element currently available within EHRs? [Weight 4]
5. **Auditable:** Can the data be tracked over time to assess accuracy? [Weight 2]

Scale: 1-5; Weight (out of 5)

NQF HITEP Draft Recommendations
To CCHIT (and EHR Vendors)

- Develop functionality to efficiently capture distinctions between true hypersensitivity allergic responses to a drug vs. drug intolerance or side effects
- Develop functionality to efficiently code results of diagnostic tests (e.g., LVEF)
- Develop functionality to automatically capture the issuance of discharge instructions regarding specific conditions
- Develop methods of using pharmacy data to determine duration of medication usage

Purpose-Driven Process

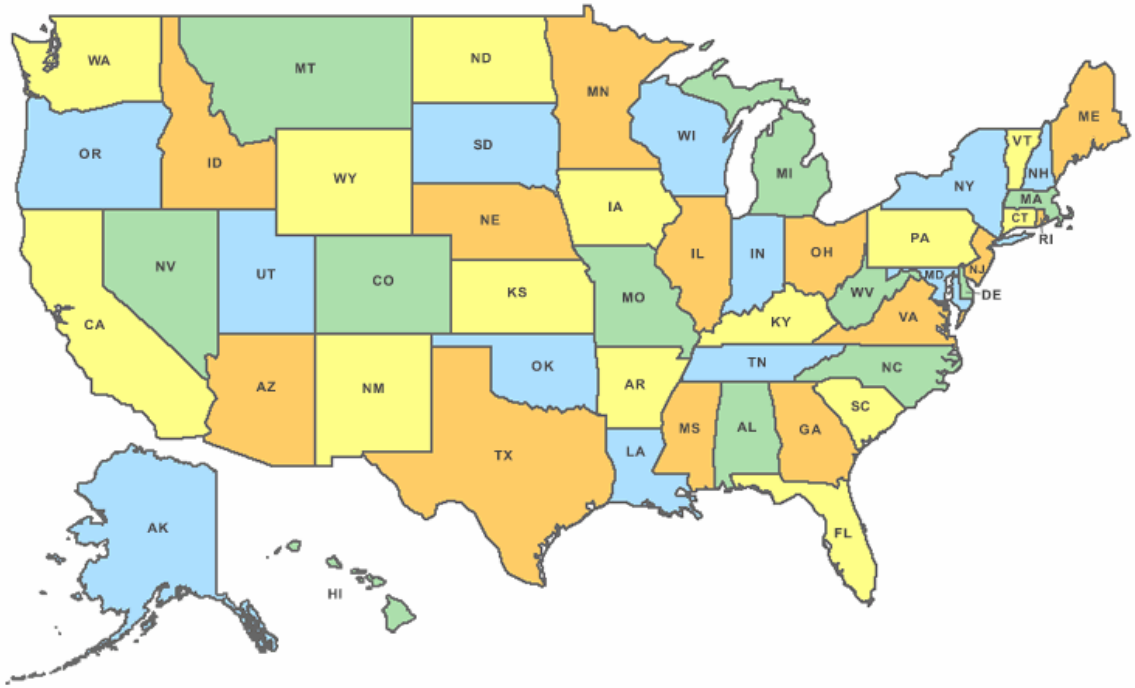


The NCQA’s Diabetes Physician Recognition Program

The Medical Quality Improvement Consortium (MQIC)

