eMeasure Learning Collaborative

Advancing Solutions for eMeasure Implementation

NATIONAL QUALITY FORUM

September 21, 2012

Agenda

8:00 am – 8:30 am	Welcome and Introductions Summary: April 26th In-Person Meeting
8:30 am – 10:00 am	Condition/Problem Management
10:00 am – 10:15 am	Networking Break
10:15 am – 12:15 pm	Medication Management
12:15 pm – 12:45 pm	Lunch Break
12:45 pm – 2:15 pm	Data Visibility: Essential Elusive Elements
2:15 pm – 2:30 pm	Networking Break
2:30 pm – 2:45 pm	Measure Developer Panel
2:45 pm – 3:30 pm	Summary, Implementation Perspectives and Next Steps
3:30 pm	Adjourn

eMeasure Learning Collaborative: What Are We All About?

- Public initiative convened by the NQF to bring together diverse stakeholders from across the quality enterprise.
- Promote shared learning across key eMeasure stakeholders including understanding of major drivers and barriers.
- Advance knowledge and best practices related to the development and implementation of eMeasures.
- Project consisting of interactive webinars and in-person meetings – spearheaded by Collaborative members and focused on array of relevant topics, tools, and resources.

eMeasure Collaborative Deliverables

1. Identification of current best practices (repeatable models)
2. Identification of gap areas
3. Development of recommendations for the future (to expand use of best practices and to address gap areas)

Questions for the Collaborative to Answer

Four Questions for the Collaborative to Answer

1. ***What are best practices examples*** related to the development and implementation of eMeasures?
2. ***What are the mechanisms to enhance data and workflow capability?***
3. ***What are the recommendations*** for future use of health IT and standards to enable performance measurement?
4. ***How can we "rethink" what we are looking for?***

Thank you
eMeasure Learning Collaborative Planning Committee Members

- Dana Alexander, RN, MSN, MBA
- Dwight Brown, NREMT-P
- Zahid Butt, MD, Chair, Planning Committee
- Jason Colquitt
- Kendra Hanley, MS
- Delane Heldt
- Sharon Hibay, RN, DNP
- Jesse James, MD, MBA
- Liz Johnson, MS, RN-BC
- Kevin Larsen, MD
- John Maese, MD
- Ginny Meadows, RN
- Michael Mirro, MD
- Lori Nichols
- Karen Nielsen, MBA, MPA
- Ted Palen, PhD, MD, MsPH
- Greg Pawlson
- Amit Popat
- Chris Snyder, DO
- David A. Stumpf, MD, PhD
- Aldo Tinoco, MD
- Ann Watt

eMeasure Learning Collaborative Meeting

Advancing Solutions for eMeasure Implementation

April 26th Meeting Summary

Zahid Butt, MD, FACG
CEO, Medisolv

NATIONAL QUALITY FORUM

April 26th In-Person Meeting Summary

"Best Practices in eMeasure Implementation"

- **Keynote Speakers**
  - Kate Goodrich MD,MHS (CMS Office of Clinical Standards & Quality)
  - Farzad Mostashari MD, ScM (National Coordinator HIT)

- **Discussion Groups / Parallel Tracks**
  - Implementation Acute Care Group
  - Implementation Small Practices Group
  - Technical Group
  - Clinical Data Analytics Group
  - Innovation Group

April 26th In-Person Meeting Summary

Dr. Farzad Mostashari's Keynote Points:

- Use the marketplace for solutions
- Keep our eyes on the prize
- Put patients at the center
- Watch out for the little guy

April 26th In-Person Meeting Summary

Key Success Factors, Gaps & Recommendations

- **Organizational Factors / Leadership**
- **Learning Health System**
- **Data Capture / Clinical Workflow**

April 26th In-Person Meeting Summary: Key Success Factors

Organizational Factors / Leadership

- Collaborative, multiple stakeholder team
- Strong physician leadership/ champions
- Engage bedside clinicians early and often
- Manage the culture: use measures important to clinicians; start with a small committed group
- Sufficient time & Resources for education
- Educate on importance, meaning and methods before measurement
- Drive improvements with clinical staff, using IT awareness
- Use success of program to garner support throughout a system, use benchmarks

April 26th In-Person Meeting Summary: Key Success Factors

Learning Health System Environment

- Emphasis on outcome measures to improve clinical practice; don't simply measure – learn and revise
- Logic for linking patient conditions in EHR to evidence based practice guidelines through Clinical Decision Support (CDS)
- Evidence based practice vs. specifications – measure specifications sometimes lag changes in evidence and are not updated in timely fashion
- Clinician education on importance, meaning and methods before actual measurement; enough time and resources for education
- Community of successes shared internally and across all stakeholder groups
- Transparency at individual MD, practice and community level

April 26th In-Person Meeting Summary: Recommendations

Organizational Factors/Leadership

- Identify key stakeholders (NQF can take a lead)
- Emphasize eye on prize; goals; buy in; why
- For small specialty practices select small number relevant measures and standardize data capture for those

Learning Health System Environment

- Multidisciplinary approach to eMeasure Development & Implementation; Quality, HIT, Clinicians, Measures Developers, Payers, Government
- Transparency at individual MD, practice and community level
- Focus on one specific measure/area in need of improvement, and take the necessary time to learn from processes to improve outcomes, then roll-out improvement across all settings
- Integrate EHR data into population management and case management
- HIEs collect and report 1 measure per highest cost condition
- Evidence-generating medicine (using eMeasures to produce evidence)

April 26th In-Person Meeting Summary: Key Success Factors

Data Capture/Workflow

- Smart clinical data capture; sharable with CDS and eMeasures
- Reduce data capture burden for quality reporting only; Avoid "Death by a thousand clicks"
- Balance between Liquidity vs. Expressivity – granular detail (expressivity) has the added cost/burden of data entry
- Too many prescriptive requirements as to exactly where in the EHR the data must be captured and stored increase data entry burden and limit innovation
- Implementation requirements for EHRs can only handle limited changes; configuration flexibility to change data capture without losing necessary data standardization

April 26th In-Person Meeting Summary: Gaps

Data Capture/ Clinical Workflow

- Cultural and technical issues with capturing structured data for sufficient eMeasure reporting
- EHRs use a model of use, measures require a model of meaning – i.e., there is a dissonance in requirements
- Usability is not formally addressed by Vendors
- Inability to use unstructured data in an efficient way for eMeasures reporting
- Multiple unresolved issues with using problem lists especially Inpatient
- Don't have all data in EHR or fully understand the systems from which data are derived; behavioral health data are usually not available in EHR's

April 26th In-Person Meeting Summary: Gaps

Data Capture/Workflow

- Payers do not recognize and pay for specialty guidelines
- Data capture is often generated from a claims environment versus clinical environments leading to misalignment
- Provider to coder “disconnect”
- Multiple sources: data compatibility, chart review, HIE, understanding of data
- Systems are not ready to make comparisons at a performance level
- The HL7 process is challenging due to a limited number of individuals with expertise in quality measurement and the long ballot cycle – difficult to modify
- How to get everyone to agree on how to set standards

April 26th In-Person Meeting Summary: Recommendations

Data Capture/Workflow

- Train physicians on how to use EMR; patient-centered input of data
- Use low hanging fruit first – make it simple to collect, simple to report, leverage existing clinical data for eMeasures
- Select eMeasures with specifications matching data elements captured according to Meaningful Use stages
- Develop cultural and technical solutions for capturing more structured data within clinician workflow (consider compliance and user ability levels)
- Explore use of new technologies such as NLP; improve reliability of same
- Identify mechanisms to capture, validate, use and incorporate external data such as outside care, patient reported data, deaths
- Leverage CDS to help care providers make right choice with care; use data that encourages buy-in and improvement on the part of providers
- Engage patients and discuss their needs/preferences; leverage patient-reported data

April 26th In-Person Meeting Summary: Recommendations

Data Capture/Workflow

- Statutory requirements that require EHR vendors to standardize
- Use the QDM to resolve ambiguity with respect to logic and meaning
- Harmonization of measure specifications, value sets and output for reporting; specifications and standards should be consistent with code sets
- Provide structured English statements that translate to code – use libraries and templates for the existing HQMF but allow English expression of relationships to reduce complexity; Quality Measures should be shareable and understandable by everyone
- Usability testing to ensure that we are accommodating workflow (simulation centers or labs)
- Field testing for eMeasures
- Registry reporting that is broader than specialty-specific data

April 26th In-Person Meeting Summary: Recommendations

Data Capture/Workflow

- Need some XML, but not necessarily the HL7 RIM – a basic schema
- Plug and play capability; CDA for every new rule
- Content standards for the XML to have hooks into the content
- Vendors create a standardized 'area' dedicated to Quality Measures
- Vendors should move towards a single source of truth framework
- Common interface for devices to move data into EHRs
- Avoid constraints that limit quality measures. Preconditions and temporal relationships are important to quality measures. The floor, or base, can require implementations constrained to only those elements that are 'available' as structured data, but more advanced measures should not be discouraged

April 26th In-Person Meeting Summary

NQF Web Site Links

http://www.qualityforum.org/Topics/HIT/eMeasure_Learning_Collaborative/April26_meeting.aspx

- Agenda (PDF)
- Presentation Slides (PDF)
- Presentation Recording (MP3)
- Synched Audio/Presentation
- Meeting Transcript (PDF)
- Attendance List (Excel)

Condition/Problem Management Panel Discussion

NATIONAL QUALITY FORUM

September 21, 2012

Condition/Problem Management Panel Discussion

- **Panelists:**
  - **Zahid Butt,** MD, FACG, CEO, Medisolv, Inc.
  - **Peggy Pollard,** RN, Director, Clinical Informatics, Centra Health
- **Moderator:**
  - **Ginny Meadows, RN,** Executive Director, Program Office, McKesson

Condition/Problem Management Panel Discussion

Overall Objectives

- Define condition/problem management and its importance to eMeasures/CQM

- Through panel presentation and group discussion, identify:
  1. Best practices (repeatable models) for data capture, workflow, and eMeasurement
  2. Recommendations
  3. Gap areas requiring focused attention in the future

Condition/Problem Management Panel Discussion

Agenda

- **Panel Discussion**
  - » Clinical case studies highlighting successes, challenges and lessons learned in the acute ambulatory care settings
  - » Innovative solutions to address condition/problem management in the acute and ambulatory care settings
- **Group Discussion**
  1. Best practices (repeatable models) for data capture, workflow, and eMeasurement
  2. Recommendations
  3. Gap areas requiring focused attention in the future

Condition/Problem Management Panel

Zahid Butt, MD, FACG
CEO, Medisolv

NATIONAL QUALITY FORUM

Advancing Solutions for eMeasures Implementation: *Condition Management*

Digestive Disease Associates Practice Profile

- **Location**
  - **Suburban Baltimore / Howard County - Maryland**
- **Statistics**
  - **Established in 1988**
  - **15 Board Certified Gastroenterologists**
  - **1 PA, 2 APN**
  - **2 Endoscopy Centers**
  - **2 Acute Care Hospital Privileges**
  - **3 Clinical Research Associates**
  - **3 Anesthesiologists / 4 Nurse Anesthetists**
  - **1 part time Pathologist**

Advancing Solutions for eMeasures Implementation: *Condition Management*

Digestive Disease Associates Practice Profile

- General Community based Consulting Practice
- 2011 Statistics
  - Unique patients 19503
  - Inpatient Consults 5047
  - Ambulatory Visits 22680
  - Hospital OP Procedures 2130
  - ASC Procedures 10612
  - Hospital ED Consults 96
- Provider Age Range 35 – 66 years

Advancing Solutions for eMeasures Implementation: *Condition Management*

DDA HIT Journey 1996 - 2011

- **Practice Management System installed – 1990**
- **Ambulatory EMR used by 1 provider – Since 1996**

Advancing Solutions for eMeasures Implementation: *Condition Management*

DDA HIT Journey 1996 - 2011

- **Practice Management System installed – 1992**
- **Ambulatory EMR used by 1 provider – Since 1996**

TABLE 22—MAXIMUM TOTAL AMOUNT OF EHR INCENTIVE PAYMENTS FOR A MEDICARE EP WHO DOES NOT PREDOMINANTLY FURNISH SERVICES IN A HPSA

Calendar year	First CY in which the EP receives an incentive payment				
	2011	2012	2013	2014	2015–subsequent years
2011	$18,000	.....	.....	.....	.....
2012	12,000	$18,000	.....	.....	.....
2013	8,000	12,000	$15,000	.....	.....
2014	4,000	8,000	12,000	$12,000	.....
2015	2,000	4,000	8,000	8,000	$0
2016	.....	2,000	4,000	4,000	0
Total	44,000	44,000	39,000	24,000	0

Advancing Solutions for eMeasures Implementation: *Condition Management*

DDA HIT Journey after 2011

- **Upgraded to CEHRT 2011 Edition – March 2012**
- **Practice wide implementation**
  - ***Major Work Flow Changes***
  - ***Structured Data Capture***
  - ***Forms based data entry***
  - ***CPOE & ePrescribing***
  - ***Interfaces with Labs, Radiology & ASC Software***
  - ***All external documents scanned into patient charts & available online***
- **8 Providers qualified to attest for Stage I Meaningful Use - 10/1/2012**

Advancing Solutions for eMeasures Implementation: *Condition Management*

Pre Meaningful Use EMR Data Capture

- **Structured Clinical Data Capture**
  - **Medications – Non Codified**
  - **Problem List – ICD 9**
  - **Lab Results – Selective Manual Entry**
- **Unstructured Clinical Data Capture**
  - **Encounter Notes – Text Templates / Typing**
- **Demographic Data**
  - **Manual Entry – Minimum data set**
  - **No interface with Practice Management**

Advancing Solutions for eMeasures Implementation: *Condition Management*

Post Meaningful Use EMR Data Capture

- Structured Clinical Data Capture
  - Medications – Codified
  - Problem List – ICD 9
  - Lab Results – Structured via Lab interface
  - Key Data Elements within Notes
- Unstructured Clinical Data Capture
  - Encounter Notes – Only HPI / Assessment Sections
- Demographic Data
  - Full Demographic Set – interface with Practice Management

Advancing Solutions for eMeasures Implementation: *Condition Management*

Pre Meaningful Use Work Flow

- **Provider entered all structured & unstructured data during (or after) the encounter**
- **Electronic Notes Printed and Filed in Paper Chart**
- **Paper Chart Pulls**
  - **Office Encounters**
  - **Refills / Phone Notes**
  - **Questions during Scheduling**
- **Paper Orders & Prescriptions**
- **Separate Schedules in EMR & Practice Management**

Advancing Solutions for eMeasures Implementation: *Condition Management*

Post Meaningful Use Work Flow

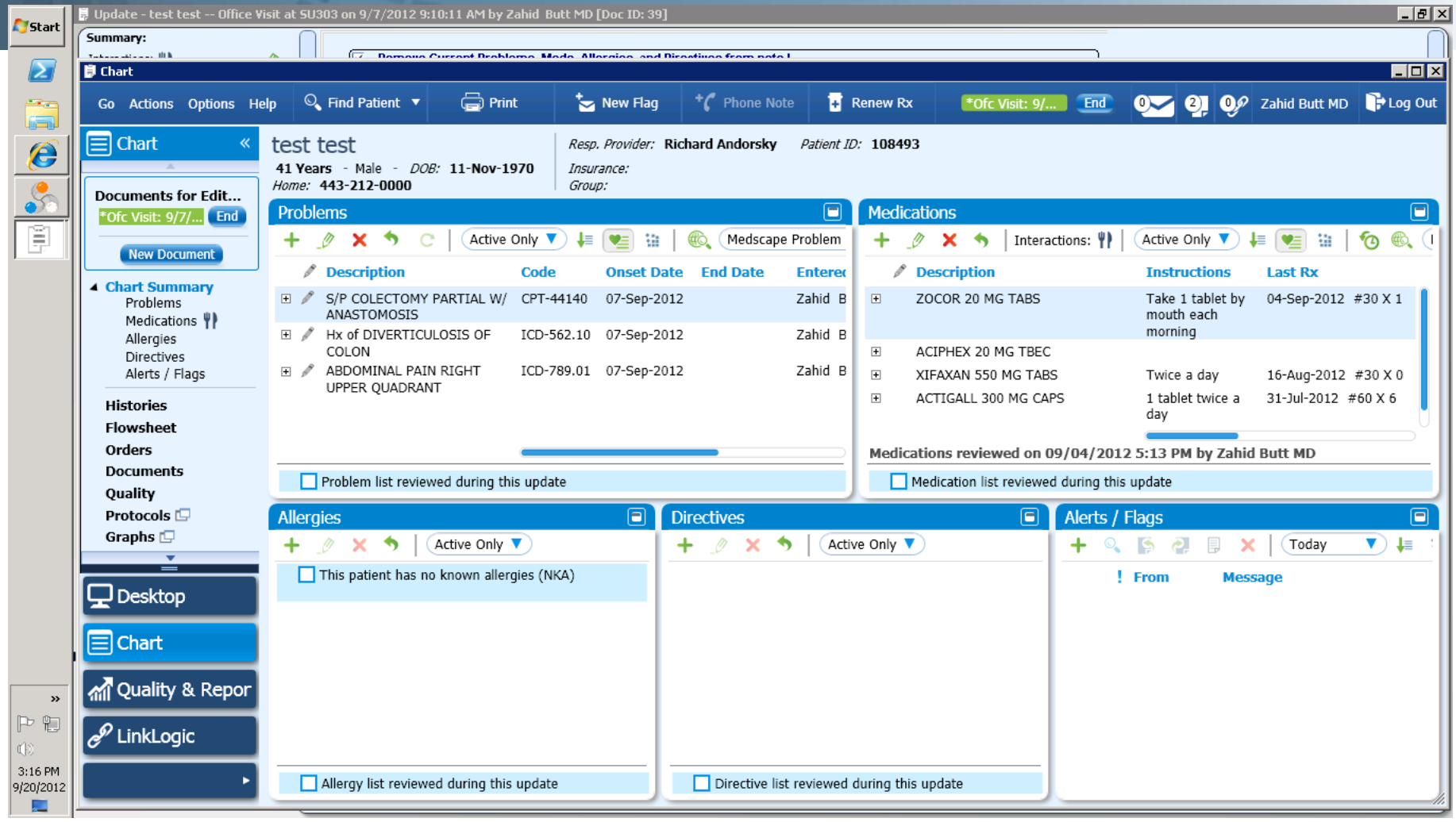
- **Medical Assistants enter data**
  - **Problem List/ Medication List / Allergy List / PMH / FH / P&S / Vitals**
- **Provider enters some structured & unstructured data during (or after) the encounter**
- **All Orders using CPOE / ePrescriptions**
- **All external data scanned in**
- **Internal communication done electronically with charts "attached" to messages with routing capability**
- **Single Scheduling System**
- **Significant Reduction in Paper Chart Pulls**
- **No Transcription Services**

Advancing Solutions for eMeasures Implementation: *Condition Management*

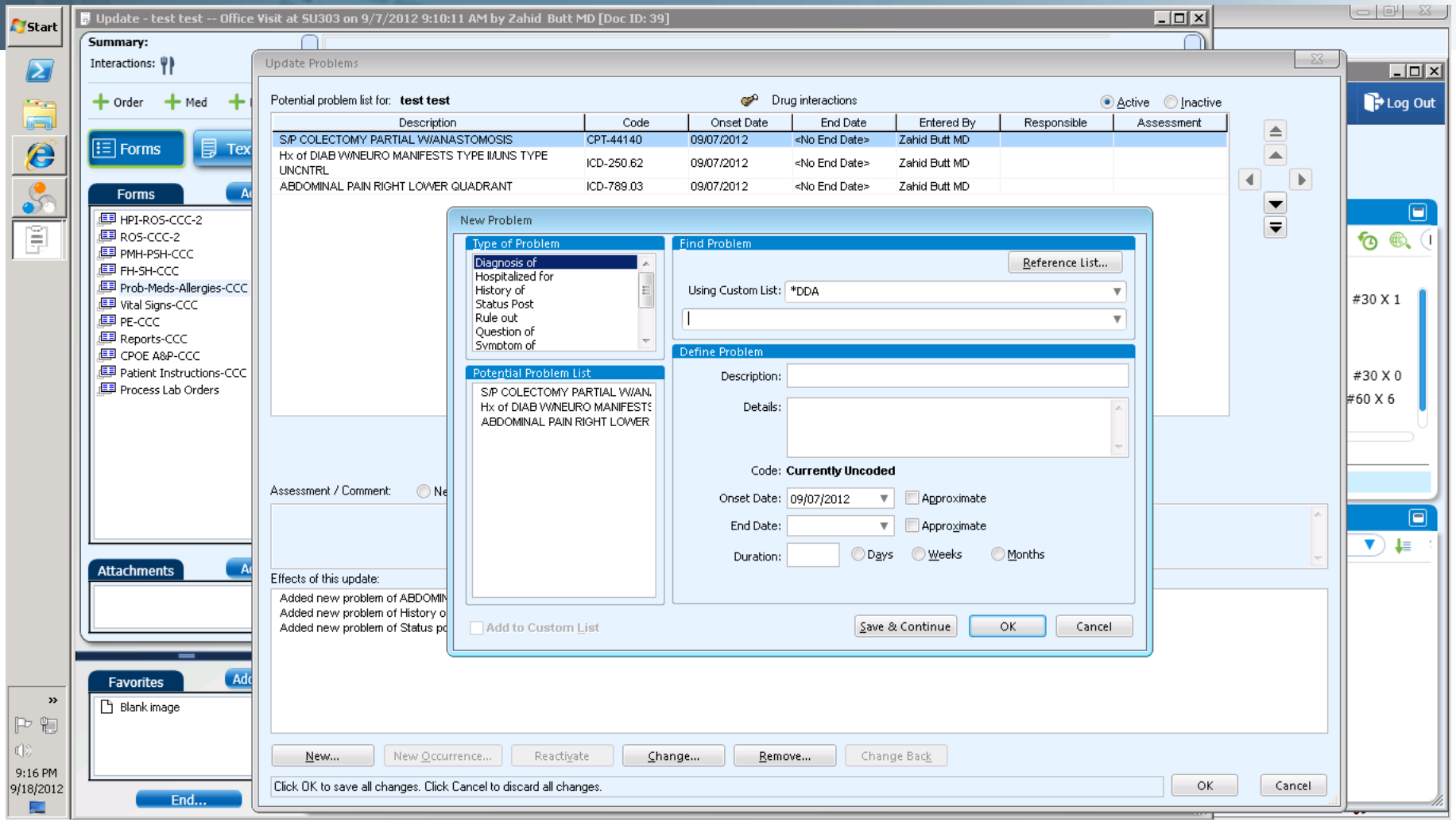
Problem List Documentation Issues

- **What should entered & who should enter it**
  - Conditions/Diagnosis
  - Presumptive / Suspected (Question of)
  - Procedures
  - Symptoms
  - Family History
- **What Conditions should be in the Problem list**
  - All Conditions / Diagnosis
  - Only GI Conditions / Diagnosis we manage
- **Past Medical History**
  - Should it be entered in the Problem list
  - Combination of "Resolved (V. Codes)" & "Ongoing"
  - Should there be two codes for the same problem if it was a past history and also addressed in a new encounter (E.g. diverticulosis)