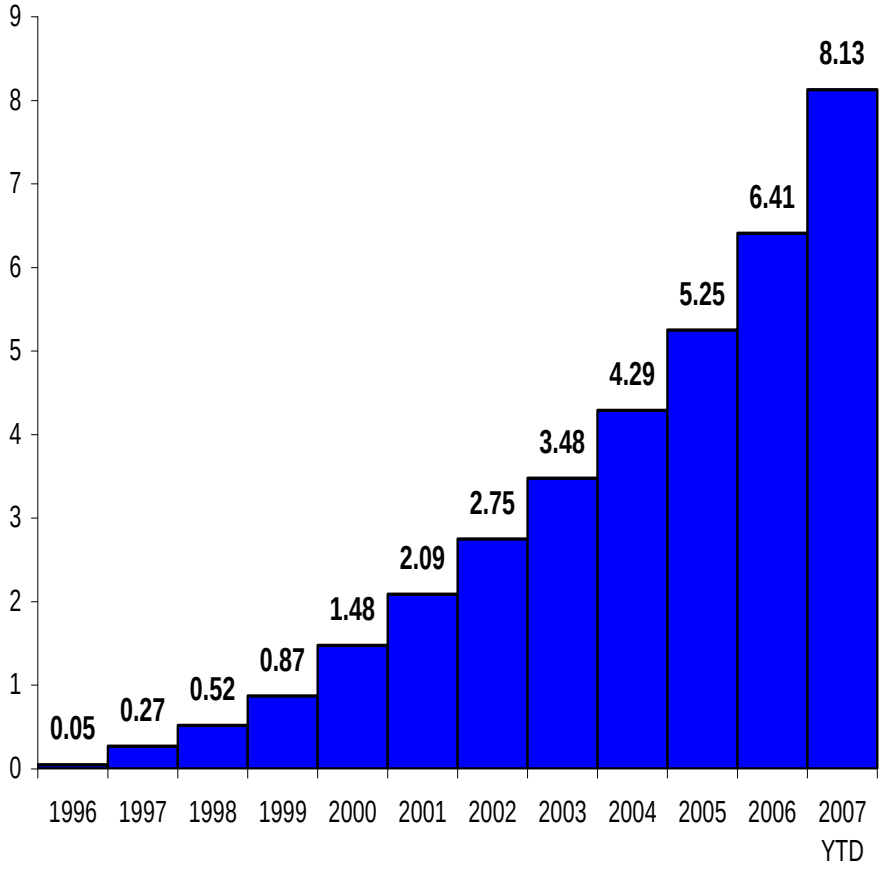
Medical Quality Improvement Consortium

- Unique clinical reporting solution
- Centricity EMR Users
- Use data to improve patient care
- Strengthen clinical reporting
  - Disease management
  - Quality reporting
- Clinical research
- **Free service**



MQIC – Statistics
November 2007

- Membership
  - 151 Members
  - 10,032 Providers
  - 38 States
- Database
  - 8.13 Million Patients
  - 54 Million Office Visits
  - 369 Million Documents

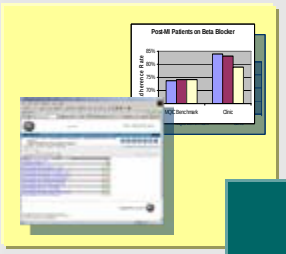


Data Security

- HIPAA-compliant
- Remove patient-identifying information
  - Name, SSN, Phone, Address
  - Zip code to 3 digits only
  - DOB --> Age
  - PID --> transformed to EPID
- Only EMR customers can re-identify individuals