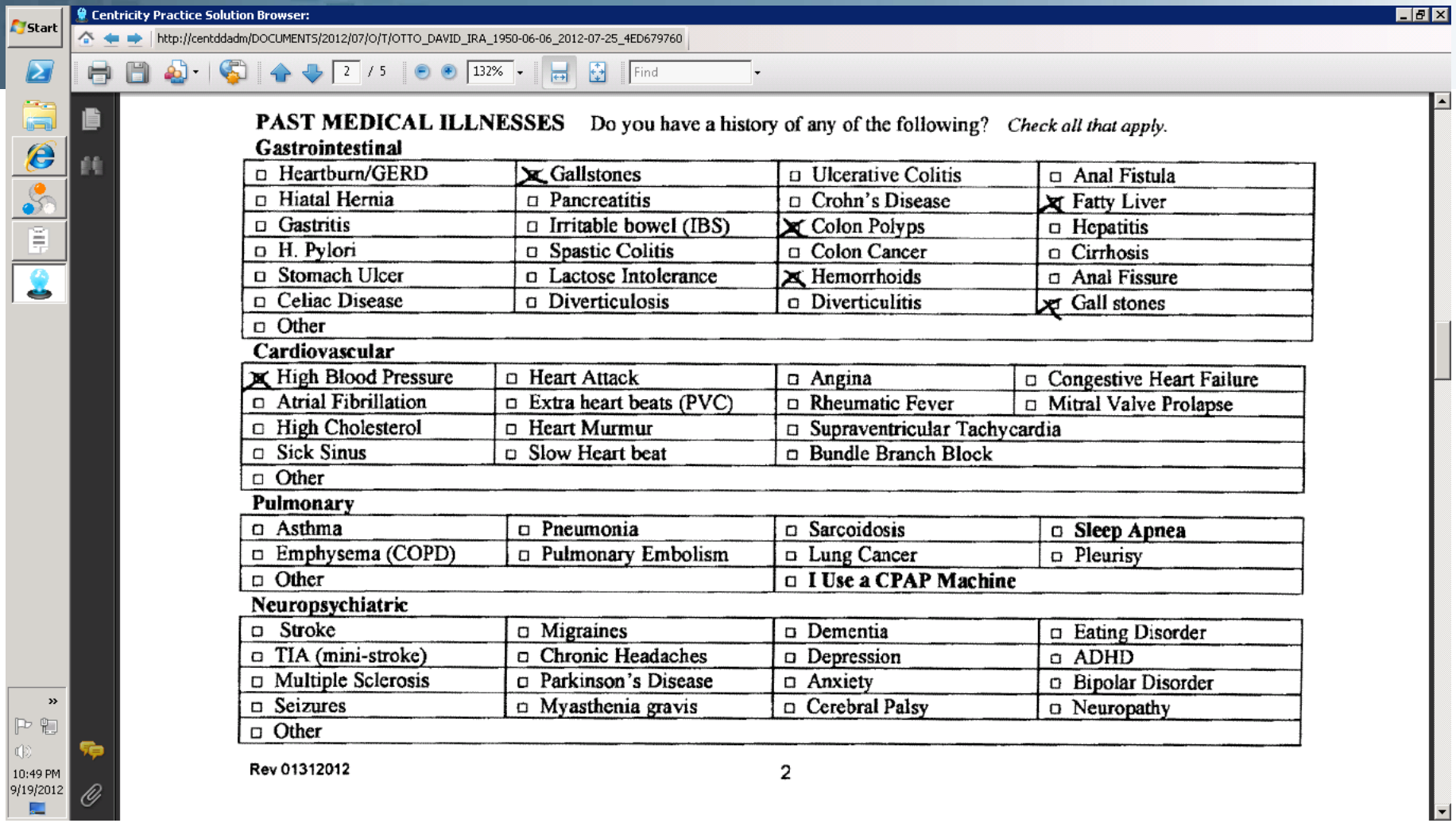
Advancing Solutions for eMeasures Implementation: *Condition Management*



Advancing Solutions for eMeasures Implementation: *Condition Management*



Advancing Solutions for eMeasures Implementation: *Condition Management*


Centricity Practice Solution Browser:

http://centddadm/DOCUMENTS/2012/07/O/T/OTTO_DAVID_IRA_1950-06-06_2012-07-25_4ED679760

PAST MEDICAL ILLNESSES Do you have a history of any of the following? *Check all that apply.*

Gastrointestinal

☐ Heartburn/GERD	☒ Gallstones	☐ Ulcerative Colitis	☐ Anal Fistula
☐ Hiatal Hernia	☐ Pancreatitis	☐ Crohn's Disease	☒ Fatty Liver
☐ Gastritis	☐ Irritable bowel (IBS)	☒ Colon Polyps	☐ Hepatitis
☐ H. Pylori	☐ Spastic Colitis	☐ Colon Cancer	☐ Cirrhosis
☐ Stomach Ulcer	☐ Lactose Intolerance	☒ Hemorrhoids	☐ Anal Fissure
☐ Celiac Disease	☐ Diverticulosis	☐ Diverticulitis	☒ Gall stones
☐ Other			

Cardiovascular

☒ High Blood Pressure	☐ Heart Attack	☐ Angina	☐ Congestive Heart Failure
☐ Atrial Fibrillation	☐ Extra heart beats (PVC)	☐ Rheumatic Fever	☐ Mitral Valve Prolapse
☐ High Cholesterol	☐ Heart Murmur	☐ Supraventricular Tachycardia	
☐ Sick Sinus	☐ Slow Heart beat	☐ Bundle Branch Block	
☐ Other			

Pulmonary

☐ Asthma	☐ Pneumonia	☐ Sarcoidosis	☐ **Sleep Apnea**
☐ Emphysema (COPD)	☐ Pulmonary Embolism	☐ Lung Cancer	☐ Pleurisy
☐ Other		☐ **I Use a CPAP Machine**	

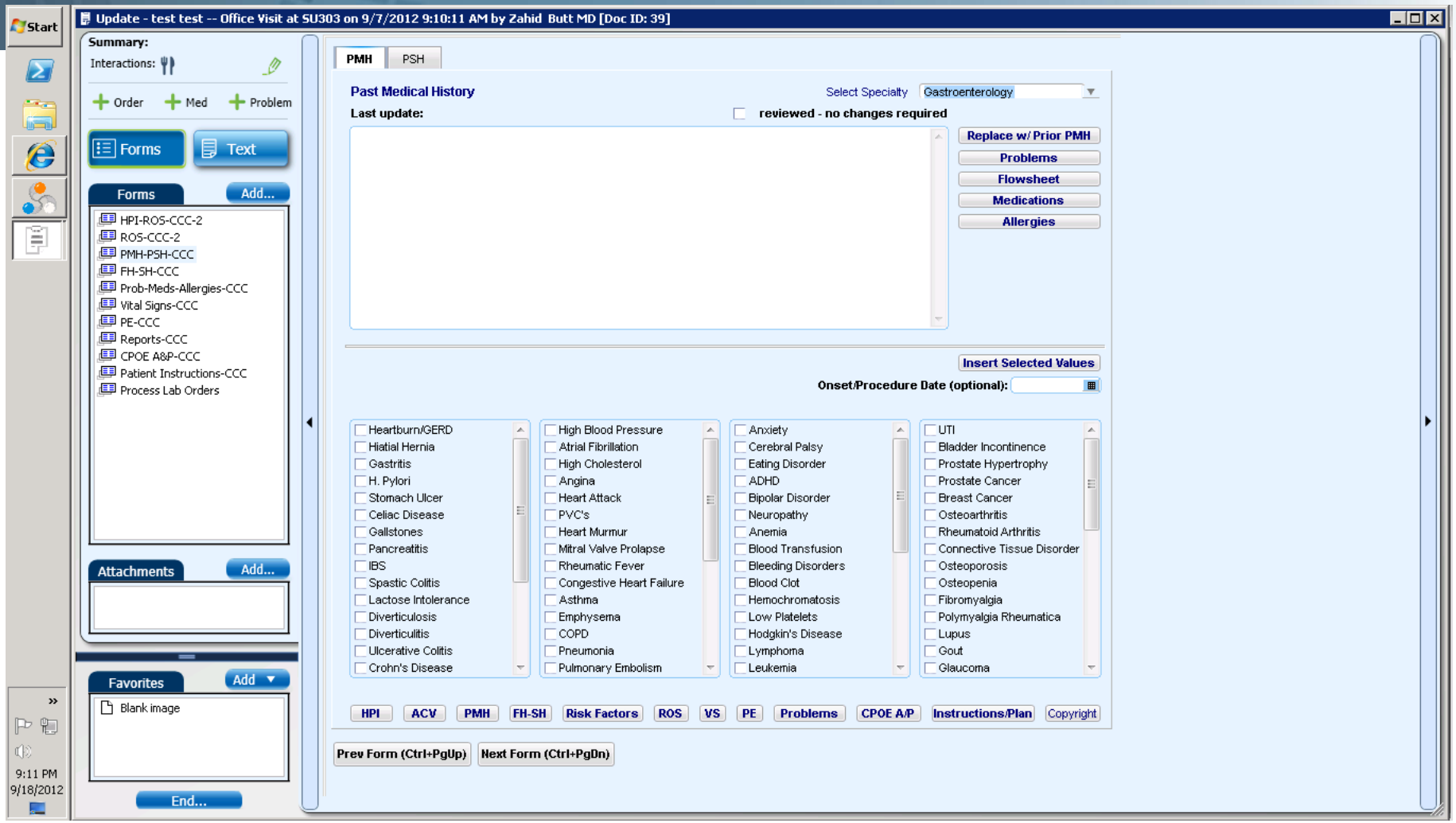
Neuropsychiatric

☐ Stroke	☐ Migraines	☐ Dementia	☐ Eating Disorder
☐ TIA (mini-stroke)	☐ Chronic Headaches	☐ Depression	☐ ADHD
☐ Multiple Sclerosis	☐ Parkinson's Disease	☐ Anxiety	☐ Bipolar Disorder
☐ Seizures	☐ Myasthenia gravis	☐ Cerebral Palsy	☐ Neuropathy
☐ Other			

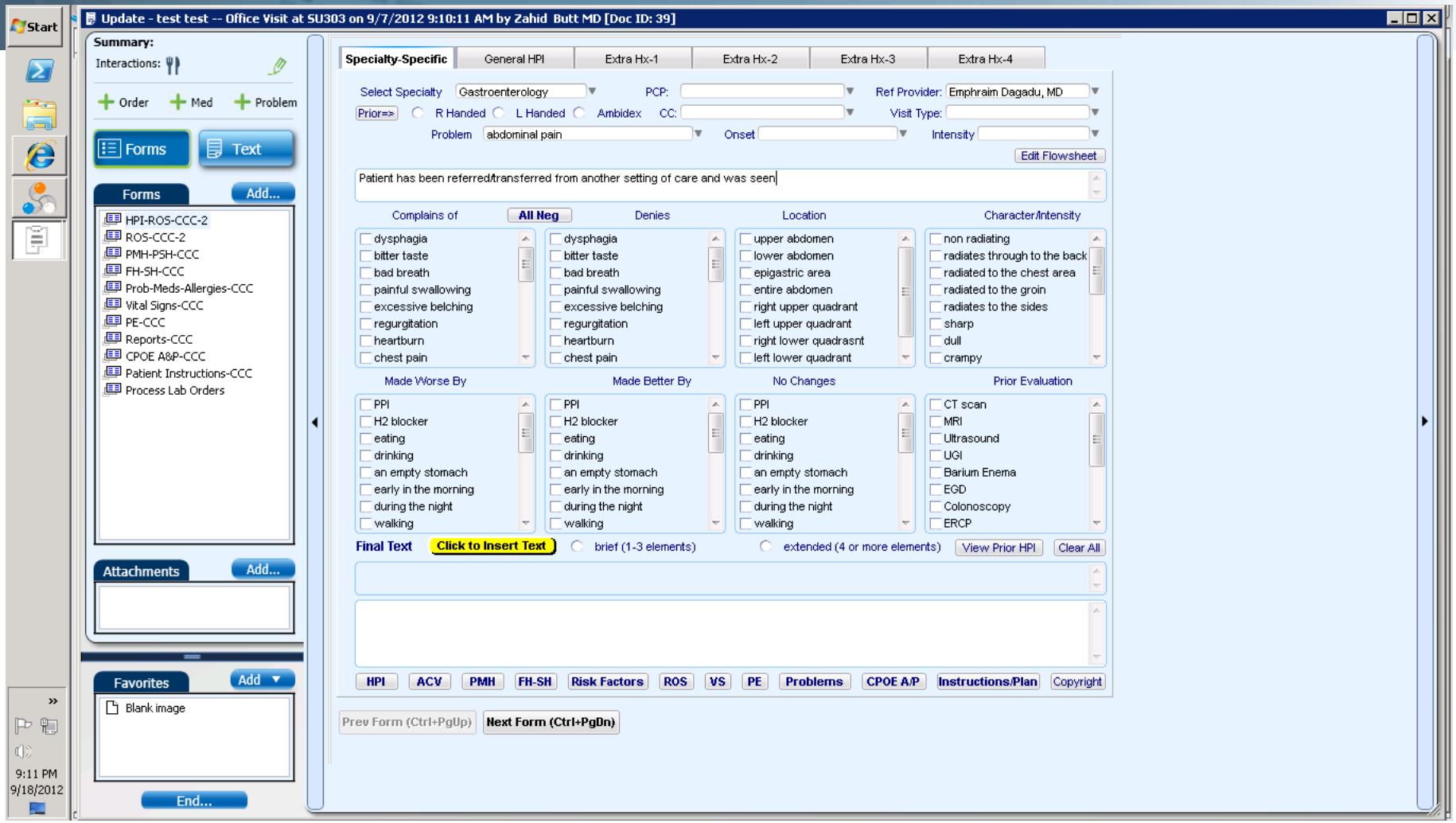
Rev 01312012

2

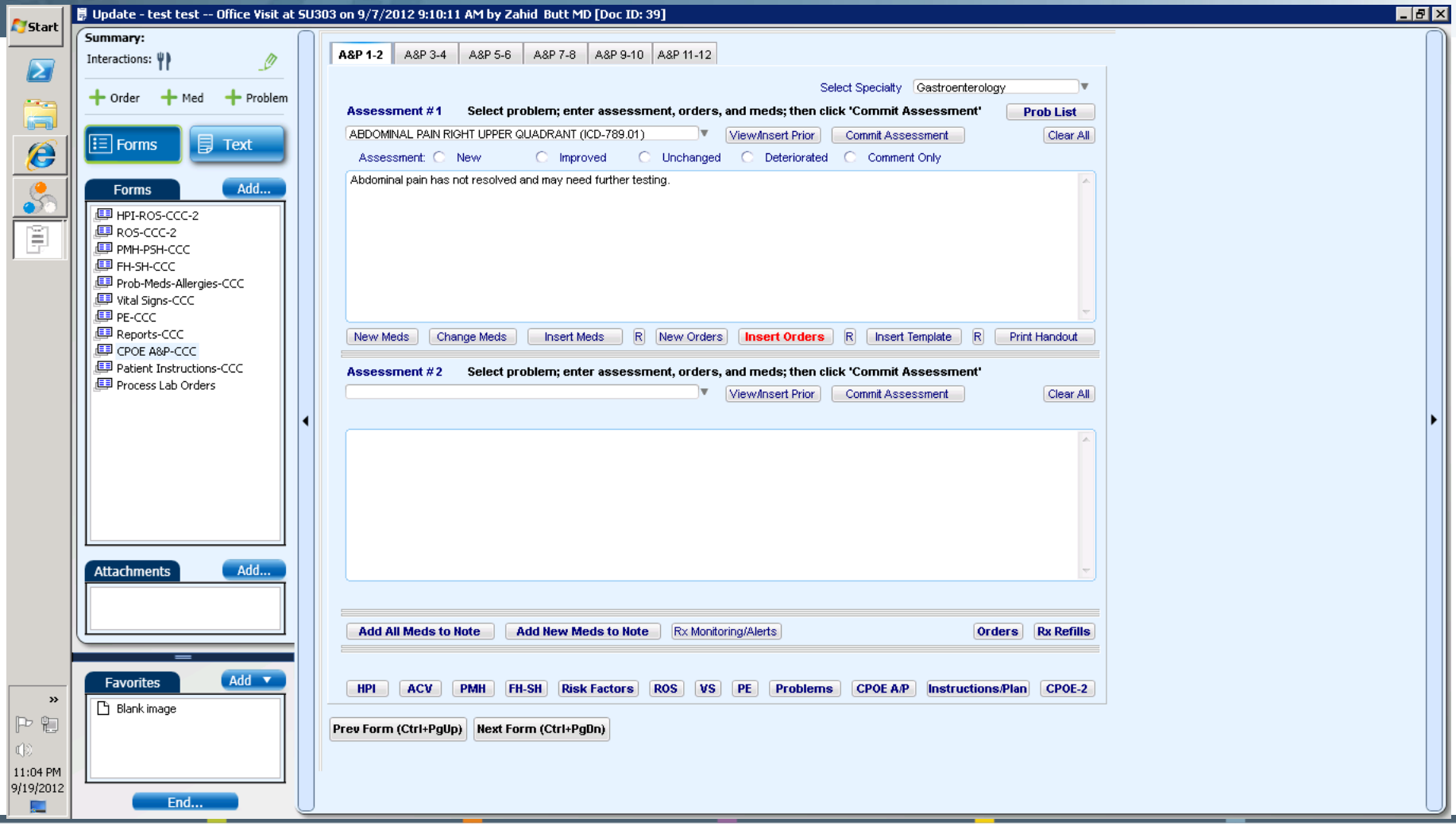
Advancing Solutions for eMeasures Implementation: *Condition Management*



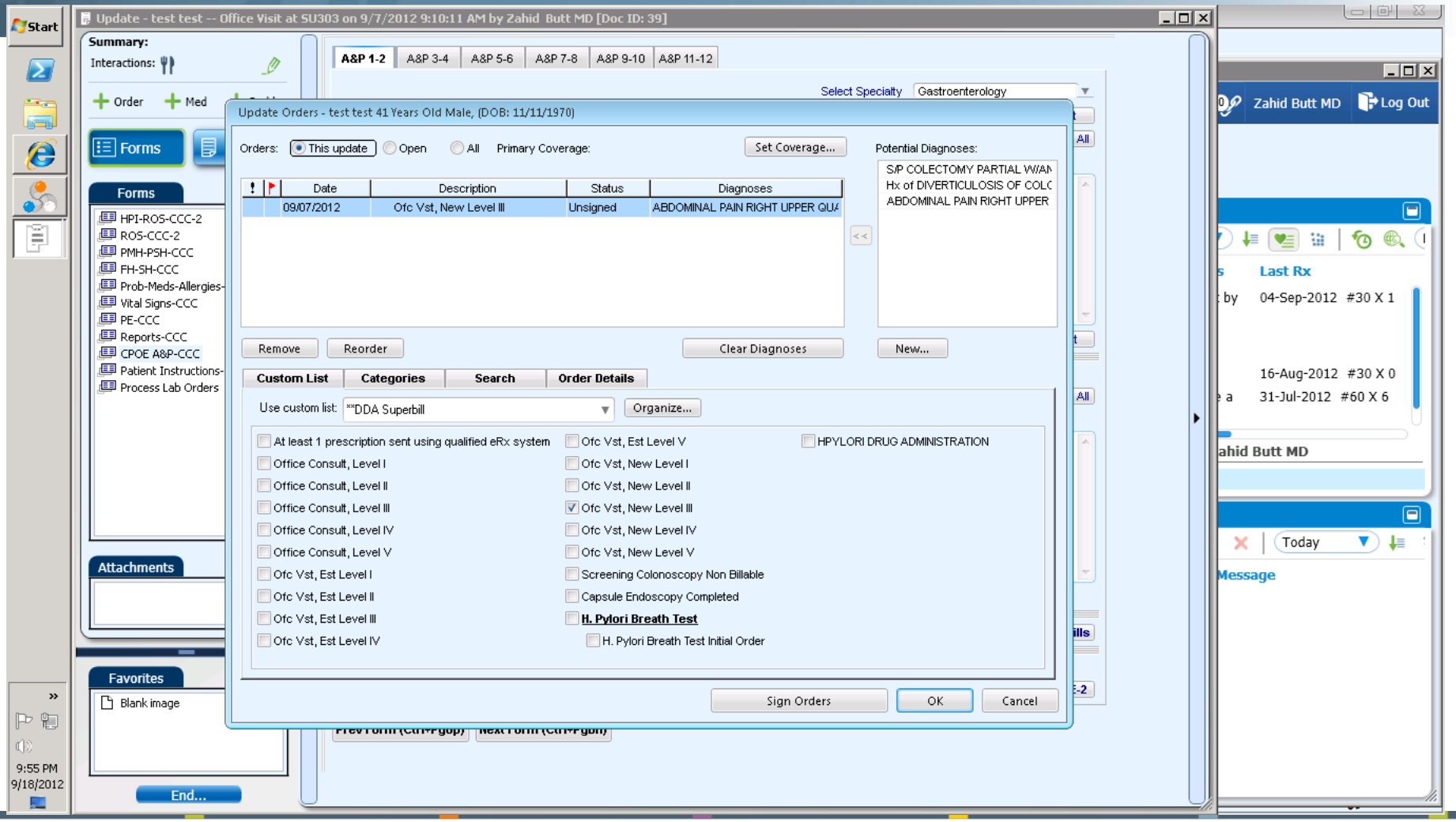
Advancing Solutions for eMeasures Implementation: *Condition Management*



Advancing Solutions for eMeasures Implementation: *Condition Management*



Advancing Solutions for eMeasures Implementation: *Condition Management*



Advancing Solutions for eMeasures Implementation: *Condition Management*

eMeasure Results-Physician Attribution

10710 Charter Drive Suite 110
10710 Charter Drive, Columbia, MD, USA 21044
Ph:(410) 992-9797 Fax: (410) 730-0942

Page1

Diabetes: Blood Pressure Management (NQF 0061)

Reporting period from 7/1/2012 to 9/30/2012

The percentage of patients 18-75 years of age with diabetes (type 1 or type 2) who had BP < 140/90 mmHg.