MQIC Components

3



MQIC Web Portal

Reports & Outcomes

Centricity ® Physician Office EMR

Database

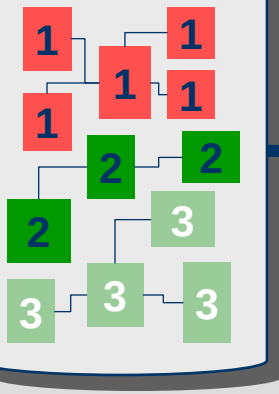
Data Extract System

1

Data Warehouse Services

Data Import

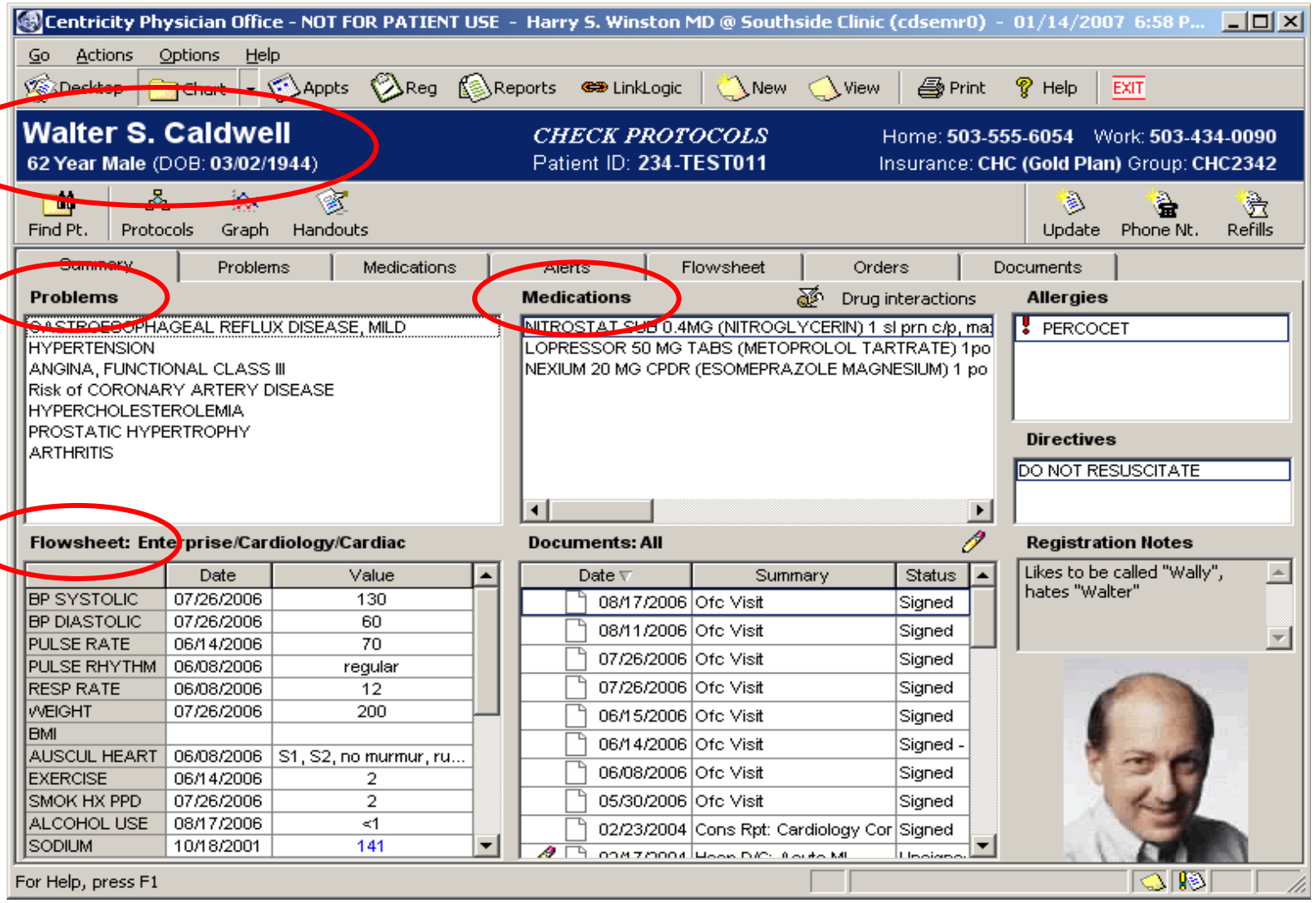
Staging Area



Report Data