User Name	Numerator		Denominator		Percentage
	8	/	17	=	47.1%
	0	/	5	=	0.0%
	5	/	21	=	23.8%
	8	/	15	=	53.3%
	0	/	1	=	0.0%
	6	/	10	=	60.0%
	8	/	16	=	50.0%
	0	/	0	=	0.0%
	0	/	2	=	0.0%
	0	/	0	=	0.0%
	3	/	5	=	60.0%
	0	/	0	=	0.0%
	6	/	8	=	75.0%

Advancing Solutions for eMeasures Implementation: *Condition Management*

Problem (including Conditions) List Gaps

- **Problem list implementation Best Practice and/or Standards**
- **Harmonization of structured data capture with standardized value sets and QDM States/Attributes**
- **Automated mapping from SNOMED to ICD in "Encounter Diagnosis"**
- **Framework for reconciliation with "external lists" – Other providers and facilities**

Advancing Solutions for eMeasures Implementation: *Condition Management*

Lessons Learned-General Implementation

- Select CQM's to be reported on upfront
- Plan to design / redesign workflow of the entire office
- Physician Leadership / Incentives are critical
- Line up appropriate resources
  - Project Management
  - Content / Forms builder
  - Billing Supervisor
  - Technical
  - Physician Champion(s)
- Plan for
  - Staff education & turnover
  - Temporary help
  - Planned & unplanned downtime

Quality Measures at Centra

Peggy Pollard, RN
Director, Clinical Informatics
Centra Health

September 21, 2012

NATIONAL QUALITY FORUM

Centra

Excellent Care…Every Time

Centra

- Level 2 Trauma Center
- Top Cardiology Hospital
- Top Orthopedic Hospital
- Stroke Center of Excellence
- Magnet and re-designated Magnet Hospital
- Press- Ganey Award recipient for Pt. Satisfaction
- Premiere Care Science Award Winner
- Most Wired
- Most Wireless
- First to reach MU Stage 1 for our vendor

What is it all about…

Excellent Care…Every Time

We could have chosen anything…

We chose Healthcare

Clinical Technology History

- 2004: Contract for 24 applications to bring advanced clinical technology into the organization
- 2005: 24 applications to 2 campuses, 6000 users including bar-coded drug administration
- 2007: CPOE at two campuses- voluntary adoption with clinical decision support
- 2009: 30 applications introduced to our Southside campus including bar-code scanning of medications and CPOE
- 2011: beta partner for MU code implementation
  - May go-live of code
  - MU reporting period began June 27, 2011
  - Attestation September 27, 2011 all campuses
  - IT functionality scores in the 97-99% range
  - Quality eMeasures reported

What we had already completed made a difference-good and bad

- 260,000 doses of medications bar-coded each month(about 98.8%)
- 82,000 orders entered each month by physicians
- Improvements in the early diagnosis of conditions such as Community Acquired versus complex pneumonias
- Already working towards Stroke Center of Excellence

Challenges

- Who owns the Problem List
- Doctors/Coders/Nurses didn't know SNOMED
- Doctors felt we had taken a step back
- Problem List initially became more generic
- IT functionality versus quality needs for problem identification
- Quality measures perceived as far harder to implement

What went well

- Rolling out the quality measure criteria incrementally as ready
- Engaging staff early in education
- Monitoring results towards continuous improvement
- Executive Support-assigning each measure an executive sponsor and scorecard

What we feel is needed

- Consistent criteria
- Discussion and Agreement from the eMeasure Collaborative on best practices
- Documentation of logic used by vendors
- Time to implement the right way

Partnership

BUT MOST OF ALL

The opportunity to add value to patient care and provide

Excellent Care…Every Time

Condition/Problem Management Discussion

- **Group Discussion**
  1. Best practices (repeatable models) for data capture, workflow, and eMeasurement
  2. Recommendations
  3. Gap areas requiring focused attention in the future

Networking Break

10:00 am – 10:15 am

Medication Management Panel

September 21, 2012

NATIONAL QUALITY FORUM

eMeasure Learning Collaborative

Medication Management Panel Discussion

- **Panelist:**
  - **Jude Pierre**, MD CEO, Phyaura LLC
  - **Ted Palen**, MD, Kaiser Permanente
  - **Samer K. Khodor**, MD, Physician Director of Patient Safety, Hospitalist/Internal Medicine
  - **Brandy D. McGinnis**, PharmD, Clinical Pharmacy Specialist
  - **Skekhar Mehta**, PharmD Director, Clinical Guidelines and Quality Improvement, American Society of Health System Pharmacists
  - **Heather Sobko**, PhD, RN, University of Alabama at Birmingham
- **Moderator:**
  - **John Derr**, R.Ph., HIT Strategy Consultant, Golden Living, Inc

Medication Management Panel Discussion

Overall Objectives

- Define medication management and its importance to eMeasures/CQM and Clinical Decision Support

- Through panel presentation and group discussion, identify:
  1. Best practices (repeatable models) for data capture, workflow, and eMeasurement
  2. Recommendations
  3. Gap areas requiring focused attention in the future

Medication Management Panel Discussion

Agenda

- **Panel Discussion**
  - Clinical case studies highlighting successes and lessons learned
  - Innovative solutions to address medication management in transitions of care
- **Group Discussion**
  1. Best practices (repeatable models) for data capture, workflow, and eMeasurement
  2. Recommendations
  3. Gap areas requiring focused attention in the future

Standardizing Medication Review & Management in a Medical Office

Jude A. Pierre, MD
Internal Medicine
Practicing Physician
Access Healthcare Physicians, LLC
Co-Founder & CEO at Phyaura, LLC

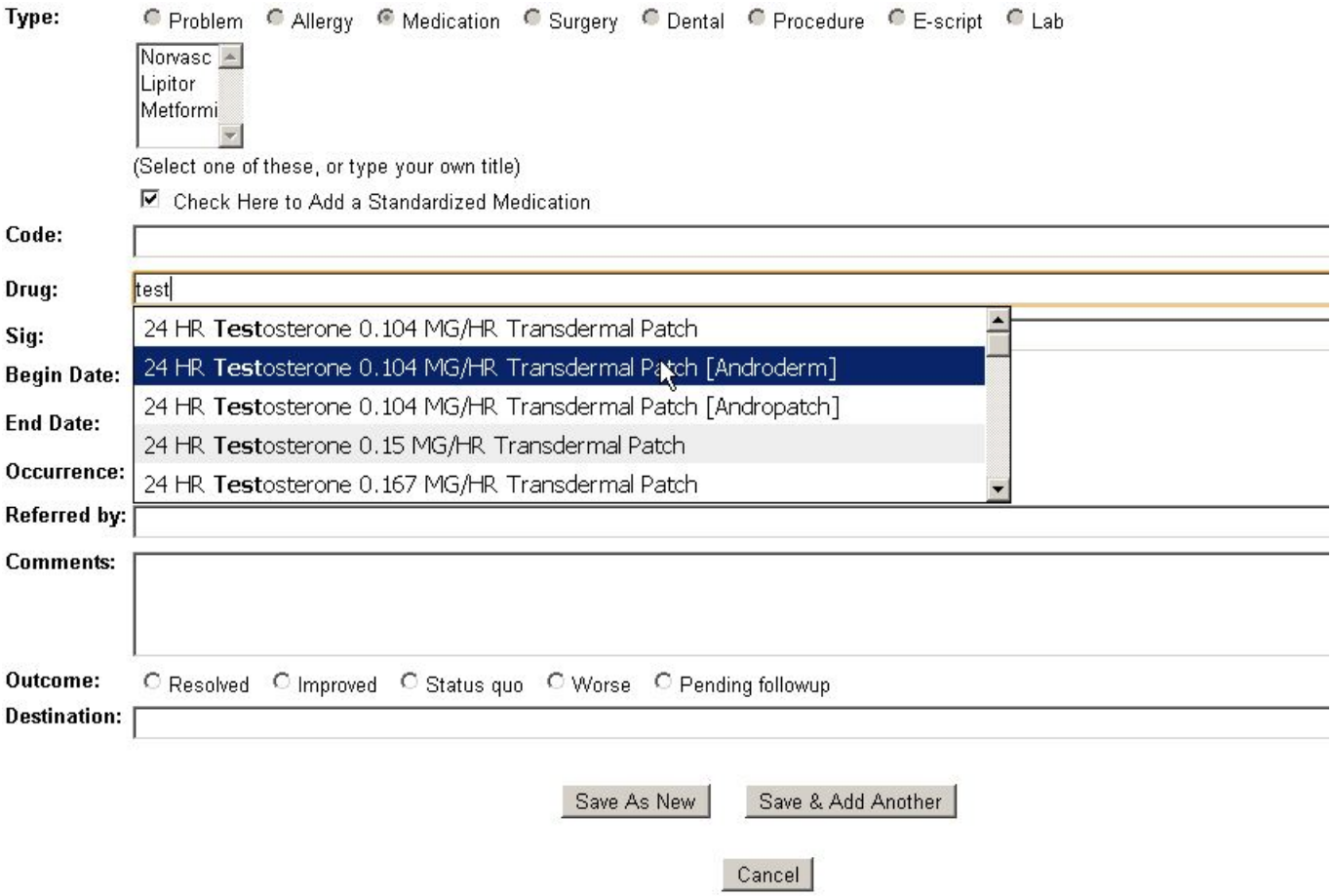
NATIONAL QUALITY FORUM

Outline

Discussion Topics

- Medication list management
- How data is inputted
- Data source of medications – RxNorm
- Medication sampling using inventory management
- Medication reconciliation
- CPT II code entry for data reporting
- Transfer of CCD to Syntranet HIE
- Effectiveness of Solution
- Challenges
- Future of systems – Quality Improvement

Adding Medications to Patient Chart



Data Source Used in our EHR

- PHYAURA EHR uses the RxNorm database

- "RxNorm is two things: a normalized naming system for generic and branded drugs; and a tool for supporting semantic interoperation between drug terminologies and pharmacy knowledge base systems. The National Library of Medicine (NLM) produces RxNorm.

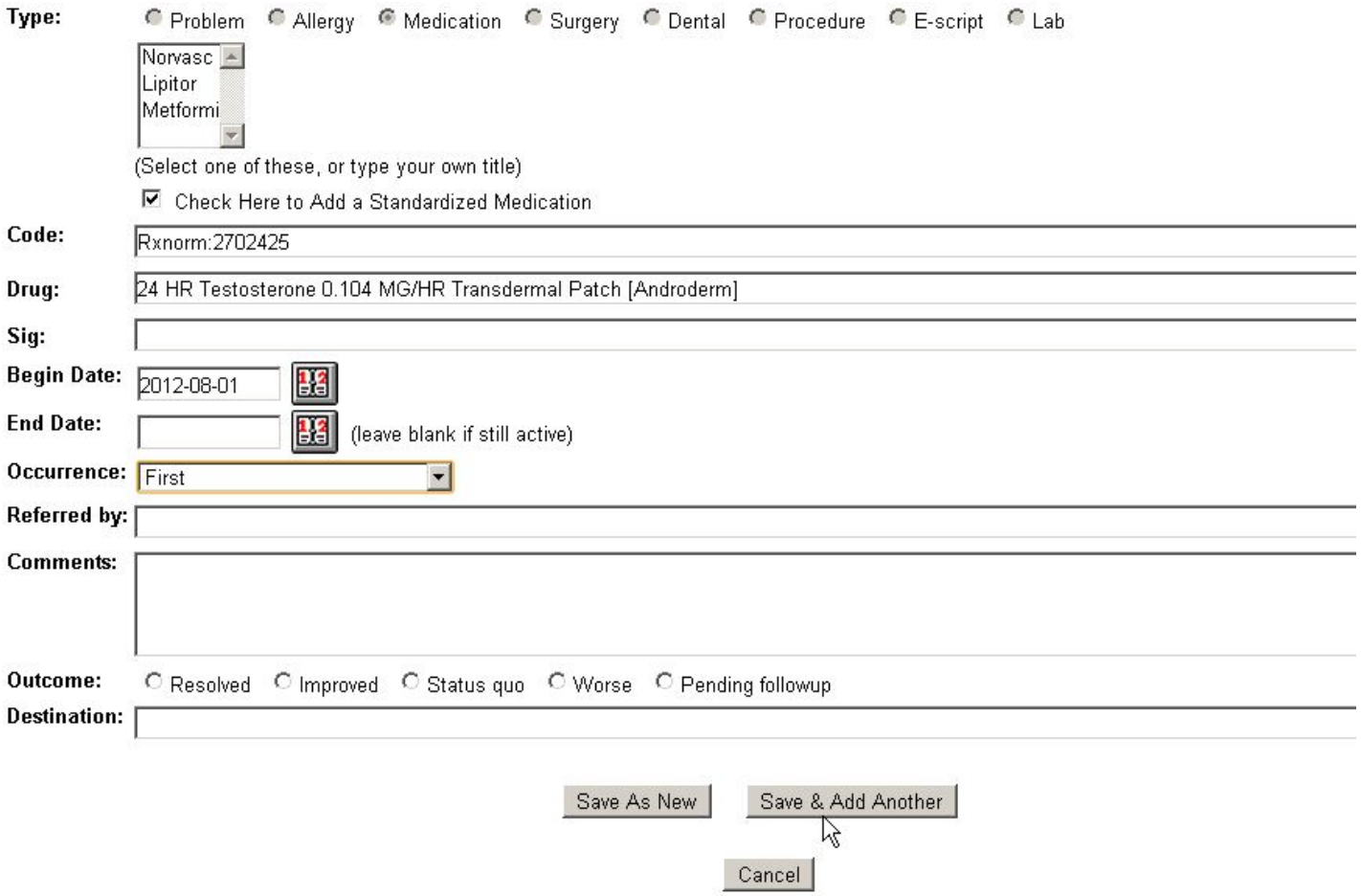
Source: http://www.nlm.nih.gov/research/umls/rxnorm/overview.html

RxNorm

- "RxNorm contains the names of prescription and many over-the-counter drugs available in the United States. RxNorm includes generic and branded:
  - » Clinical drugs - pharmaceutical products given to (or taken by) a patient with therapeutic or diagnostic intent
  - » Drug packs - packs that contain multiple drugs, or drugs designed to be administered in a specified sequence
- Radiopharmaceuticals, contrast media, food, dietary supplements, and medical devices, such as bandages and crutches, are all out of scope for RxNorm"

Source: http://www.nlm.nih.gov/research/umls/rxnorm/overview.html

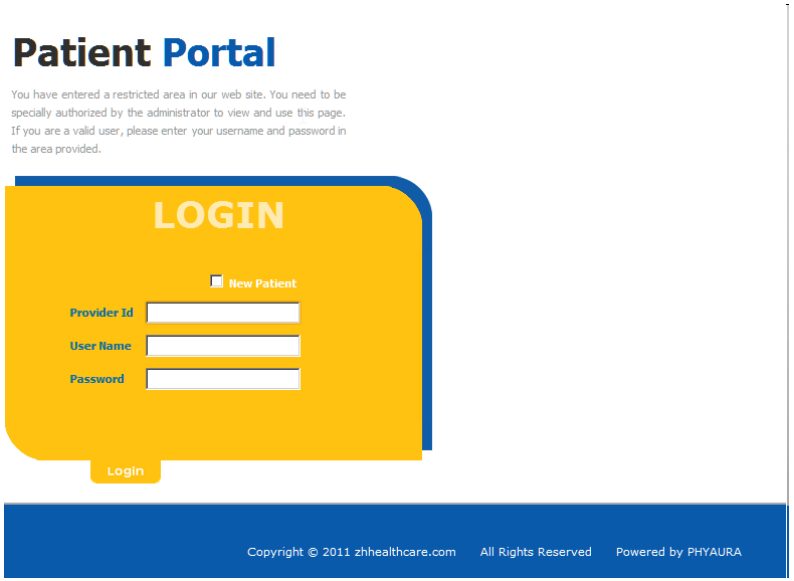
Adding Medications using RxNorm Codes



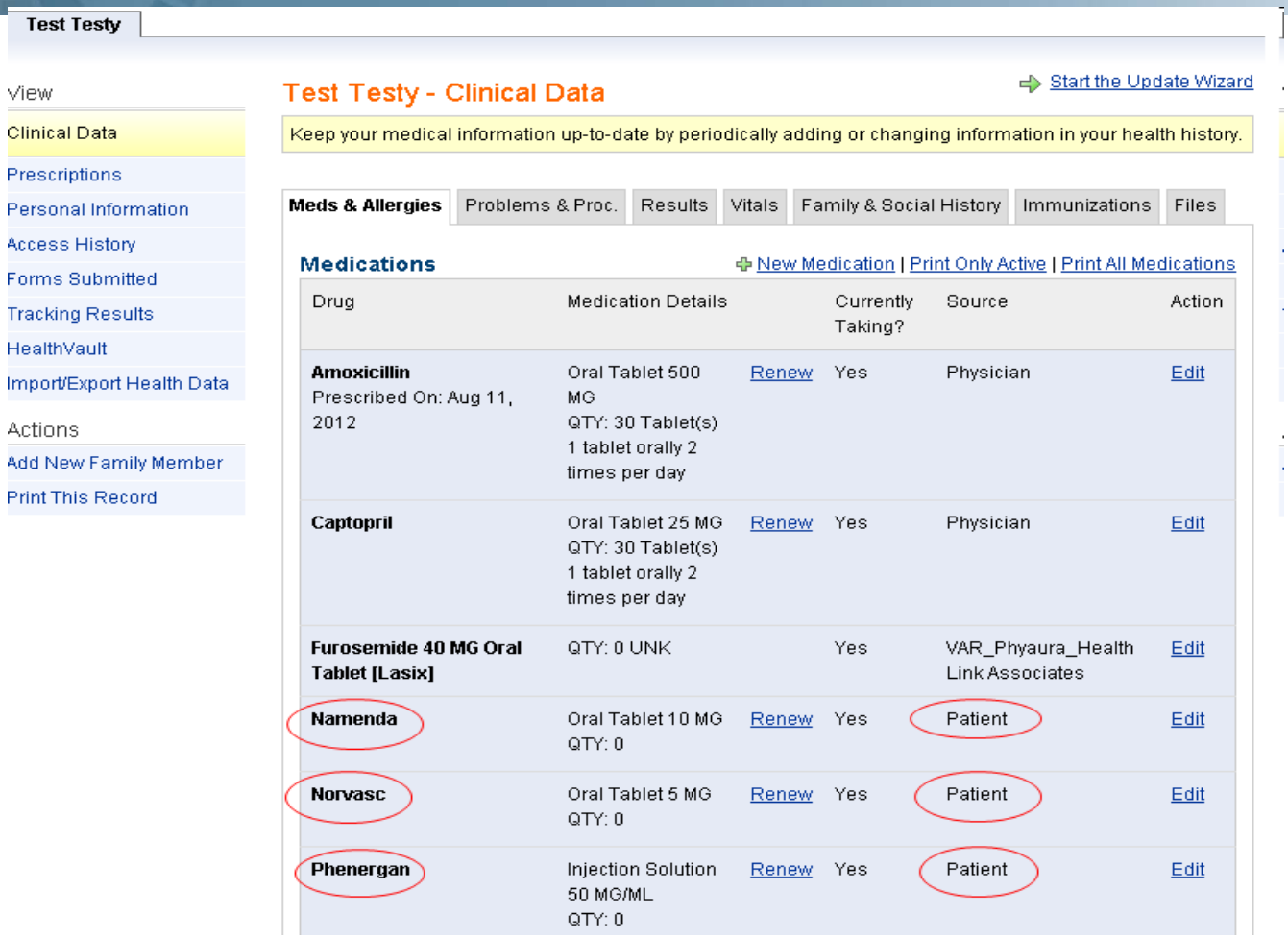
Patients Recording Medications – via a Patient Portal

A Patient Portal allows for a better checks and balance when reviewing medications

- Having patient enter medication into a patient portal linked to our EHR improves accuracy
- Patient are also able to edit or delete medications on their list

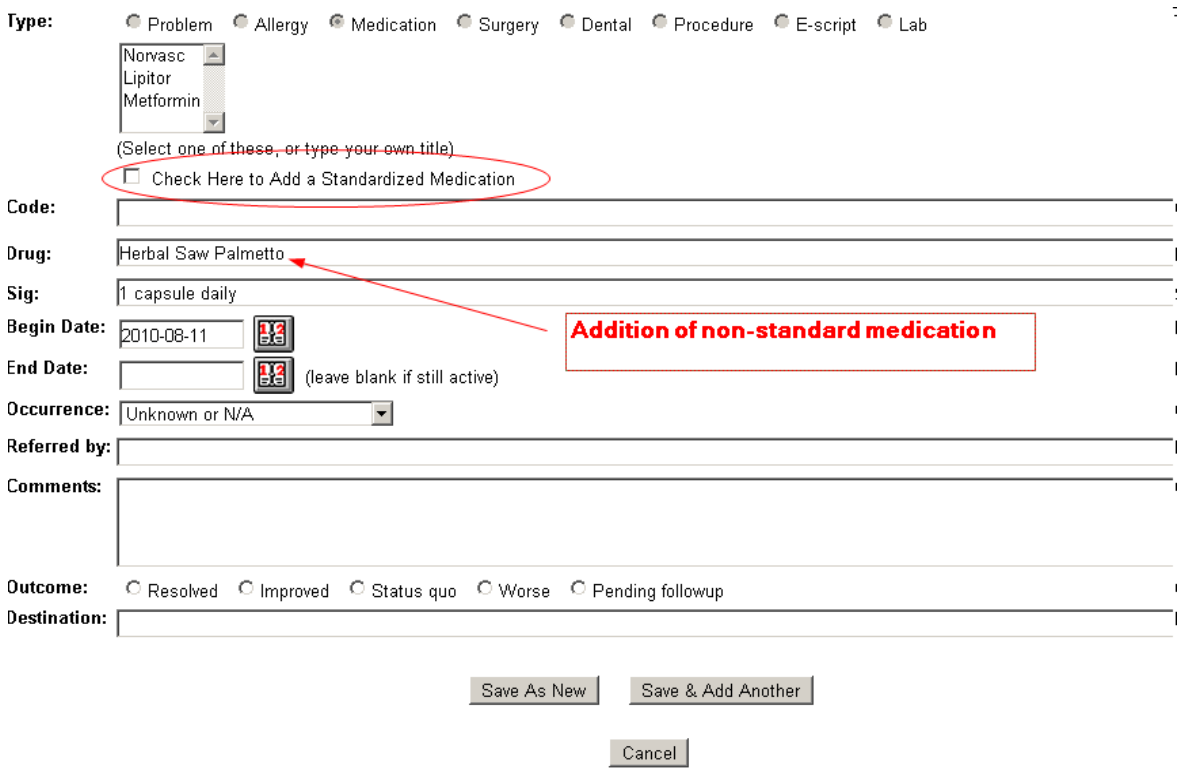


Patient Portal



Medication Addition by Staff

- Non-standard as well and standardized medications can be entered here



Sample Medication Dilemma

Many medical offices fail to properly inventory, store and manage sample medications given by the pharmaceutical industry

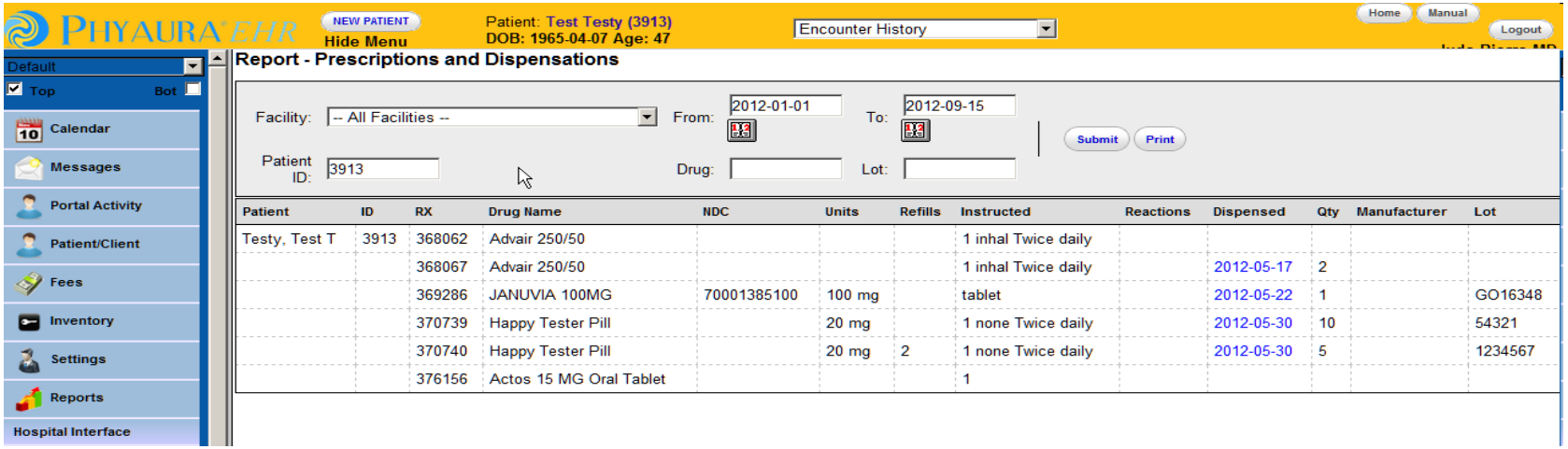
This leads to many issues regarding compliance and medication history tracking

- Unable to clearly track expiring medications
- Unable to assess compliance
- Difficult to manage Drug to drug interactions
- Adding medications to the patients profile does not allow you to keep track of inventory
- Recalled medication tracking is inefficient

Sample Medication Inventory

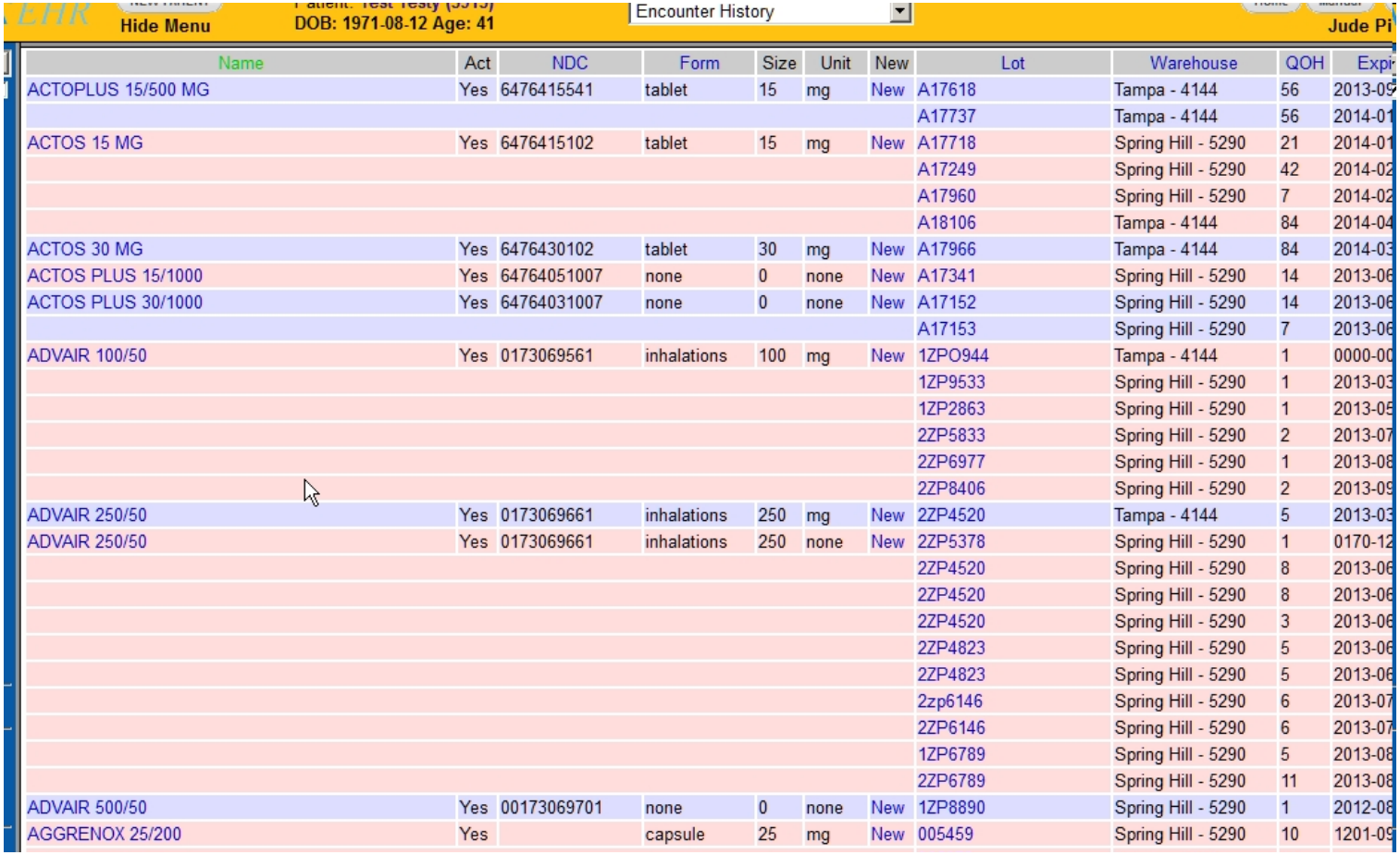
Our offices use a simple inventory process for our samples

- **Electronically inventory and catalog all sampled medications**
- Assess medication adherence with dispensing reports



Patient	ID	RX	Drug Name	NDC	Units	Refills	Instructed	Reactions	Dispensed	Qty	Manufacturer	Lot
Testy, Test T	3913	368062	Advair 250/50				1 inhal Twice daily					
		368067	Advair 250/50				1 inhal Twice daily		2012-05-17	2		
		369286	JANUVIA 100MG	70001385100	100 mg		tablet		2012-05-22	1		GO16348
		370739	Happy Tester Pill		20 mg		1 none Twice daily		2012-05-30	10		54321
		370740	Happy Tester Pill		20 mg	2	1 none Twice daily		2012-05-30	5		1234567
		376156	Actos 15 MG Oral Tablet				1					

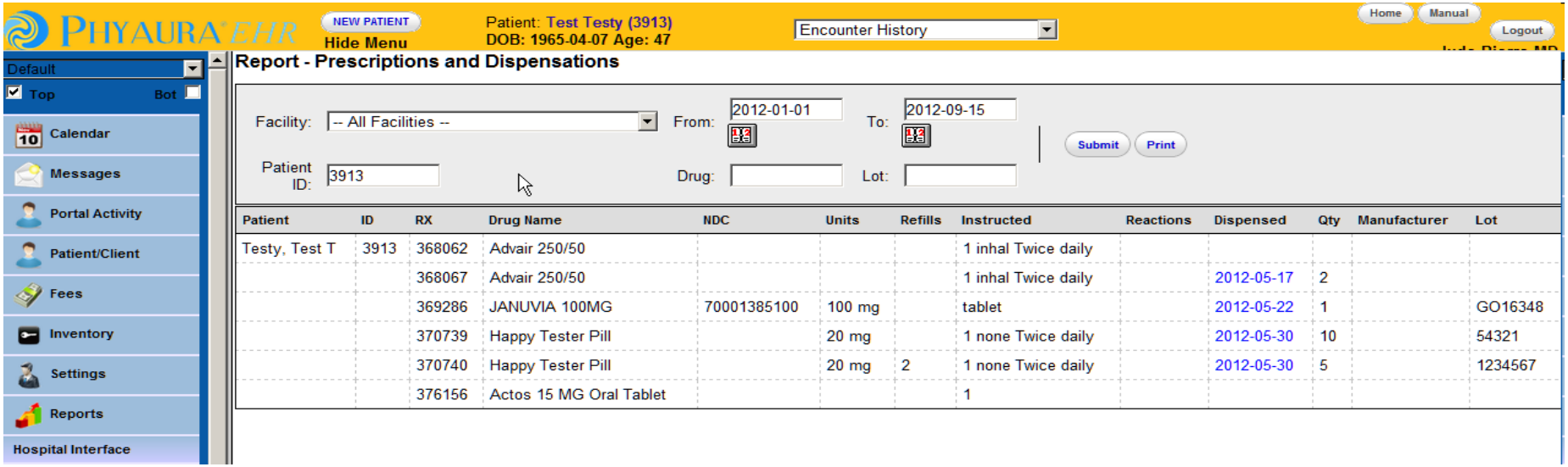
Medical Office Inventory List of Medications



Name	Act	NDC	Form	Size	Unit	New	Lot	Warehouse	QOH	Expi
ACTOPLUS 15/500 MG	Yes	6476415541	tablet	15	mg	New	A17618	Tampa - 4144	56	2013-09
							A17737	Tampa - 4144	56	2014-01
ACTOS 15 MG	Yes	6476415102	tablet	15	mg	New	A17718	Spring Hill - 5290	21	2014-01
							A17249	Spring Hill - 5290	42	2014-02
							A17960	Spring Hill - 5290	7	2014-02
							A18106	Tampa - 4144	84	2014-04
ACTOS 30 MG	Yes	6476430102	tablet	30	mg	New	A17966	Tampa - 4144	84	2014-03
ACTOS PLUS 15/1000	Yes	64764051007	none	0	none	New	A17341	Spring Hill - 5290	14	2013-06
ACTOS PLUS 30/1000	Yes	64764031007	none	0	none	New	A17152	Spring Hill - 5290	14	2013-06
							A17153	Spring Hill - 5290	7	2013-06
ADVAIR 100/50	Yes	0173069561	inhalations	100	mg	New	1ZPO944	Tampa - 4144	1	0000-00
							1ZP9533	Spring Hill - 5290	1	2013-03
							1ZP2863	Spring Hill - 5290	1	2013-05
							2ZP5833	Spring Hill - 5290	2	2013-07
							2ZP6977	Spring Hill - 5290	1	2013-08
							2ZP8406	Spring Hill - 5290	2	2013-09
ADVAIR 250/50	Yes	0173069661	inhalations	250	mg	New	2ZP4520	Tampa - 4144	5	2013-03
ADVAIR 250/50	Yes	0173069661	inhalations	250	none	New	2ZP5378	Spring Hill - 5290	1	0170-12
							2ZP4520	Spring Hill - 5290	8	2013-06
							2ZP4520	Spring Hill - 5290	8	2013-06
							2ZP4520	Spring Hill - 5290	3	2013-06
							2ZP4823	Spring Hill - 5290	5	2013-06
							2ZP4823	Spring Hill - 5290	5	2013-06
							2zp6146	Spring Hill - 5290	6	2013-07
							2ZP6146	Spring Hill - 5290	6	2013-07
							1ZP6789	Spring Hill - 5290	5	2013-08
							2ZP6789	Spring Hill - 5290	11	2013-08
ADVAIR 500/50	Yes	00173069701	none	0	none	New	1ZP8890	Spring Hill - 5290	1	2012-08
AGGRENOX 25/200	Yes		capsule	25	mg	New	005459	Spring Hill - 5290	10	1201-09

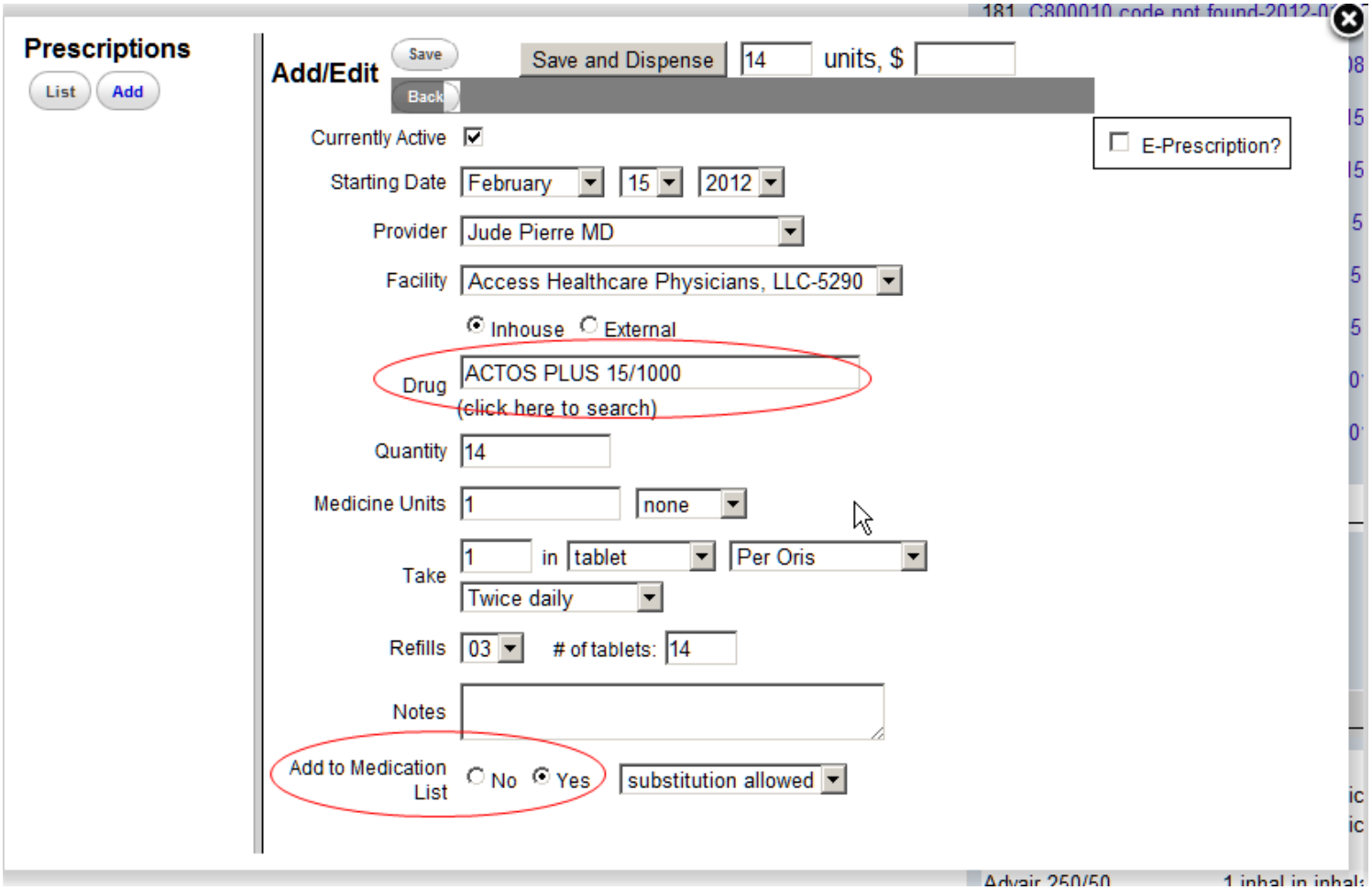
Sample Medication Inventory

- Electronically Inventory and catalog all sampled medications
- **Assess medication adherence with dispensing reports**

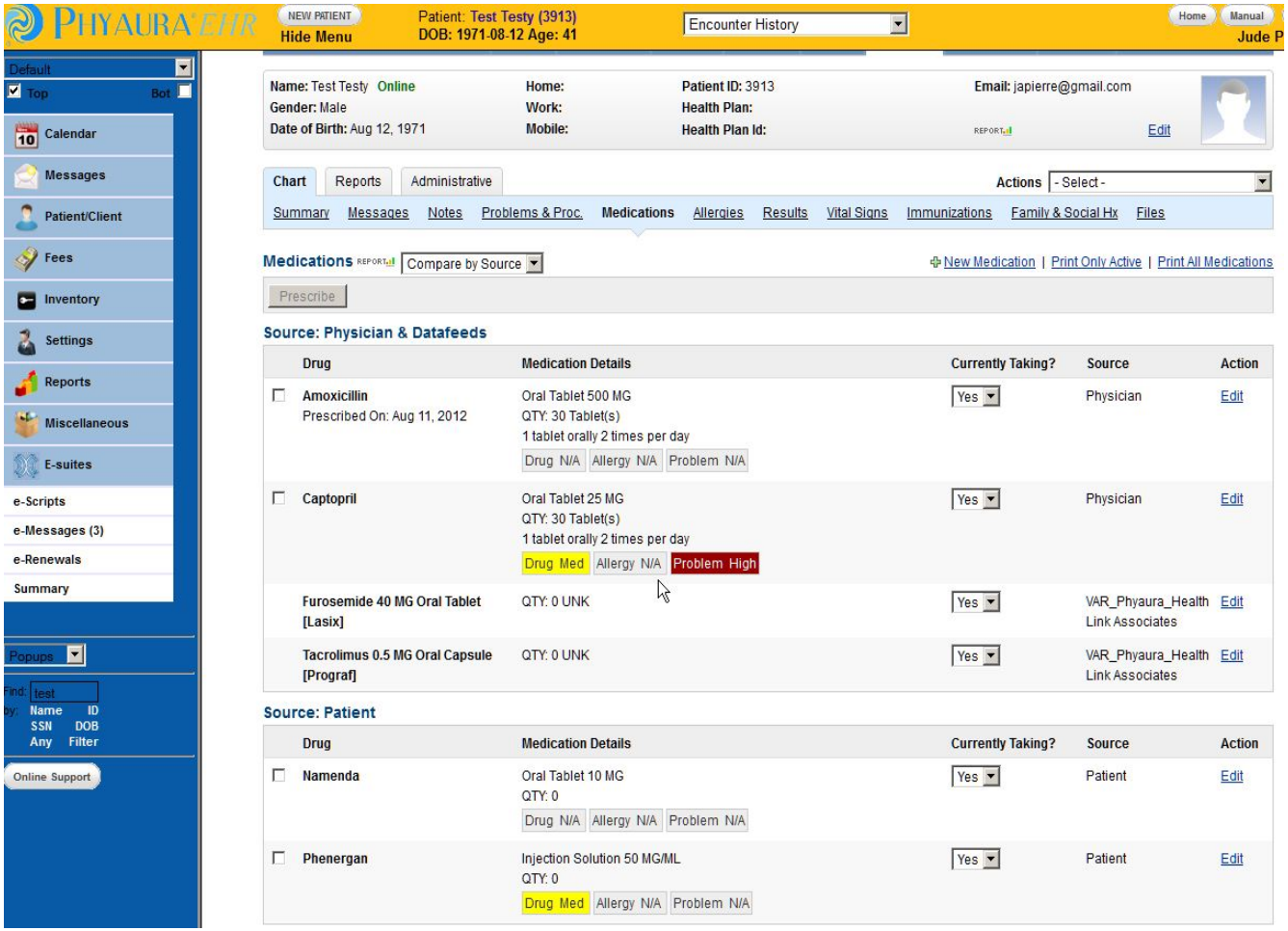


Patient	ID	RX	Drug Name	NDC	Units	Refills	Instructed	Reactions	Dispensed	Qty	Manufacturer	Lot
Testy, Test T	3913	368062	Advair 250/50				1 inhal Twice daily					
		368067	Advair 250/50				1 inhal Twice daily		2012-05-17	2		
		369286	JANUVIA 100MG	70001385100	100 mg		tablet		2012-05-22	1		GO16348
		370739	Happy Tester Pill		20 mg		1 none Twice daily		2012-05-30	10		54321
		370740	Happy Tester Pill		20 mg	2	1 none Twice daily		2012-05-30	5		1234567
		376156	Actos 15 MG Oral Tablet				1					