2

Data Captured



Data Values Require Harmonization
Example: Systolic Blood Pressure

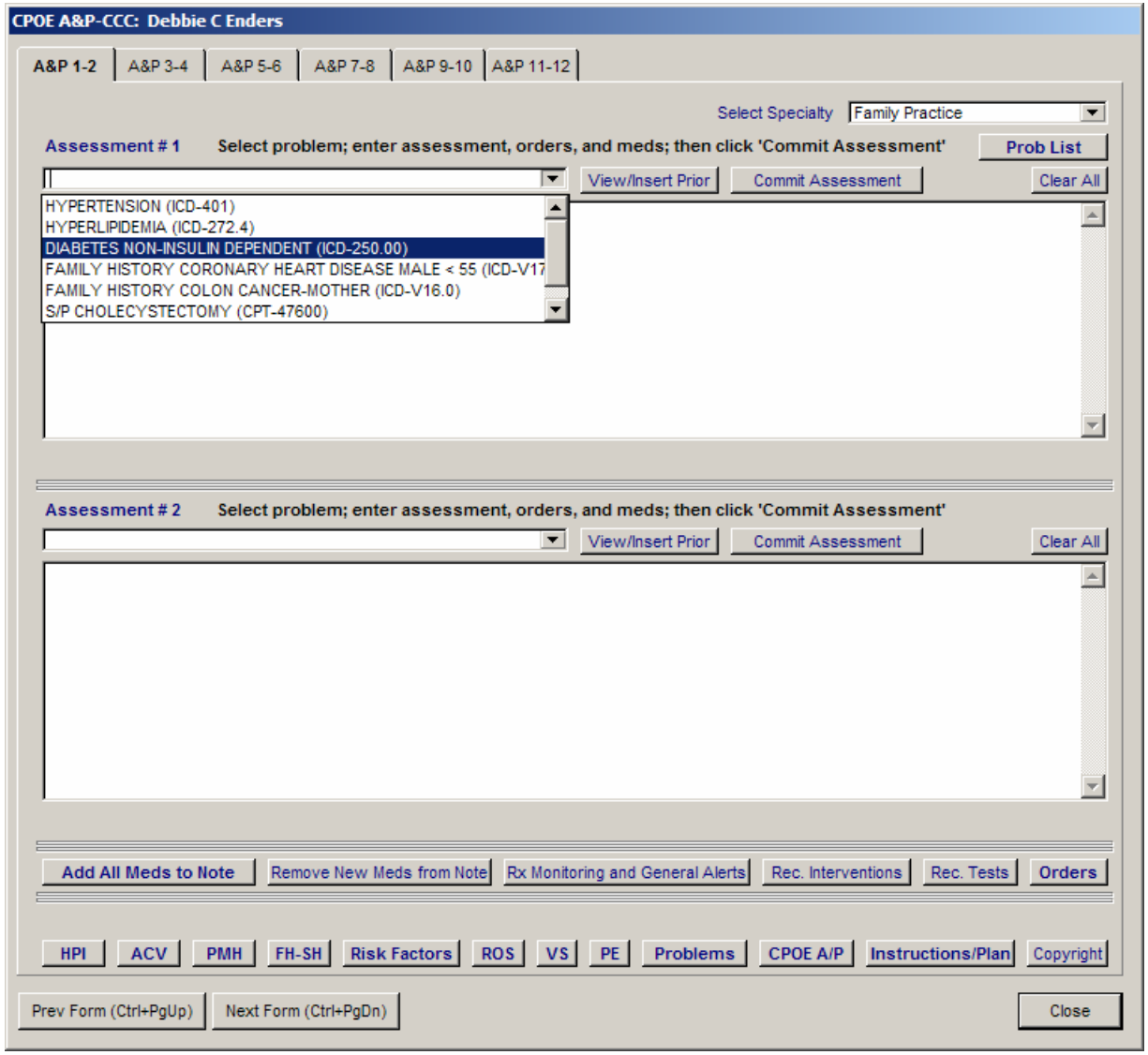
Entered Value	Cleaned Value
120	120
110 RT	110
130 L LGE CUFF	130
Refused	*Text*
3	*Out of Range*
5’ 10’’	*Invalid Value*
350	*Out of Range*