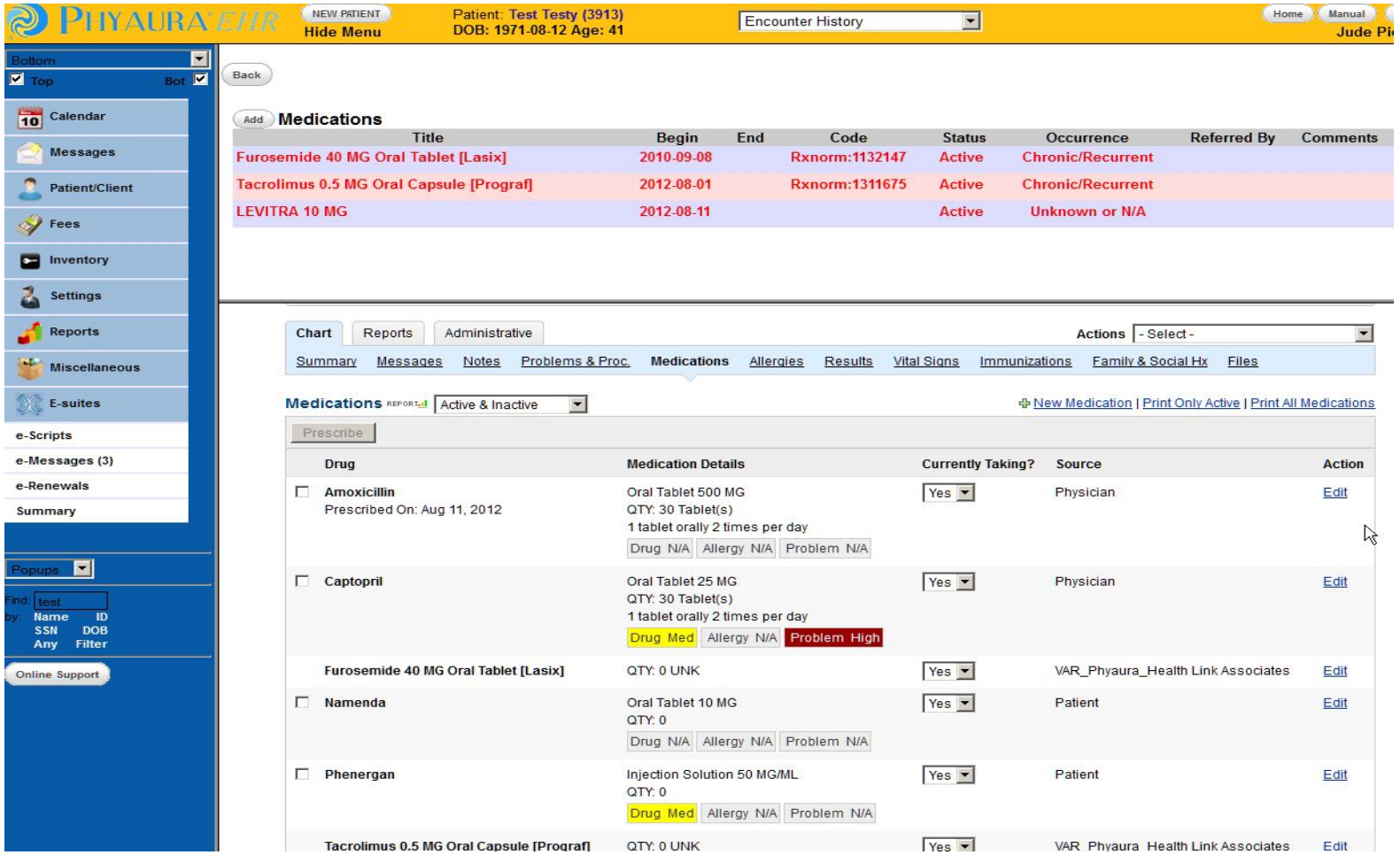
Prescribing from Inventory



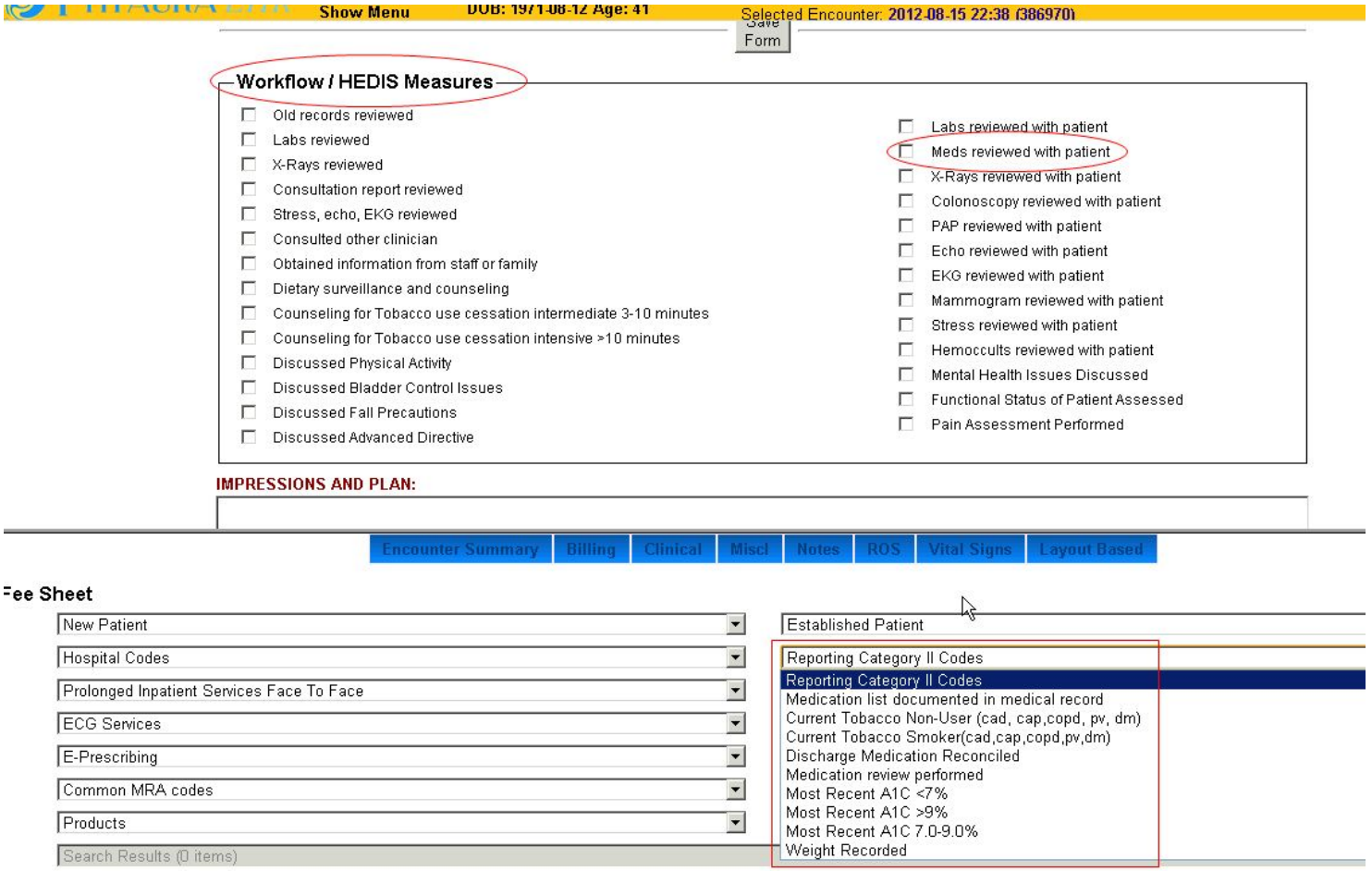
Medication Reconciliation by Source



Split screen reconciliation



CPT II Code Entry for Data Reporting



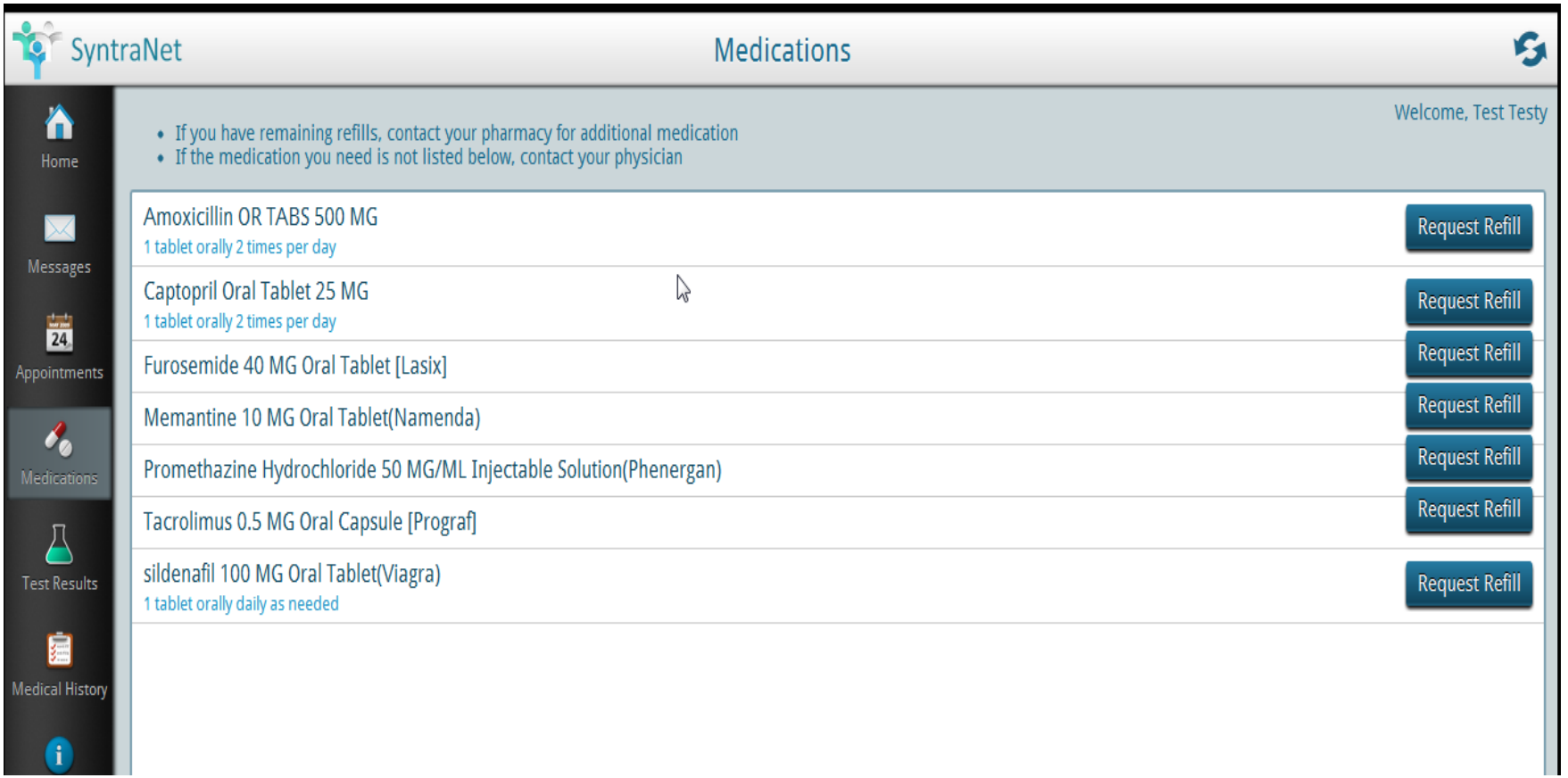
Transferring Medication list to HIE

The use of standard code sets facilitates the transfer of data

Using XML files from our EHR

- Continuity of Care Document (CCD) can be transferred to external system like Syntranet (Used by a partner HIE – SunCoast RHIO)

Data Displayed in External System



Effectiveness of Solution

- The use of a patient portal interfaced with an EHR allow for real-time medication reconciliation
- Slip screen allows for easy review
- Use of standard RxNorm codes assures that different vendor systems will communicate
- Use of a sample medication inventory allows for electronic tracking of medication compliance
  - » Reports could be created to demonstrate adherence to medication

Challenges

- Data is dependent on provider and staff input using the standards available to them
- Patient involvement and use of our patient portal is crucial to accurate medication reconciliation
- Multiple screens could be confusing to those providers who are not familiar with computers
- Training on systems are critical to the process and can impact office revenue
- Reporting of appropriate codes to payers is often not done due to lack of knowledge

Future of Systems - Quality Improvement

- Ideal systems will alert providers via text or email when quality measures need to be addressed
- Systems should track not only when prescriptions are e-prescribed but also when they are picked up from the pharmacy
  - » This would help determine adherence to medications that may not be chronically taken
- It is imperative that processes that improve quality of patient care and increase the effectiveness of the private practice be taught early on in a medical professional's career
  - » Instruction on choosing the right health record system
  - » Helping young medical professionals understand the importance and impact of quality measures

Summary

- Meaningful use standards encourage better data entry, reporting and exchange of information (RxNorm, SNOMED, CPTII codes)
- Using systems that track all medications (including samples) taken by patients improves the accuracy of quality reporting
- Physicians and their staff are key players when it comes to recording and reviewing medications
- Future systems will track and alert various aspects of the medication dispensing and usage

THANK YOU!

Jude A. Pierre, MD

352-686-3101

www.accesshealthcarellc.net

Kaiser Permanent Colorado Medication Management

Samer Khodor, MD
Physician Director of Patient Safety
Colorado Permanente Medical Group

Brandy McGinnis, PharmD
Clinical Pharmacy Specialist
Kaiser Permanente Colorado Health Plan

Ted E. Palen, PhD, MD
Physician Manager Clinical Reporting
Colorado Permanente Medical Group

NATIONAL QUALITY FORUM

September 21, 2012

NQF eMeasures Learning Collaborative: Medication Management

Goals of eMeasures Medication Management

1. Identify Best Practices
2. Make Recommendations
3. Identify Gaps

Medication Mangement: Objectives

1. Recognize importance of adding medication management to Primary Care Quality Dashboard
2. Understand the importance of setting Regional expectations and roles for medication management
3. Understand the importance of medication management for members and providers
4. Recognize the impact of an inaccurate medication list
5. Utilize existing data, methods and tools to improve medication list management

Goal of Medication Managment

Maintain an accurate list of medications in the EMR (KP HealthConnect™)

Cost of NOT doing Medication Management

- **Medication Errors** caused an **additional 303 days** of hospital stay in one hospital over a year
- Increased hospital cost of treating ADEs averaged **$4,600 per incident**; 700 bed hospital = $2.8 mil
- Each **preventable ADE** that took place in a hospital added about **$8,750** to the cost of the hospital stay
- Preventable ADEs in Medicare enrollees aged 65/older had annual cost of **$887 million** for treating medication errors in this group
- **Extra medical costs** of treating drug-related injuries occurring in hospitals alone conservatively amount to **$3.5 billion** a year
- 2006 IOM cost estimates do not take into account lost wages and productivity or additional health care costs
- Median **compensation** per award for medication errors: **$668,000**

Why is Medication Management Important?

Medication list accuracy directly impacts patient safety and quality by having:

- Fewer Medication Errors
- Improved Transitions of Care
- Increased Compliance with Quality Metrics and Regulatory Agencies
- Decreased cost from medication errors (clinic/ED visits, admits, re-admissions)

BOTTOM LINE…
Safer for our patients!

Medication Management: Focus and Data Collection

- Setting: **Outpatient** (Pilot study - Adult PCPs)
- Encounter Type: **Office Visit (OV)**
- Inclusions: All **providers** (physicians now – can also measure mid-levels, pharmacy, nursing)
- Metrics: **Monthly** data reports

Medication Management: Data Collection and Measurement

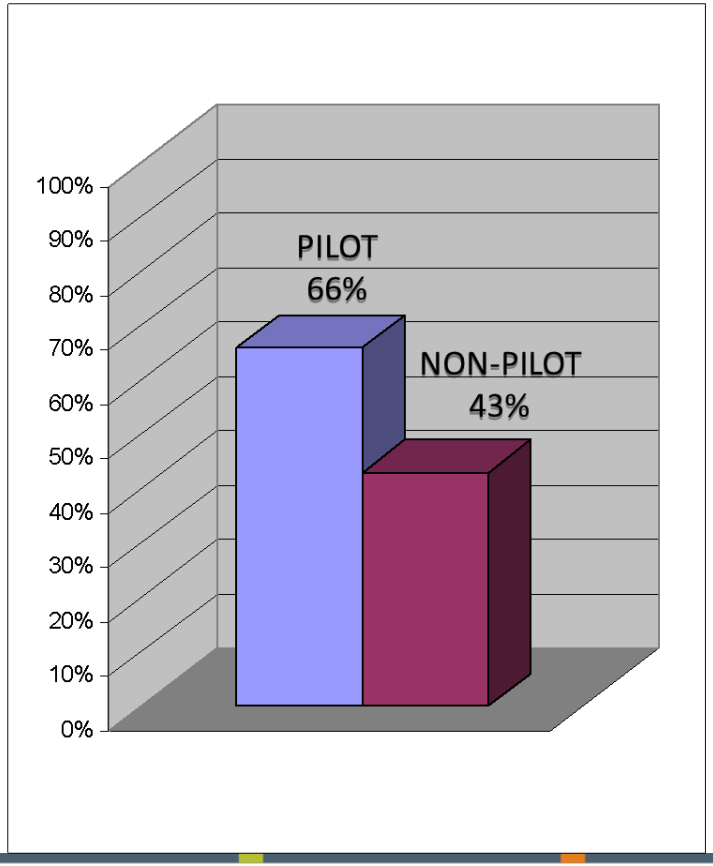
- Medication data acquisition (via Program Office/IMARS):
  - **Re-Ordered***
  - **Discontinued***
  - **"Medications Reviewed"***
  - **Duplicate Medications**
    - **The % of office visits with 1 or more duplicate medications**
    - **The *number* of duplicate medications as an average for ALL office visits during one month for a provider**

**** Number and percent of total monthly visits***

Medication Mangement:
Data Collection and Measurement

				% of Office Visits (OV) Metrics				
			# Office Visits (OV)	% OV Dup Meds	% OV Reviewed	% OV D/C	% OV Re-Ordered	Avg Dups per 100 OV
Location	Dept	Provider						
ABC Medical Offices	IM	A	129	17.1%	6.1%	31.8%	16.3%	21
		B	433	8.3%	25.8%	16.6%	9.9%	1
		C	175	7.4%	16.0%	38.9%	20.6%	7

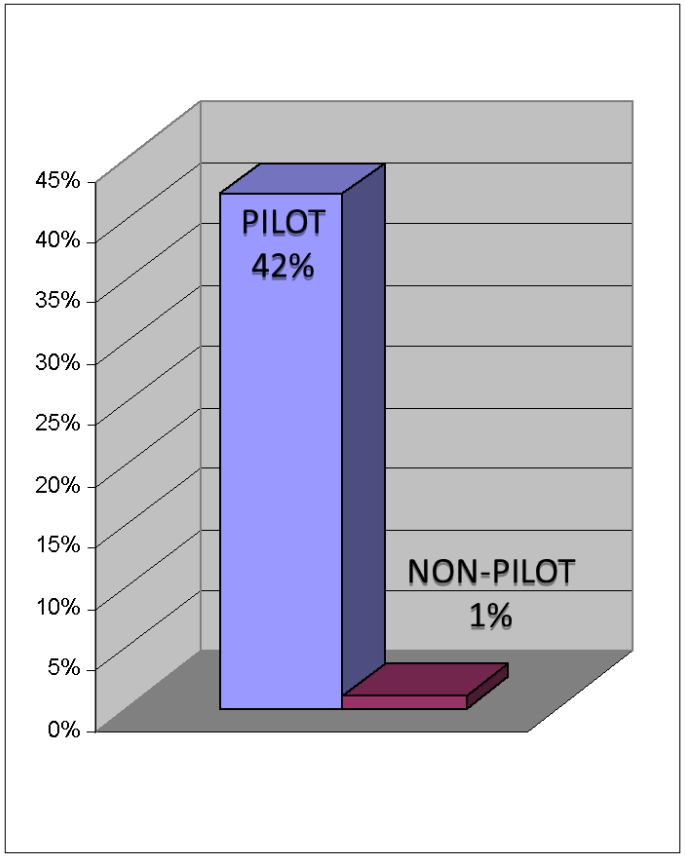
Medication Activity



Average percentage of time a provider enters into Medication Activity function in KPHC for the month of November 2011

•Non-Pilot vs Pilot Providers

Medication Management
Review Medications During Office Visit



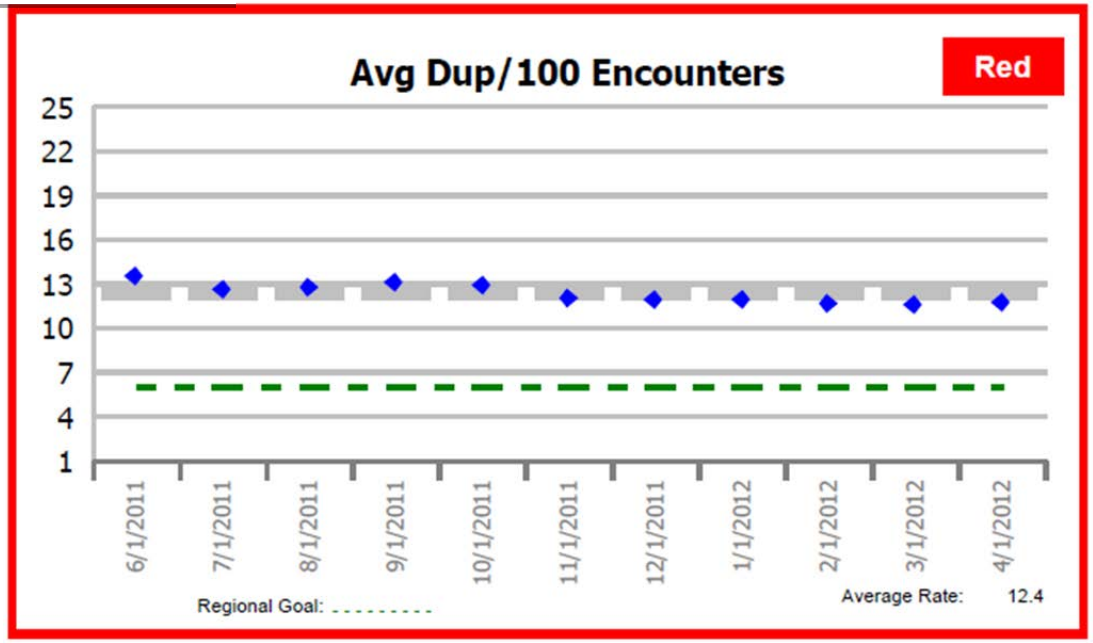
Average percentage a provider clicks the Medications Reviewed function in KPHC for the month of November 2011

•Non-Pilot vs Pilot Providers

Medication Management on the Quality Dashboard

CPMG REGIONAL SUMMARY / TOTAL

Month of: April, 2012

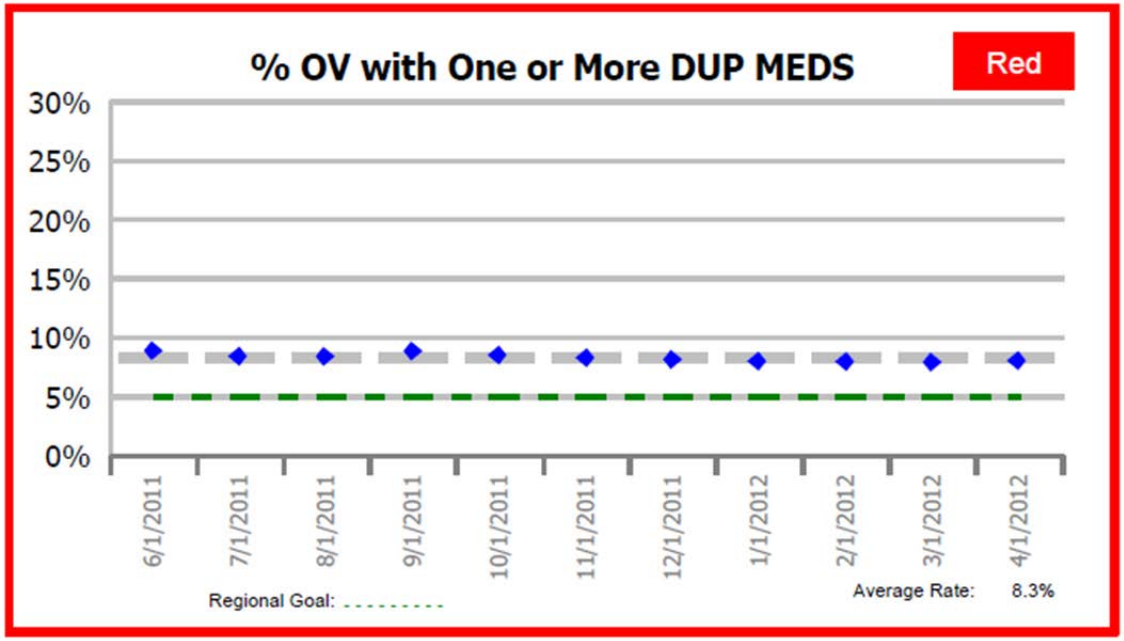


DATE	Rate	Goal	N	D	# to Goal	Sig?
04/2012	11.8	6.0	5,751	48,903	2,816	
03/2012	11.6	6.0	6,015	51,843	2,904	

Medication Management on the Quality Dashboard

CPMG REGIONAL SUMMARY / TOTAL

Month of: April, 2012



DATE	Rate	Goal	N	D	# to Goal	Sig?
04/2012	8.1%	5.0%	2,995	37,074	1,141	
03/2012	8.0%	5.0%	3,157	39,681	1,172	

Medication Management: Collaboration Roles

- **Regional Operational Leaders**
  - Set Regional expectations for providers to complete Medication Management training and perform during office visits
- **Providers (physicians, mid-levels, clinical pharmacy)**
  - Complete Medication Management Training
  - Review and update KPHC Medication List during office visit
  - Subspecialists: Review and update medication that pertain to their area of practice
- **Nursing (RN/LPN/MA)**
  - Participate in workflows to assist providers in Medication Management
  - Work within scope of practice in a workflow to minimize variation and duplication (Pilot project in progress)
  - Medication reconciliation by special needs nurses
    - Call patients after hospitalizations, SNF discharges,
- **Clinical Pharmacy and KPHC Teams**
  - Provide initial and ongoing training for appropriate Medication Management

Medication Management: eMetrics for Medication Activity

- **Codified information**
  - Medication (NDC, GPI, etc)
  - Status of medication
    - *active, ordered, sold, re-ordered, discontinued*
    - *Dates*
    - *Quantity*
    - *Refills*
    - *Associated diagnosis*

Medication Management: eMetric Gaps

- SIG are usually Free text
- Depends on consistent use of tools by users to adjudicate medication list during patient contacts
  - EMR do not always make this easy
- Medication review function may not be codified
- Lack of medication data standards for medication metrics
- Inter-operability barriers
  - Hinders Health Information Exchange efforts

Medication Management: Recommendations

- Work with EPIC (other EMR vendors) and other Healthcare delivery systems
  - to **automate** Medication Management process in the EMR
- Medication Management **process** within visit navigator (similar to existing inpatient EPIC)
- Print ***After-Visit Summary*** **(AVS)** with medications accurately listed (similar to EPIC D/C summary from hospital)
- Train users to perform consistent workflows
  - To minimize missing data
  - To make sure data flows to database in consist manner
- Inter-operability and Medication data standards

Medication Management: Other factors

Medication Management *Why?*

1. Sustainability
2. Patient Safety
3. Quality
4. Cost
5. Supports KP's Integrated HealthCare Model
6. Regulations: MU 2014, Med Adherence, HEDIS, Medicare, others

Medication Management: Medication Adherence

- Medication Adherence- why is it important?
  - 50% non-adherence at one year
  - Increased mortality/morbidity, ED visits, hospitalizations, nursing home admits, > 200 billion in annual costs
  - Quality measures- Medicare 5 star and HEDIS
- Gaps
  - Lack of adherence data in KPHC
  - External rx's
  - Accurate med lists

Medication Management: Medication Adherence

- Key initiatives at KPCO
  - Via collaboration w/ other KP regions: Integrating adherence data into KPHC and utilizing tools to identify and outreach patients not meeting quality measures
  - Education of both providers and patients on the importance of adherence
  - Collaboration with med reconciliation and med safety initiatives

Medication Management: Collaborate with other initiatives

- Medication adherence
- Medication safety
- National medication management initiatives
  - Meaningful Use
  - HEDIS
- Quality measures

Medication Management

Shekhar Mehta, Pharm.D., M.S.
Director, Clinical Guidelines and Quality Improvement
American Society of Health-Systems Pharmacists®

NATIONAL QUALITY FORUM

Medication Management Panel Discussion

Development of eMeasures

- Many of the measures (including core measures) are not well defined causing discrepancies in interpretation among among vendors and clinical decision support systems that may not be capable of fully abstracting the designated measure.
  - » They had requested a more stringent and clear measure definition based on widely accepted standards. These measure definitions should included clear information on dose and indication and appropriate use.