Textual Observations

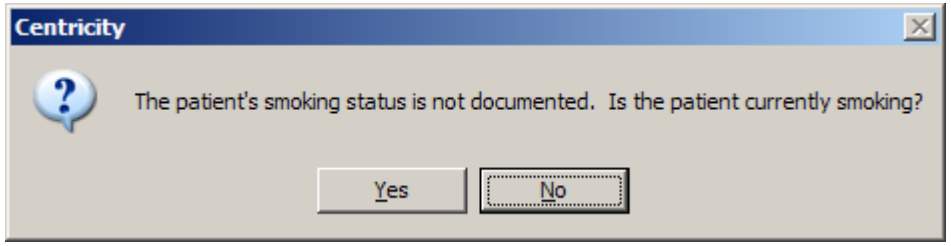
EMR Data Element

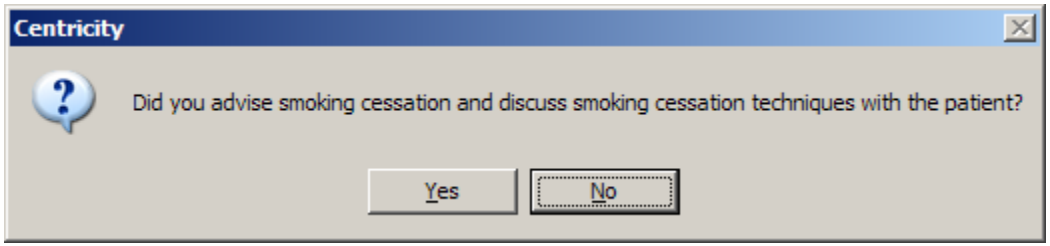
Reporting Data Element

Diabetes Decision Support Example

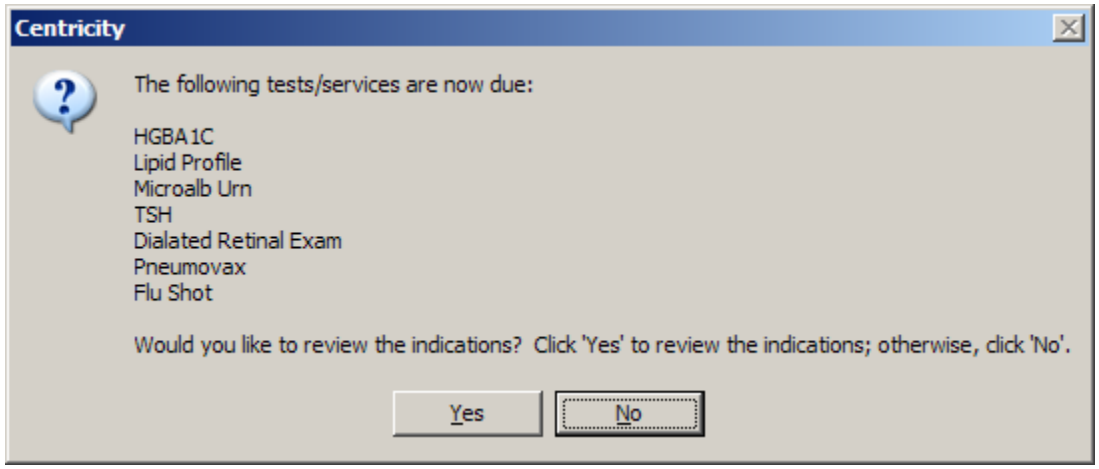


Diabetes Decision Support Example

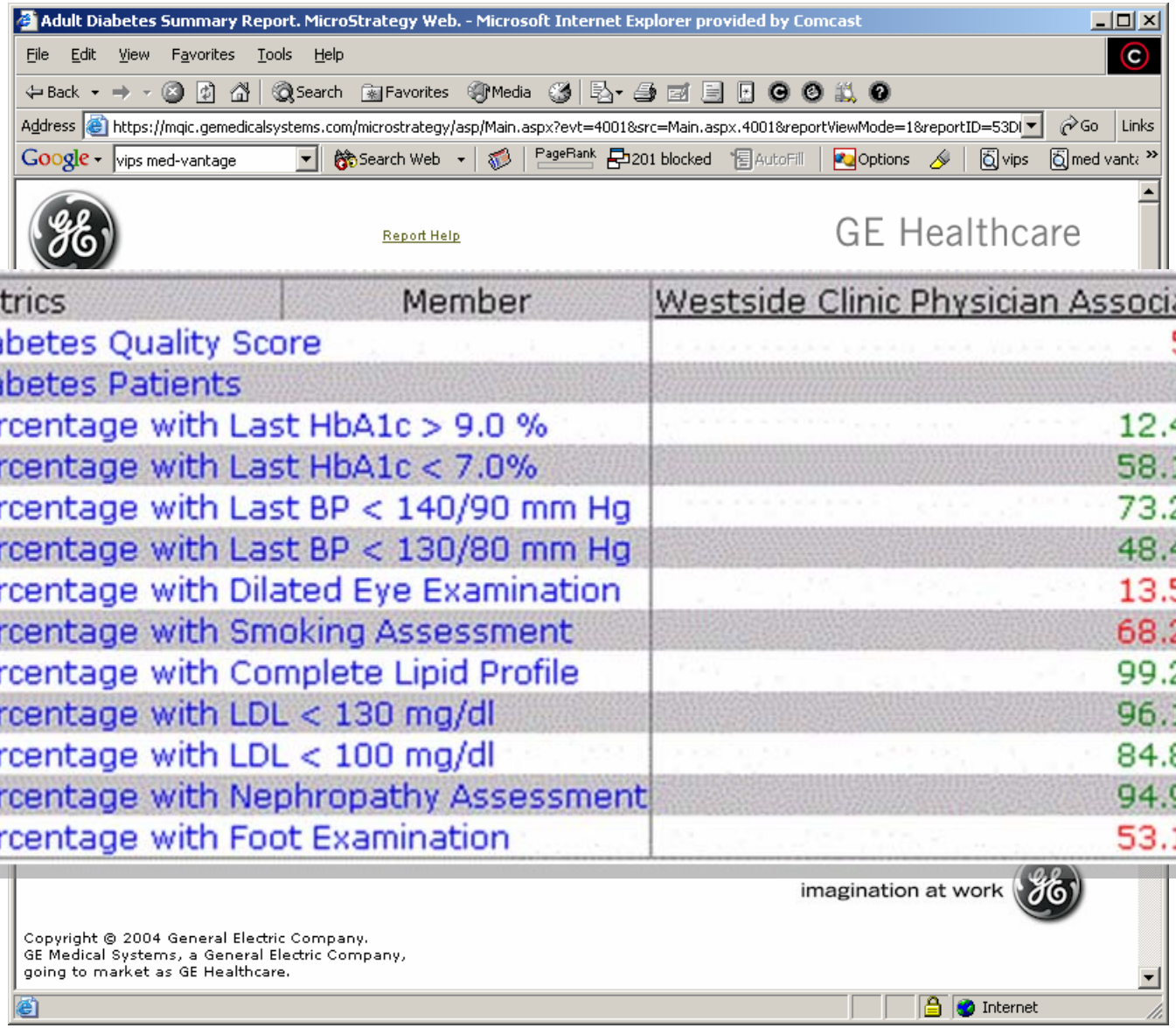




Diabetes Decision Support Example



NCQA DPRP Report



Metrics	Member	Westside Clinic Physician Associates
Diabetes Quality Score		55.0
Diabetes Patients		258
Percentage with Last HbA1c > 9.0 %		12.40%
Percentage with Last HbA1c < 7.0%		58.13%
Percentage with Last BP < 140/90 mm Hg		73.25%
Percentage with Last BP < 130/80 mm Hg		48.44%
Percentage with Dilated Eye Examination		13.56%
Percentage with Smoking Assessment		68.21%
Percentage with Complete Lipid Profile		99.22%
Percentage with LDL < 130 mg/dl		96.12%
Percentage with LDL < 100 mg/dl		84.88%
Percentage with Nephropathy Assessment		94.96%
Percentage with Foot Examination		53.10%

Summary

- Tools to improve quality of care and manage populations
  - Integrated decision support on the front end
  - Registry functionality and benchmarking on the back end
- Greatly simplify submission process
  - 15 minutes via automated method


sound
family medicine
WE DELIVER.

Sound Family Medicine

- Single Specialty Private Family Practice Group
- 3 Clinical locations plus 2 Urgent Care areas associated
- Separate administrative building
- 15 FPs, 10 PACs, 2 ARNPs
- Using Logician/Centricity EMR since 7-1997

MQIC Experience

- SFM was an early participant in MQIC
- The concept of profit sharing for use of our data, while allowing us to mine our own data to improve our patient care was very appealing.
- We looked behind the reports to assure our data was entered tied to observation terms that the MQIC reports queried.

How we use MQIC to improve our clinical care.

- Compare ourselves to MQIC consortium database of primary care providers.
- Find areas we need to improve.
- Develop processes to accomplish improvement.
- Compare ourselves to each other, and find out how our best providers do it.
- Decide on interventions we need to make.
- Implement these interventions.

Hypertension – our first project.

- MQIC evaluation showed us our diastolic BP control was not as good as our Centricity/MQIC colleagues.
- We put a program in place to use more aggressive treatment, recall reports, and follow up visits to improve BP control.
- We submitted a report of our program to GE and won the GE annual award for excellence.
- We were the only private group in WA to win a Qualis (WA state IT / quality group) award for use of IT to improve patient care,

What really worked

- After individual performance data was available, we asked the outlying physician (by far the best) how he did it, and adopted his techniques.
- We shared all individual data with each other to create competition.
- We dedicated staff resources to work recall reports.

NCQA DM provider recognition

- We set a goal in 2006 that by 2007 we would become the first large physician group in Pierce County, WA to have all of our physicians NCQA recognized for DM care.
- We started using our MQIC reports to get a baseline, and to monitor progress toward this goal.
- Midway through 2007 MQIC allowed provider and patient identification, and we started using these reports to facilitate patient recalls.

NCQA DM provider recognition (cont)

- We developed a quality dashboard to follow progress, and reviewed this monthly at our board meetings.
- We shared progress with all providers, and set rewards for each clinical location who got all of their providers qualified for NCQA recognition.
- We set up reports in medical records to chase down labs for endocrinology patients.

Dashboard report at the start of the DM project

DM NCQA Certification report													
Available points		***10***	**5**	**10**	**5**	**10**	**5**	**5**	**7.2**	**2.5**	***10***	***10***	**80**
Score needed		**<20%**	**>40%**	**>65%**	**>35%**	**>60%**	**>80%**	**>85%**	**>63%**	**>36%**	**>80%**	**>80%**	**60**
Date	# Pts	Ha1c	HBA1C	<140/	<130/	Eye	Smoke	LDL	LDL <13(	LDL	Microal	Foot ex	Poin
		>9.0	<7.0	90	80			Done	<100	<130			
7/2/2006	854	29.3%	40.6%	74.2%	37.4%	1.9%	70.7%	84.5%	74.8%	53.2%	38.9%	26.0%	35
7/31/2006	**886**	**29.5%**	**41.1%**	**73.9%**	**38.1%**	**4.2%**	**71.6%**	**84.7%**	**73.9%**	**51.9%**	**39.6%**	**27.2%**	**35**
9/26/2006	920	29.6%	41.6%	74.6%	38.9%	10.2%	78.0%	85.2%	74.7%	51.7%	43.3%	33.4%	35
10/10/2006	**930**	**29.2%**	**43.0%**	**74.7%**	**39.9%**	**13.1%**	**80.5%**	**85.9%**	**74.3%**	**51.7%**	**45.6%**	**37.7%**	**40**
12/12/2006	969	23.9%	47.9%	77.2%	41.9%	21.2%	84.7%	84.7%	76.0%	52.4%	51.9%	49.3%	40

HTN Mgmt	**by MQIC reports**				**Hyperlipidemia Mgmt MQIC reports**						
Date	**# pts**	**Systolic <140**	**Diastolic <90**		**# pts**	**LDL <12m**	**LDL <140**	**HDL >40**			
Apr-05	3117	71%	77%		3925	55.13%	68.48%	68.33%			
10/27/2005	**4147**	**72.82**	**81.05**		**5200**	**53.37%**	**65.08%**	**60.43%**			
2/7/2006	4445	73.09	80.92		5640	52.75%	66.15%	62.14%			
12/19/2006	**5075**	**75.06**	**84.14%**		**5572**	**53.84%**	**66.80%**	**69.63%**			