Medication Management Panel Discussion

Development of eMeasures

- There is a variety of differences in expectations of documentation specifically in areas concerning documentation of medication administration among health IT vendors.
  - This is contributing to the lack of interoperability among systems which decreases the quality of care coordination as important information is not communicated in a timely manner. For example the requirements for medication reconciliation at discharge is delayed.

Medication Management Panel Discussion

Development of eMeasures

- Finally there is a movement to empower the patient to have rapid and easily obtainable record of current and past medication history and patient records.
  - The empowerment of the patient to easily obtain this information is another important factor and should start with the active medication list.

IVR Care Transition Systems: Using Technology to Extend Post-Discharge Medication Management Support

Heather J. Sobko. PhD, RN
University of Alabama at Birmingham

September 21, 2012

NATIONAL QUALITY FORUM

IVR Care Transition Systems: Using Technology to Extend Post-Discharge Medication Management Support

Objectives

- Care Transitions
- Interactive Voice Response Technology
- IVR Care Transition Systems
- Medication Management Support
- Data capture and analysis
- Future Implications

IVR Care Transition Systems: Using Technology to Extend Post-Discharge Medication Management Support

Care Transitions: A vulnerable time

- Insufficient time for education & clarification
- Information overload for patients
- Complex medication regimes
- High risk for adverse event
- Need for extended support

IVR Care Transition Systems: Using Technology to Extend Post-Discharge Medication Management Support

Interactive Voice Response Technology

- Overcomes geographic boundaries/barriers
- Overcomes health literacy issues
- Cost effective
- Simple
- Standardized format
- Scalable

IVR Care Transition Systems: Using Technology to Extend Post-Discharge Medication Management Support

IVR Care Transition Systems

- IVR platform
- Patient centered
  - Scheduling
  - Data entry
- Clinical review
- Follow-up as needed
- Built-in documentation

IVR Care Transition Systems: Using Technology to Extend Post-Discharge Medication Management Support

Benefits

- Built-in triage
- Cost effective
- Trending reports
- Appropriate resource allocation
- Fits existing workflow
- Plug and play system

IVR Care Transition Systems: Using Technology to Extend Post-Discharge Medication Management Support

Medication Management Support

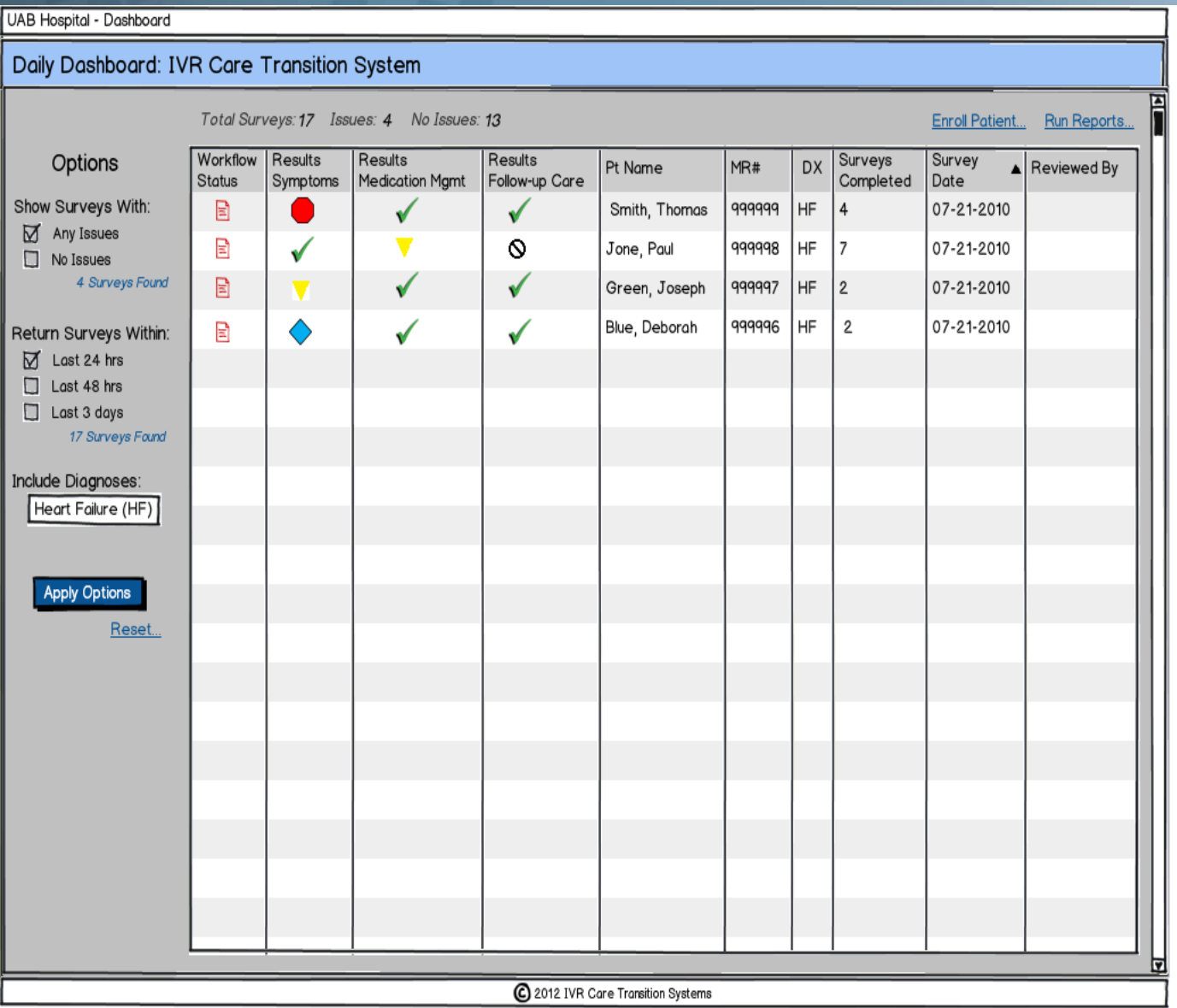
- Relevant queries about medications
  - Prescription and OTC medicines
  - Side effects
  - Cost
  - Purpose for medicines
  - Effectiveness of medicines
  - Missed medications
  - Dosages

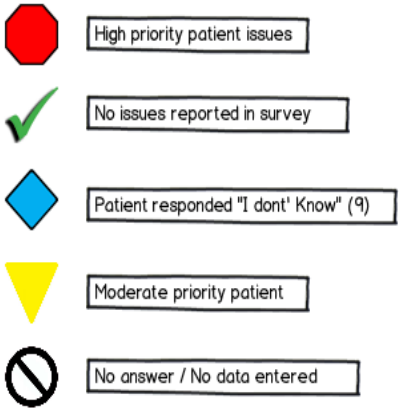
IVR Care Transition Systems: Using Technology to Extend Post-Discharge Medication Management Support

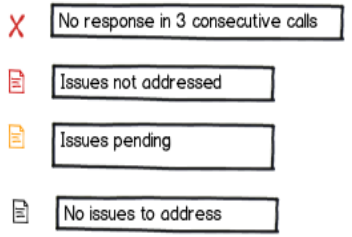
Data Capture and Analysis

- Medication review
  - Opportunity for education
  - Validation of understanding
- Documentation linked to electronic medication list
- Provider notification
- Link to most recent hospital encounter
- Trending Reports for QI initiatives

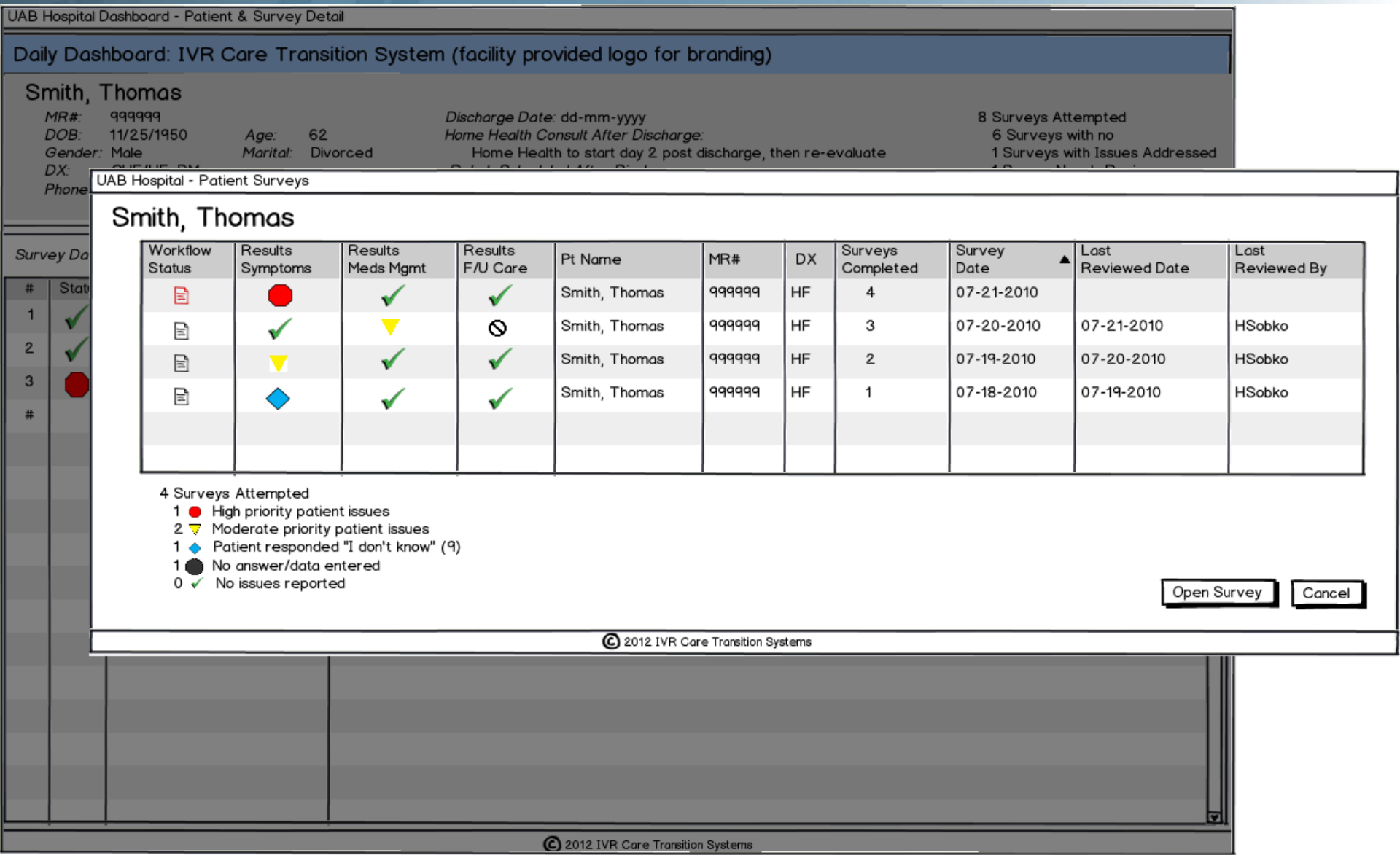
Care Transition Systems Dashboard



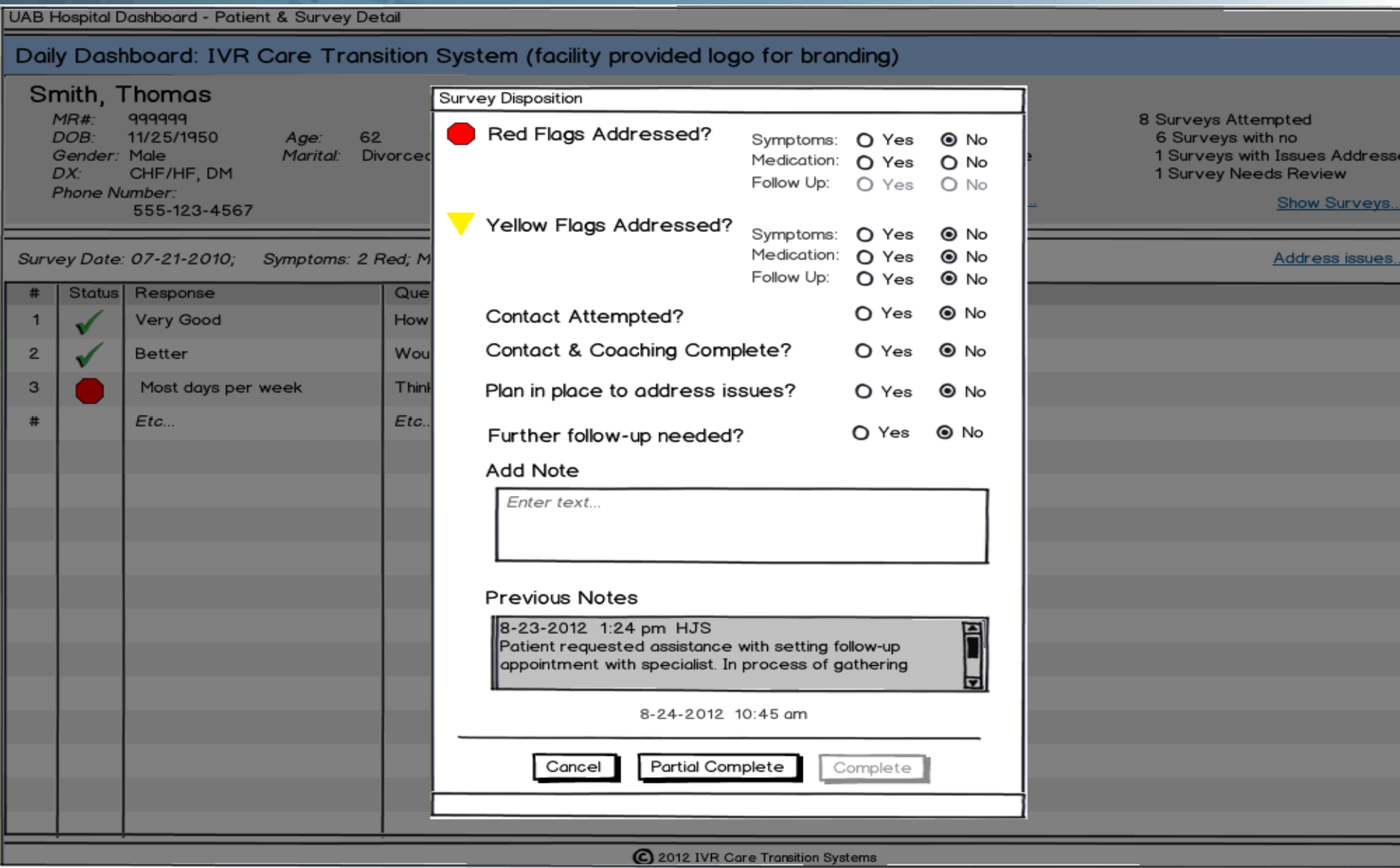




Care Transition Systems Composite



Care Transition Systems Documentation



IVR Care Transition Systems: Using Technology to Extend Post-Discharge Medication Management Support

Future Implications

- Missing links in med rec processes
- IVR reminders
- Automated medication lists
- Interface with EMR
- Meaningful Use Stage 3

Medication Management Panel Discussion

- **Group Discussion**
  1. Best practices (repeatable models) for data capture, workflow, and eMeasurement
  2. Recommendations
  3. Gap areas requiring focused attention in the future

Lunch Break

12:15 pm – 12:45 pm

Data Visibility:
Essential Elusive Elements

NATIONAL
QUALITY FORUM

September 21, 2012

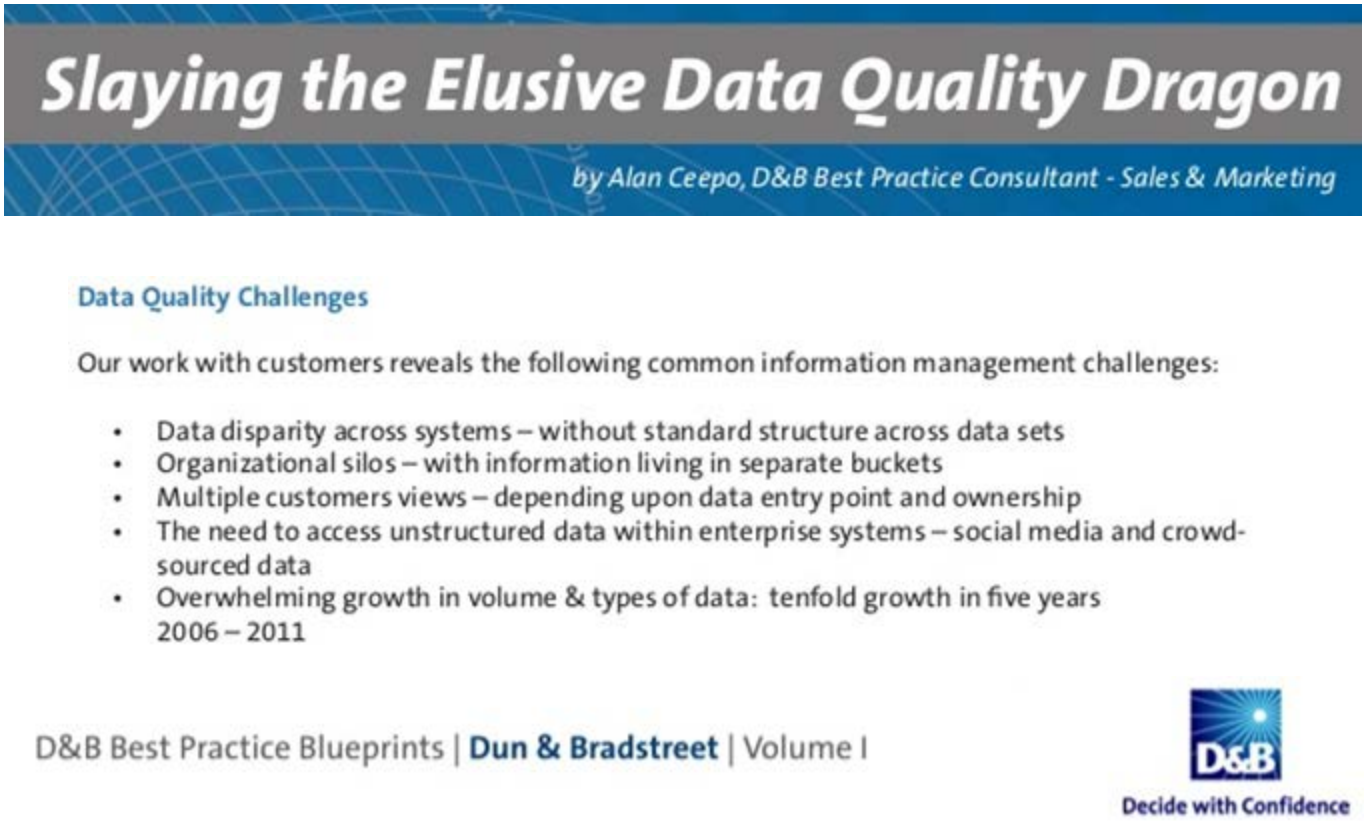
Data Visibility: Essential Elusive Elements Panel Discusssion

- **Moderators:**
  - Kevin Larsen, MD
  - Karen Nielsen, MBA, MPA
- **Presenters:**
  - Kenneth Goldblum, MD, FACP

    Chief Medical Officer, Renaissance Health Network
  - Dave Stumpf, MD, PhD

    President, Woodstock Health Information and Technology

Data Quality-
A Challenge Facing all Business Today



Slaying the Elusive Data Quality Dragon

by Alan Ceepo, D&B Best Practice Consultant - Sales & Marketing

Data Quality Challenges

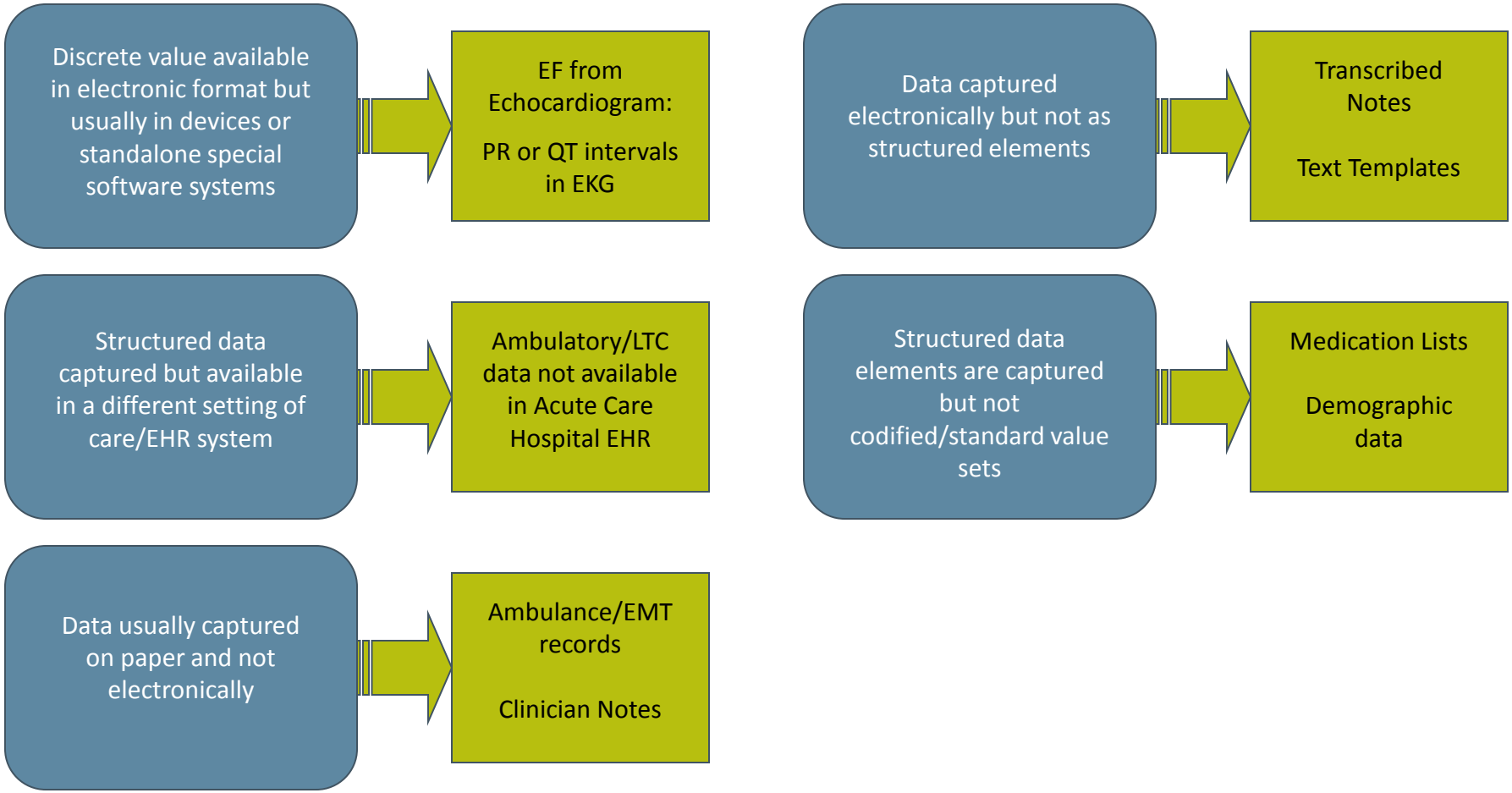
Our work with customers reveals the following common information management challenges:

- Data disparity across systems – without standard structure across data sets
- Organizational silos – with information living in separate buckets
- Multiple customers views – depending upon data entry point and ownership
- The need to access unstructured data within enterprise systems – social media and crowd-sourced data
- Overwhelming growth in volume & types of data: tenfold growth in five years 2006 – 2011

D&B Best Practice Blueprints | **Dun & Bradstreet** | Volume I

D&B
Decide with Confidence

Data Visibility: Essential Elusive Elements Examples in Health Care



Capturing EMR Data for Quality Reporting

NATIONAL QUALITY FORUM

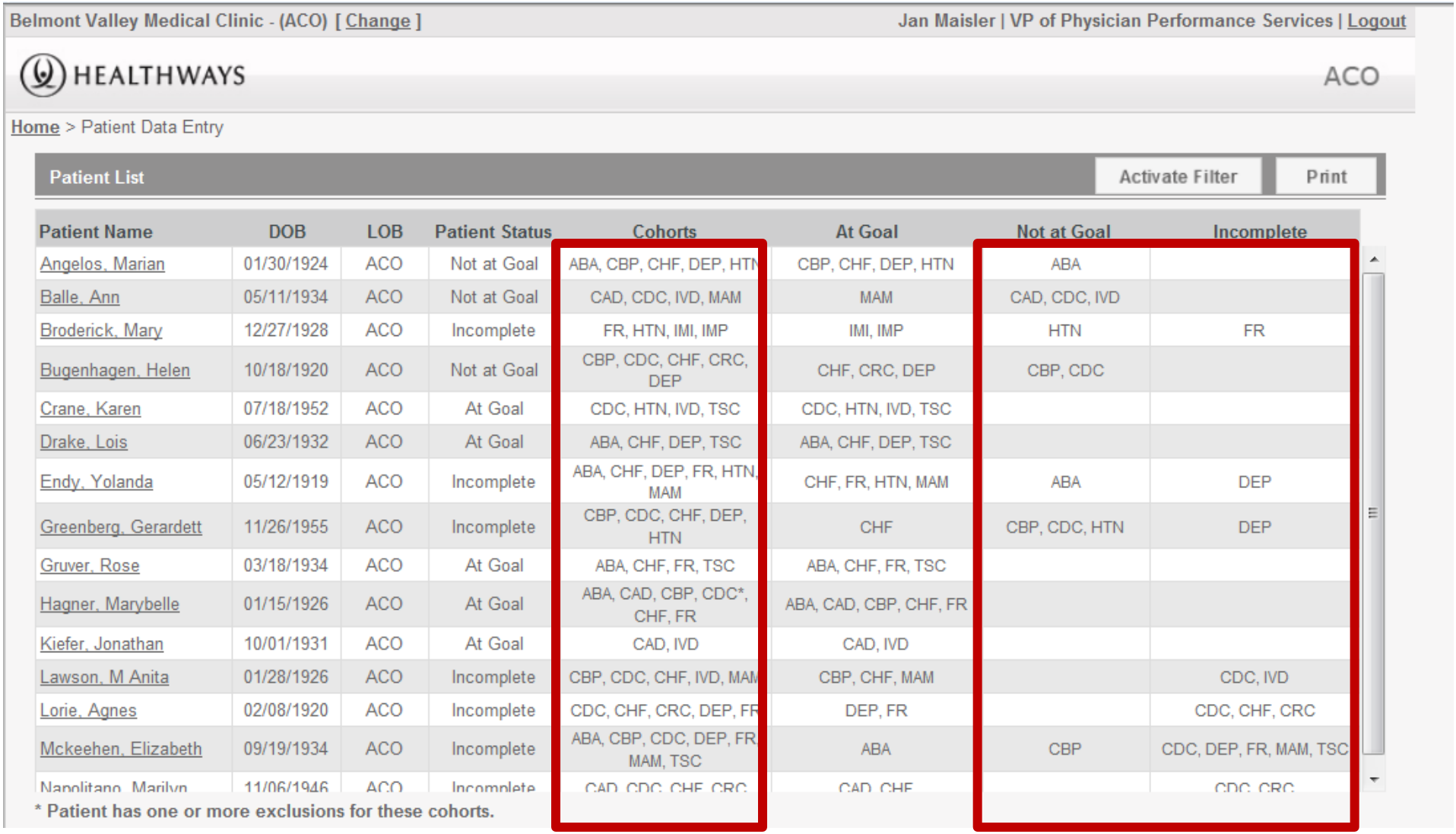
Kenneth Goldblum, MD, FACP
Chief Medical Officer
Renaissance Health Network

Gateway Medical Associates

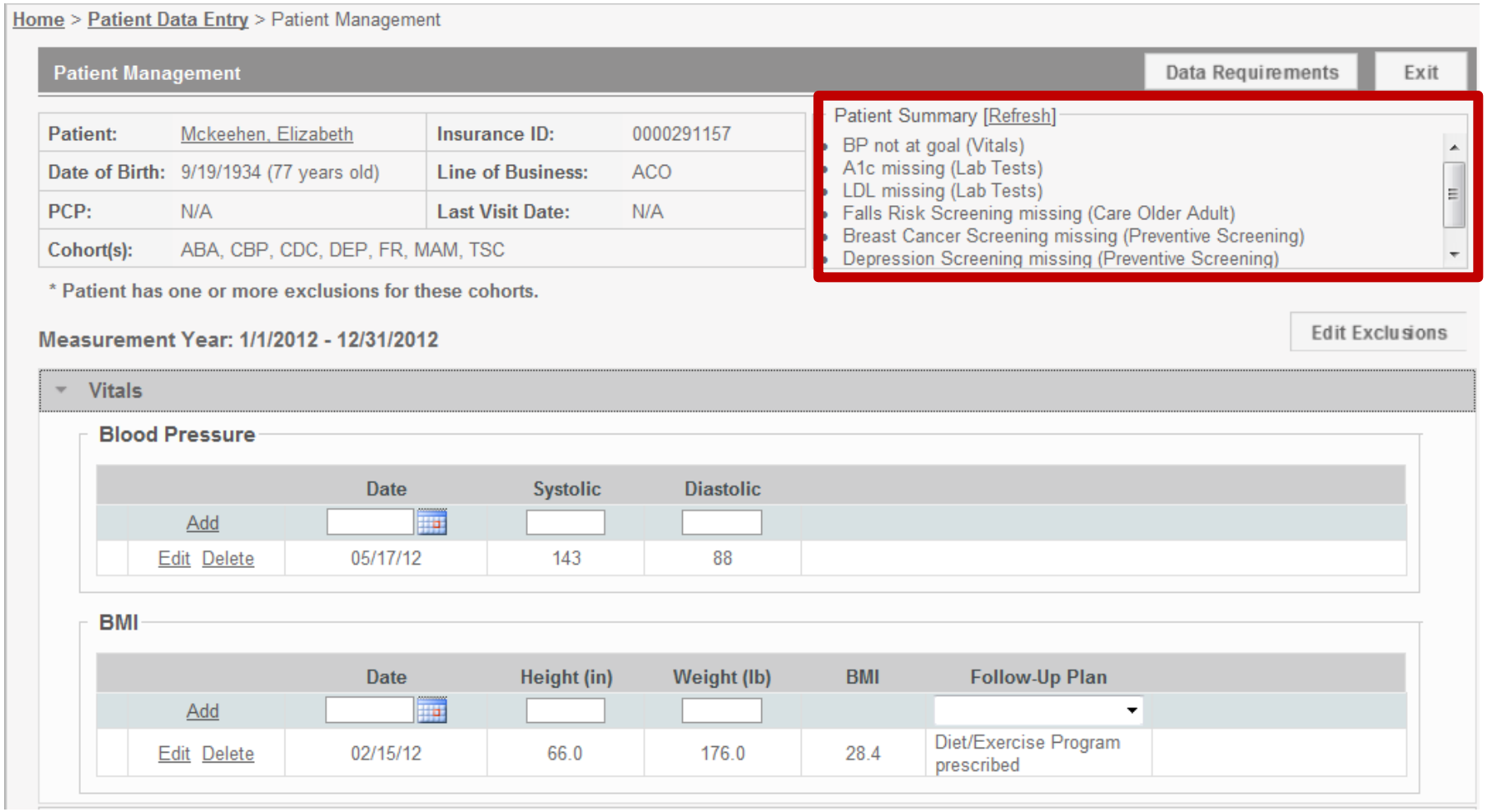
- 30 primary care doctors in eight offices outside Philadelphia operating since 1996
- Using Allscripts Professional since 2006
- Three FTE IT staff
- MU1 certified and Level 3 NCQA certified PCMH
- Produce an internal all-patient Quality Report
- Upload quality data to Renaissance

Renaissance Health Network

- 260 primary care doctor IPA in southeast PA
- “ACO” arrangement with Independence Blue Cross since 2001
- Pioneer ACO starting 1/1/12
- Use homegrown Web-based application (Population Management Tool) for data collection and quality improvement



The names and data that appear in these slides were created to illustrate these materials. No actual patient names or data appear.



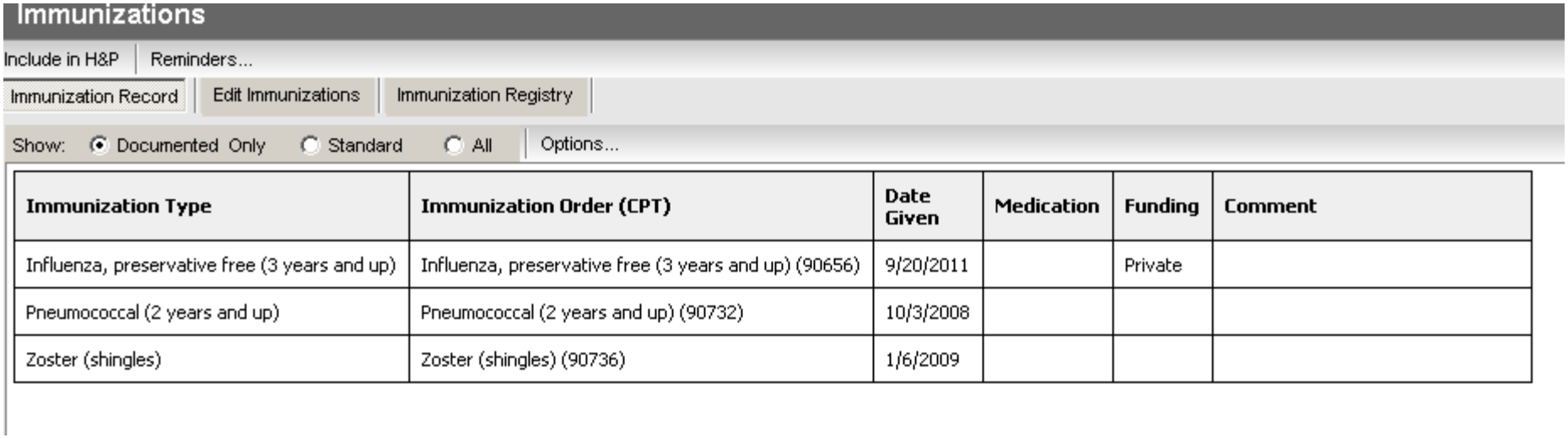
The names and data that appear in these slides were created to illustrate these materials. No actual patient names or data appear.

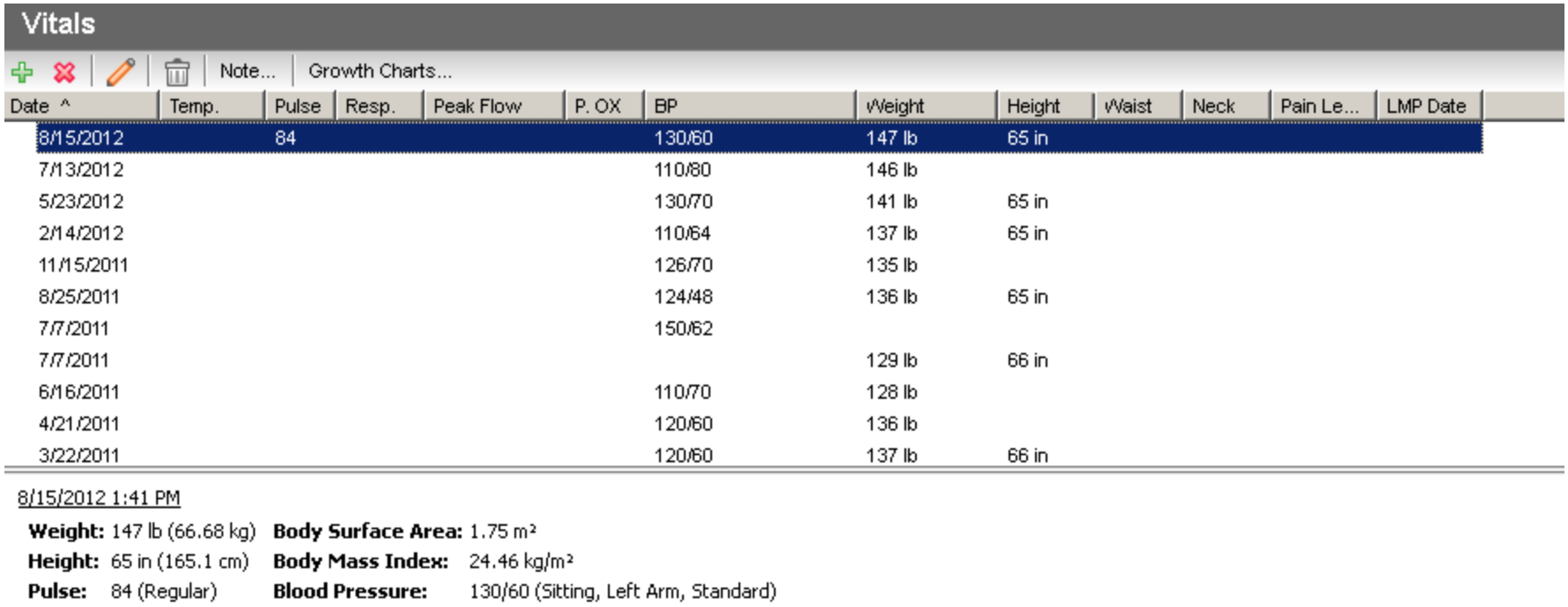
Data Elements Collected

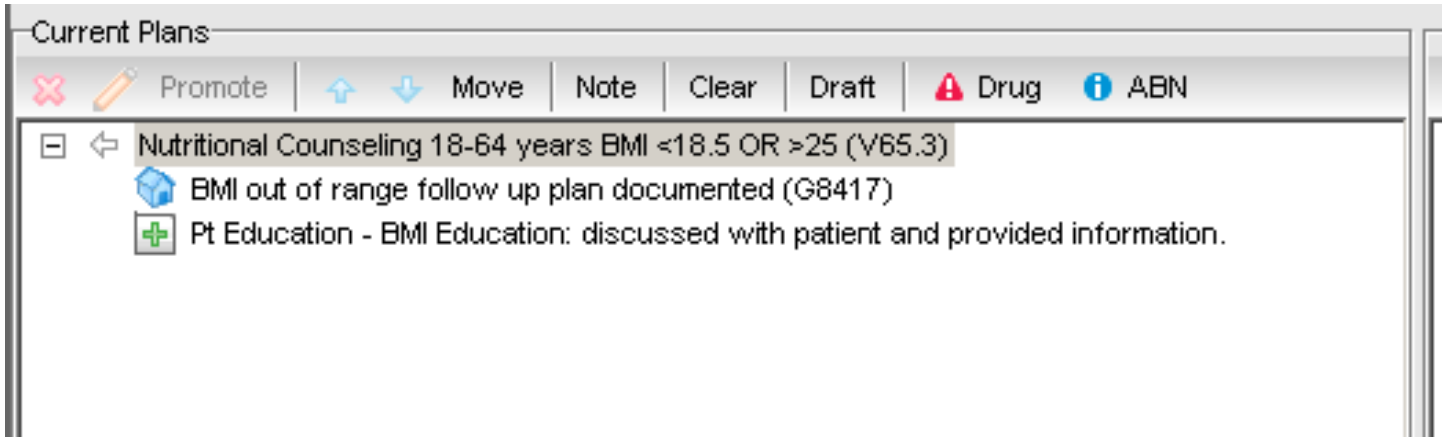
- Flu shots and Pneumovax
- BP and BMI/counseling
- Tobacco cessation and counseling
- Glycohemoglobin and LDL cholesterol
- Depression screening
- CRC screening and mammography
- Falls risk assessment