Dashboard at the end of 2007, 18 months into project

DM NCQA Certification report													
Available points		10	5	10	5	10	5	5	7.2	2.5	10	10	80
Score needed		<20%	>40%	>65%	>35%	>60%	>80%	>85%	>63%	>36%	>80%	>80%	60
Date	# Pts	Ha1c >9	Ha1c<7	<140/90	<130/80	Eye exam	Smoking	LDL done	LDL <130	LDL < 100	Microal	Foot exam	Points
7/2/2006	854	29.3%	40.6%	74.2%	37.4%	1.9%	70.7%	84.5%	74.8%	53.2%	38.9%	26.0%	35
10/10/2006	930	29.2%	43.0%	74.7%	39.9%	13.1%	80.5%	85.9%	74.3%	51.7%	45.6%	37.7%	40
4/27/2007	991	21.1%	50.8%	76.3%	38.0%	26.3%	88.7%	88.3%	78.0%	54.9%	60.3%	59.9%	40
5/18/2007	1012	20.8%	51.7%	76.3%	38.5%	27.1%	89.7%	88.0%	77.5%	54.8%	62.1%	62.2%	40
New goals & points		**Ha1c >9**	**Ha1c<7**	**>140/90**	**<130/80**	**Eye exam**	**Smoking**	**LDL >130**	**LDL <100**	**Microal**	**Foot exam**		**75 need**
		15 pts	**10 pts**	**15 pts**	**10 pts**	**10 pts**	**10 pts**	**10 pts**	**10 pts**	**5 pts**	**5 pts%**		
		<15%	>40%	<35%	>25%	80.0%	80.0%	<37%	>36%	80.0%	80.0%		
7/16/2007	970	19.3%	50.1%	24.8%	37.7%	28.1%	91.8%	37.4%	37.5%	85.9%	70.3%		60
8/20/2007	968	18.59%	51.65	25.10%	37.91%	29.8%	92.7%	37.39	38.11	86.4%	72.7%		60
9/19/2007	975	9.12%	52%	25.64%	37.12%	29.84%	93.23%	18.46%	37.94%	86.05%	75.69%		**85**
10/23/2007	985	8.73	52.69	24.77	37.66	29.74	93.19	18.37	37.36	86.39	77.05		**85**
11/19/2007	992	8.26	54.53	25.3	38.91	31.14	93.64	18.44	36.99	86.89	78.52		**85**
1/16/2008	1009	8.62	55.5	25.56	39.74	30.92	94.35	17.14	38.35	87.11	78.09		**85**

HTN Mgmt QIC reports						Hyperlipidemia Mgmt MQIC reports						
Date	# pts	SFM Sys <140	MQIC	SFM Dias <90	MQIC	# pts	SFM LDL <12mo	MQIC LDL <12mo	SFM LDL <140	MQIC LDL <140	SFM HDL >40	MQIC HDL >40
Apr-05	3117	71.33%		77.25%		3925	55.13%		68.48%		68.33%	
1/23/2007	5270	74.52%	66.83%	84.04%	85.56%	5743	52.57%	65.60%	65.82%	77.89%	69.21%	77.01%
8/20/2007	5518	73.69%	68.81%	81.14%	85.55%	6149	52.97%	63.83%	64.75%	78.27%	67.19%	74.41%
9/19/2007	5589	74.11%	69.17%	81.27%	85.67%	6218	52.62%	63.94%	64.98%	78.45%	65.79%	74.05%
10/23/2007	5675	74.00%	69.11%	80.96%	85.66%	6286	52.34%	64.11%	65.08%	78.59%	65.93%	73.72%
11/19/2007	5739	73.98%	68.95%	80.74%	85.59	6343	53.00%	67.35%	64.54%	78.66%	64.17%	73.27%
1/16/2008	5860	72.67%	68.28%	81.34%	85.41	6504	53.14	64.61	64.55	78.86	64.79	73.21

What made the difference?

- Capturing data at the time of MA rooming the patient. Improved forms to encourage this.
- Using MQIC reports with patient reidentification to find the patients who needed to improve indicators.
- Teaching everyone at SFM why this is important, using Bridges to Excellence data, etc.

As of Dec 31, 2007 we just missed

- We now have 9 of 11 physicians who have been with us for a year as DPRP through NCQA.
- One is ready but there is an issue with the report on MQIC temporarily and we are waiting for that to get fixed to qualify her.
- One has 5 really impossible patients that keep them from qualifying.

P4P

- So far there really is no P4P in Washington State.
- We have a commitment from Aetna to pay us $100./ patient/year for their patients whose identified PCP has DPRP status.
- Far more profitable has been the increased Fee for service care we have provided to help our patients achieve better disease management.

Visits per patient per year

- In 2005 we were below MGMA mean for patient visits per year at 2.9.
- In 2007 we were well above MGMA mean for patient visits per year at 4.6.
- This is in part due to active chronic disease management of our diabetic, hypertensive, and hyperlipidemic patients.
- Our average physician-partner income increased by 73% from 2005 to 2007.

So it is possible to “Do well by doing good.”

Questions and Comments