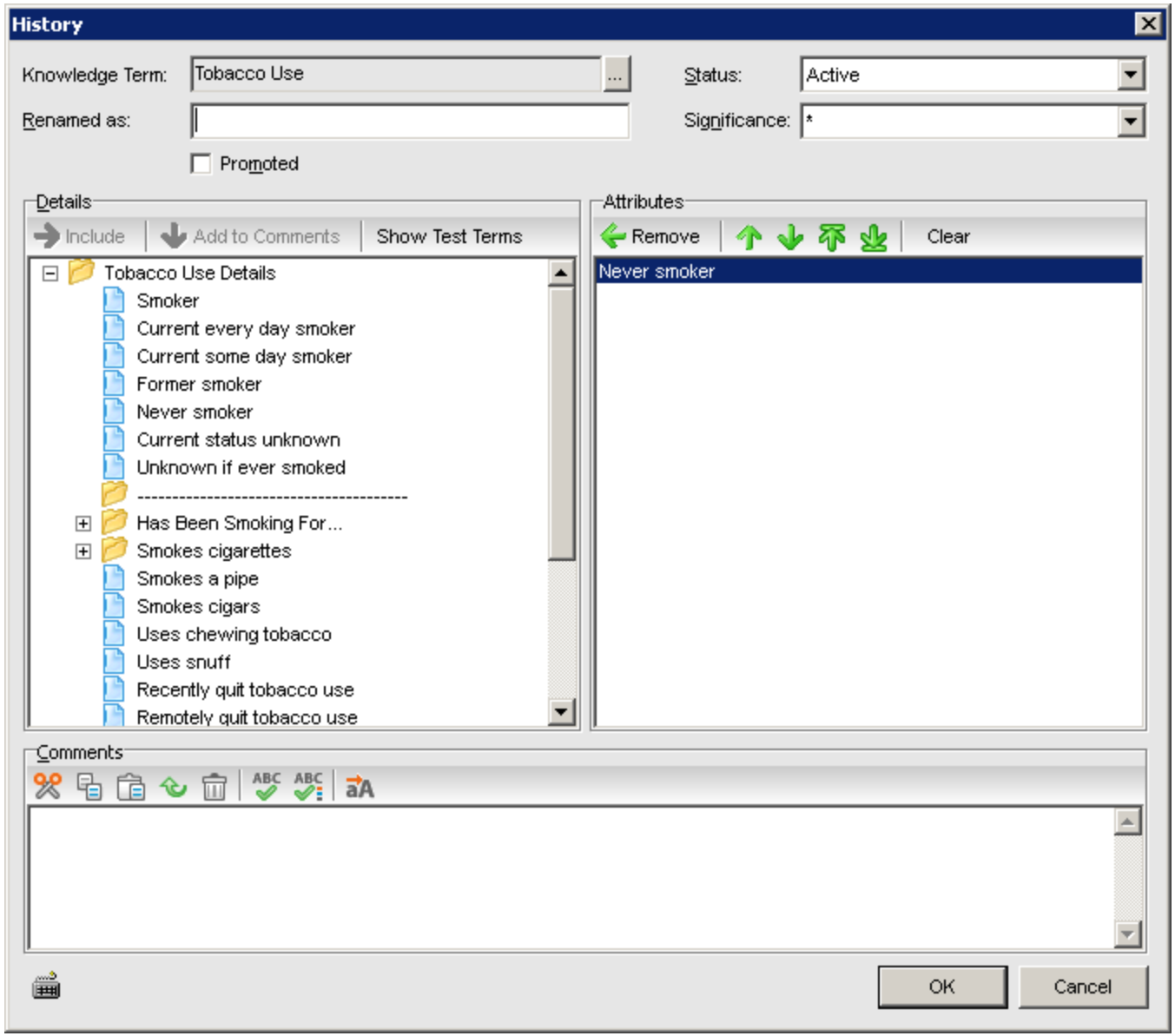
Challenges

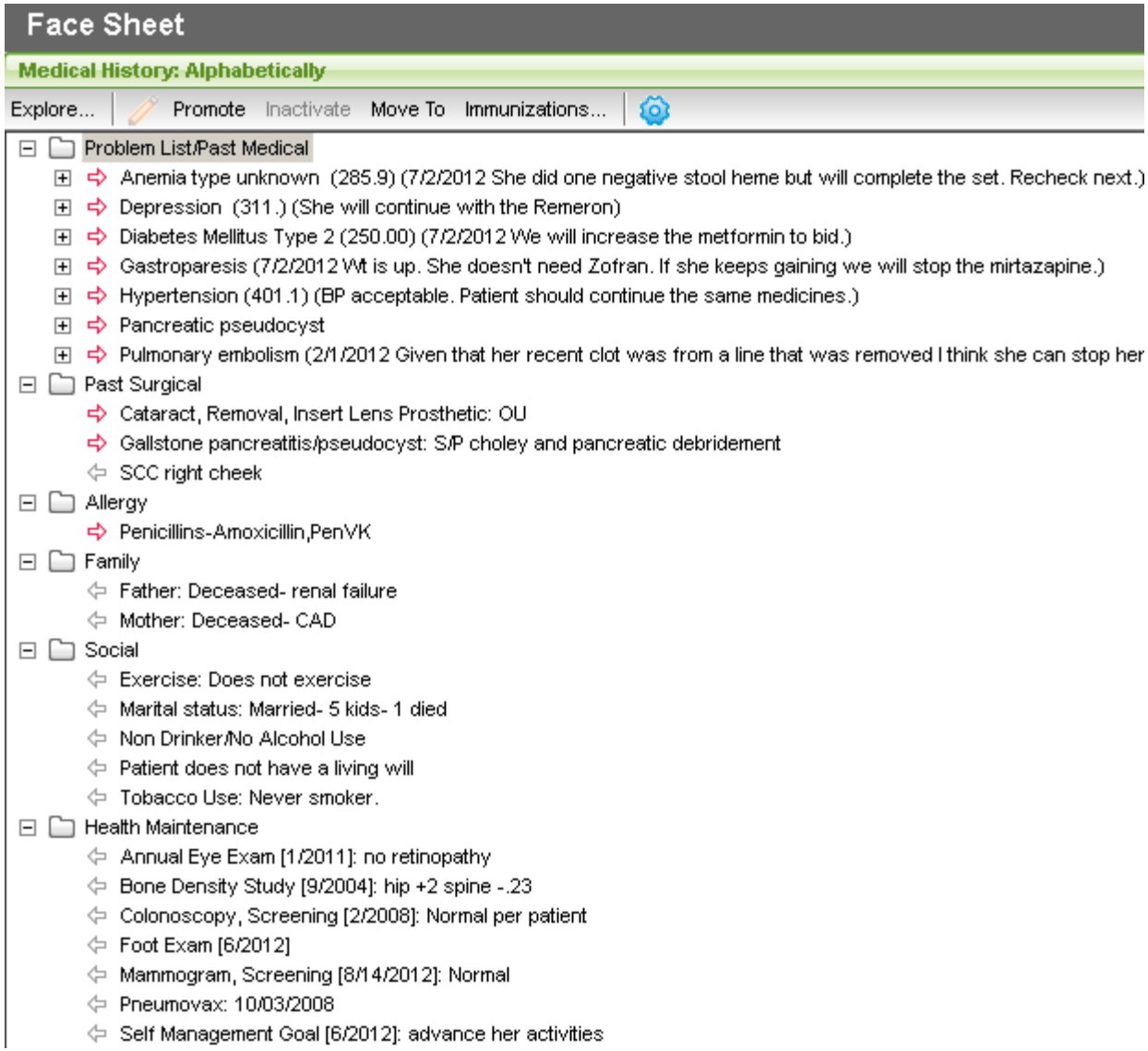
- Denominators
- Documenting actions in a searchable way
- Data versus documents
- Searchable fields versus free text
- Standardizing locations across all users

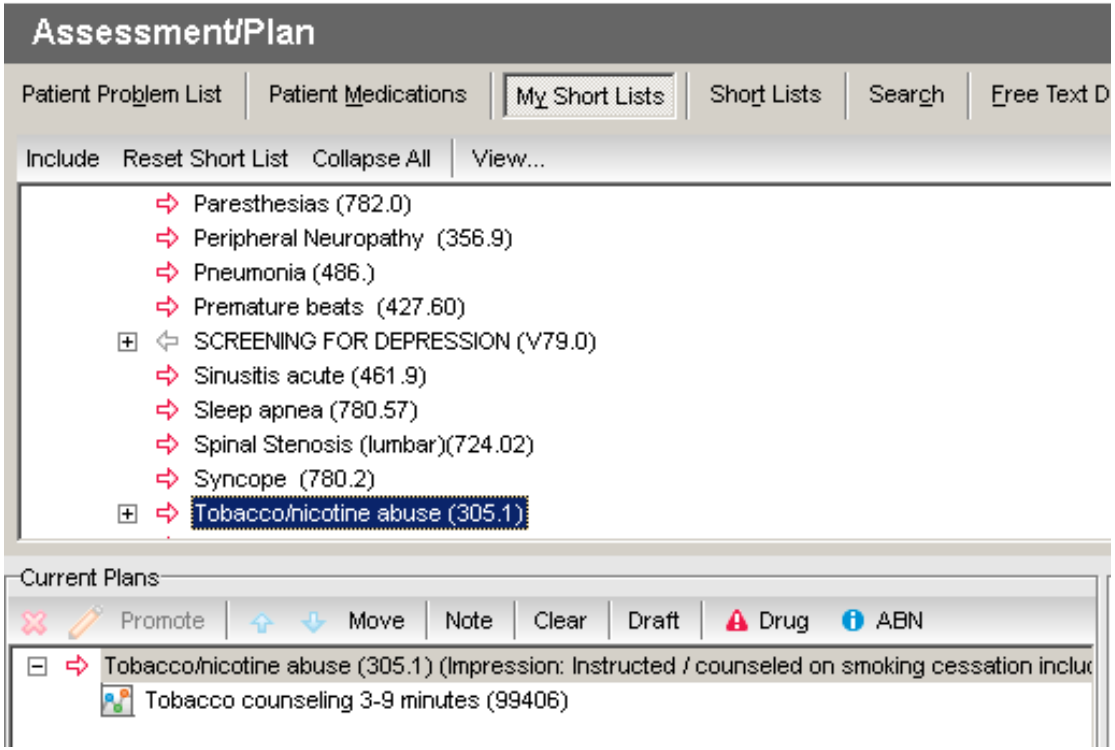

Immunizations
Include in H&P
Reminders...
Immunization Record
Edit Immunizations
Immunization Registry
Show:
Documented Only
Standard
All
Options...
Immunization Type
Immunization Order (CPT)
Date Given
Medication
Funding
Comment
Influenza, preservative free (3 years and up)
Influenza, preservative free (3 years and up) (90656)
9/20/2011
Private
Pneumococcal (2 years and up)
Pneumococcal (2 years and up) (90732)
10/3/2008
Zoster (shingles)
Zoster (shingles) (90736)
1/6/2009


Vitals
Note...
Growth Charts...
Date ^
Temp.
Pulse
Resp.
Peak Flow
P. OX
BP
Weight
Height
Waist
Neck
Pain Le...
LMP Date
8/15/2012 84 130/60 147 lb 65 in
7/13/2012 110/80 146 lb
5/23/2012 130/70 141 lb 65 in
2/14/2012 110/64 137 lb 65 in
11/15/2011 126/70 135 lb
8/25/2011 124/48 136 lb 65 in
7/7/2011 150/62
7/7/2011 129 lb 66 in
6/16/2011 110/70 128 lb
4/21/2011 120/60 136 lb
3/22/2011 120/60 137 lb 66 in
8/15/2012 1:41 PM
Weight: 147 lb (66.68 kg)
Body Surface Area: 1.75 m²
Height: 65 in (165.1 cm)
Body Mass Index: 24.46 kg/m²
Pulse: 84 (Regular)
Blood Pressure: 130/60 (Sitting, Left Arm, Standard)


Current Plans
Promote
Move
Note
Clear
Draft
Drug
ABN
Nutritional Counseling 18-64 years BMI <18.5 OR >25 (V65.3)
BMI out of range follow up plan documented (G8417)
Pt Education - BMI Education: discussed with patient and provided information.


History
Knowledge Term:
Tobacco Use
Status:
Active
Renamed as:
Significance:
*
Promoted
Details
Include
Add to Comments
Show Test Terms
Tobacco Use Details
Smoker
Current every day smoker
Current some day smoker
Former smoker
Never smoker
Current status unknown
Unknown if ever smoked
Has Been Smoking For...
Smokes cigarettes
Smokes a pipe
Smokes cigars
Uses chewing tobacco
Uses snuff
Recently quit tobacco use
Remotely quit tobacco use
Attributes
Remove
Clear
Never smoker
Comments
OK
Cancel


Face Sheet
Medical History: Alphabetically
Explore...
Promote
Inactivate
Move To
Immunizations...
Problem List/Past Medical
Anemia type unknown (285.9) (7/2/2012 She did one negative stool heme but will complete the set. Recheck next.)
Depression (311.) (She will continue with the Remeron)
Diabetes Mellitus Type 2 (250.00) (7/2/2012 We will increase the metformin to bid.)
Gastroparesis (7/2/2012 Wt is up. She doesn't need Zofran. If she keeps gaining we will stop the mirtazapine.)
Hypertension (401.1) (BP acceptable. Patient should continue the same medicines.)
Pancreatic pseudocyst
Pulmonary embolism (2/1/2012 Given that her recent clot was from a line that was removed I think she can stop her
Past Surgical
Cataract, Removal, Insert Lens Prosthetic: OU
Gallstone pancreatitis/pseudocyst: S/P choley and pancreatic debridement
SCC right cheek
Allergy
Penicillins-Amoxicillin,PenVK
Family
Father: Deceased- renal failure
Mother: Deceased- CAD
Social
Exercise: Does not exercise
Marital status: Married- 5 kids- 1 died
Non Drinker/No Alcohol Use
Patient does not have a living will
Tobacco Use: Never smoker.
Health Maintenance
Annual Eye Exam [1/2011]: no retinopathy
Bone Density Study [9/2004]: hip +2 spine -.23
Colonoscopy, Screening [2/2008]: Normal per patient
Foot Exam [6/2012]
Mammogram, Screening [8/14/2012]: Normal
Pneumovax: 10/03/2008
Self Management Goal [6/2012]: advance her activities


Assessment/Plan
Patient Problem List
Patient Medications
My Short Lists
Short Lists
Search
Free Text D
Include
Reset Short List
Collapse All
View...
Paresthesias (782.0)
Peripheral Neuropathy (356.9)
Pneumonia (486.)
Premature beats (427.60)
SCREENING FOR DEPRESSION (V79.0)
Sinusitis acute (461.9)
Sleep apnea (780.57)
Spinal Stenosis (lumbar)(724.02)
Syncope (780.2)
Tobacco/nicotine abuse (305.1)
Current Plans
Promote
Move
Note
Clear
Draft
Drug
ABN
Tobacco/nicotine abuse (305.1) (Impression: Instructed / counseled on smoking cessation inclu
Tobacco counseling 3-9 minutes (99406)

Encounters: By Type, Newest to Oldest

Explore... | Flow Sheets (3)

- Hospital History & Physicals
- Labs
  - 9/13/2011: Labs - inr amylase lipase (Kenneth D Goldblum, MD FACP)
  - 6/30/2011: Labs - Incoming Fax (Kenneth D Goldblum, MD FACP)
  - 6/21/2011: Labs - Incoming Fax (Kenneth D Goldblum, MD FACP)
  - 6/15/2011: Labs - Incoming Fax (Marcia Enghofer, RN)
  - 6/8/2011: Labs - Incoming Fax (Kenneth D Goldblum, MD FACP)
  - 6/1/2011: Labs - Incoming Fax (Kenneth D Goldblum, MD FACP)
  - 5/25/2011: Labs - Incoming Fax (Kenneth D Goldblum, MD FACP)
  - 5/18/2011: Labs - Incoming Fax (Kenneth D Goldblum, MD FACP)
  - 5/10/2011: Labs - inr (Marcia Enghofer, RN)
  - 5/4/2011: Labs - inr cbc cmp (Marcia Enghofer, RN)
  - 4/28/2011: Labs - nutrition (Kenneth D Goldblum, MD FACP)
  - 2/9/2011: Labs - bmp mg inr (Kenneth D Goldblum, MD FACP)
  - 12/13/2007: Labs (Sherry R Stumme)
- Mammogram

Medications: All, Alphabetically

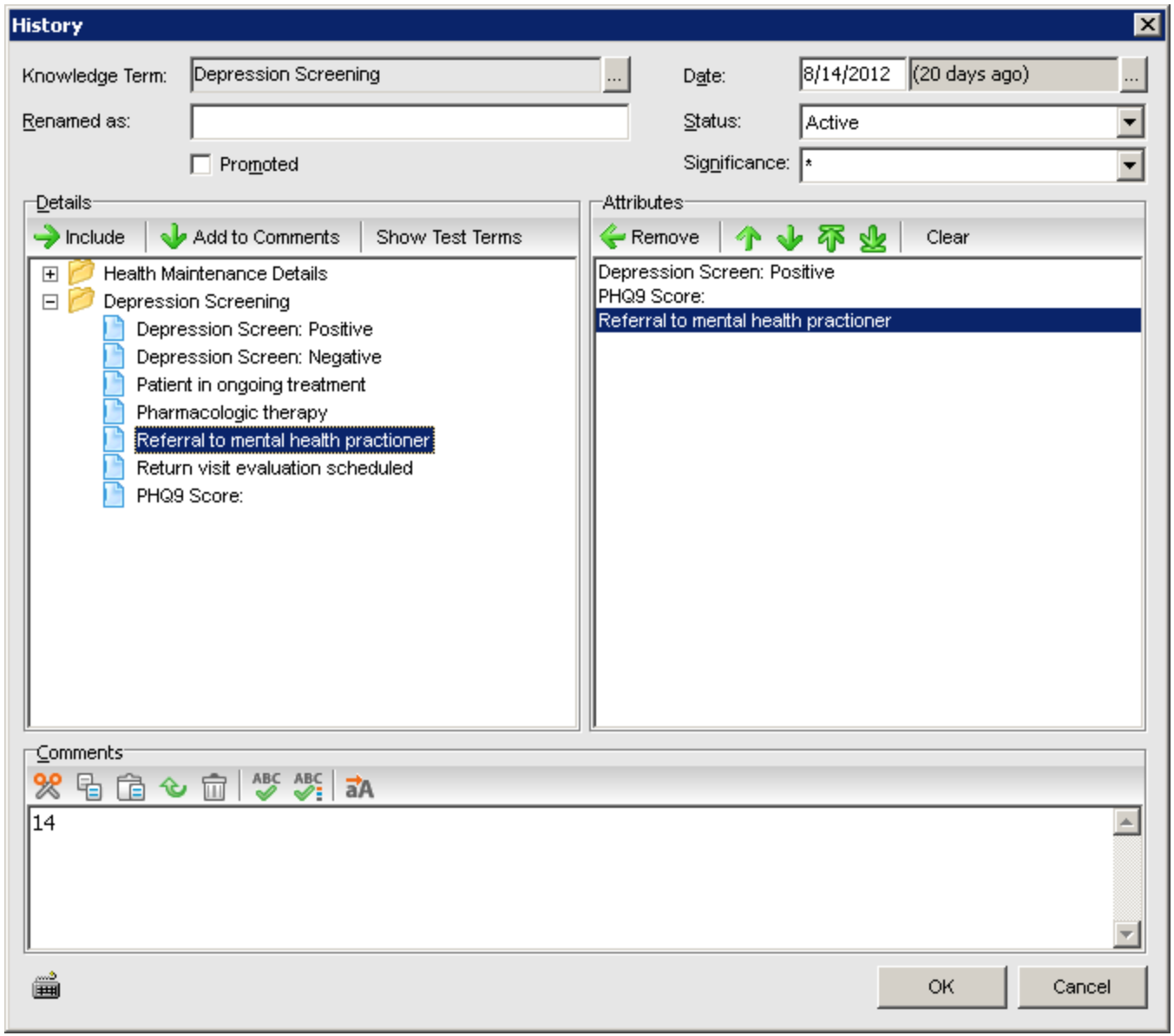
Explore... | Refill... | Inactivate

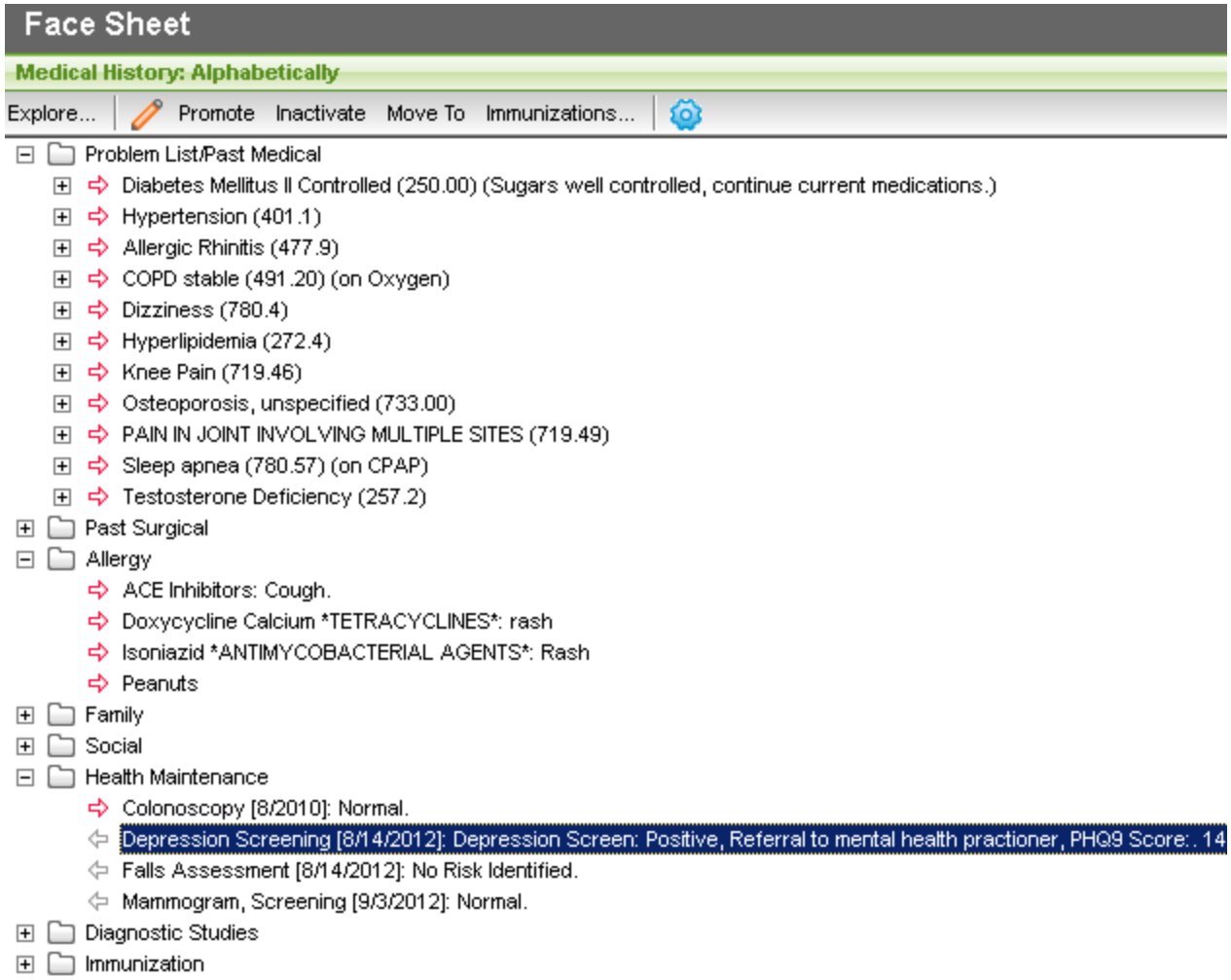
- Current Medications
  - AmLODIPine Besylate 5MG, 1 (one) Tablet daily, #30, 05/30/2012, Ref. x5, Mail Order #9
  - Folic Acid 1MG, 1 Tablet daily, #30, 05/30/2012, Ref. x5. Active.
  - MetFORMIN HCl 500MG, 1 (one) Tablet(s) two times daily, #180, 07/17/2012, Ref. x3, Ma
  - Mirtazapine 15MG, 1 Tablet at bedtime, #30, 05/30/2012, Ref. x5. Active.
  - Multivitamin & Mineral, 5ml Liquid daily, 150 Liquid, 05/30/2012, Ref. x5. Active.
  - Potassium Chloride 20 MEQ/15ML(10%), 7.5 ml Liquid daily, 150 Liquid, 05/30/2012, Ref.
  - Prevacid SoluTab 30MG, 1 Tablet Disperse two times daily, Mail Order #180, 9 days star
  - Vitamin B-1 100MG, 1 Tablet qd, #30, 05/30/2012, Ref. x5. Active.
  - Zofran 8MG, 1 Tablet daily, as needed, #30, 05/30/2012, Ref. x5. Active.
- Administered Medications
- Previous Medications
  - AmLODIPine Besylate (10MG Tablet 1 Oral qd) Inactive.
  - Aspirin (81MG Tablet 1 PO daily, Stopped taking 12/04/2007) Discontinued.
  - Azithromycin 250MG, 2 (two) Tablet Day 1 then one daily, #6, 10/28/2011, No Refill. Inac
  - BD Insulin Syringe Ultrafine 31G X 5/16"0.5 ML, 1 Misc 6 x's daily, 100 Misc, 12/07/2007.

Orders: Reviewed, Newest to Oldest

Explore... Attach...

- Less Than a Month Ago
  - 8/13/2012: G0202 BILATERAL SCREENING MAMMO [Final, Reviewed]
- Two Months Ago
  - 7/2/2012: Follow up in 2 months [Final, Reviewed]
  - 6/29/2012: CBC w/Diff (85025) [Final, Reviewed]


History
Knowledge Term:
Depression Screening
Date:
8/14/2012
(20 days ago)
Renamed as:
Status:
Active
Promoted
Significance:
Details
Include
Add to Comments
Show Test Terms
Health Maintenance Details
Depression Screening
Depression Screen: Positive
Depression Screen: Negative
Patient in ongoing treatment
Pharmacologic therapy
Referral to mental health practioner
Return visit evaluation scheduled
PHQ9 Score:
Attributes
Remove
Clear
Depression Screen: Positive
PHQ9 Score:
Referral to mental health practioner
Comments
14
OK
Cancel

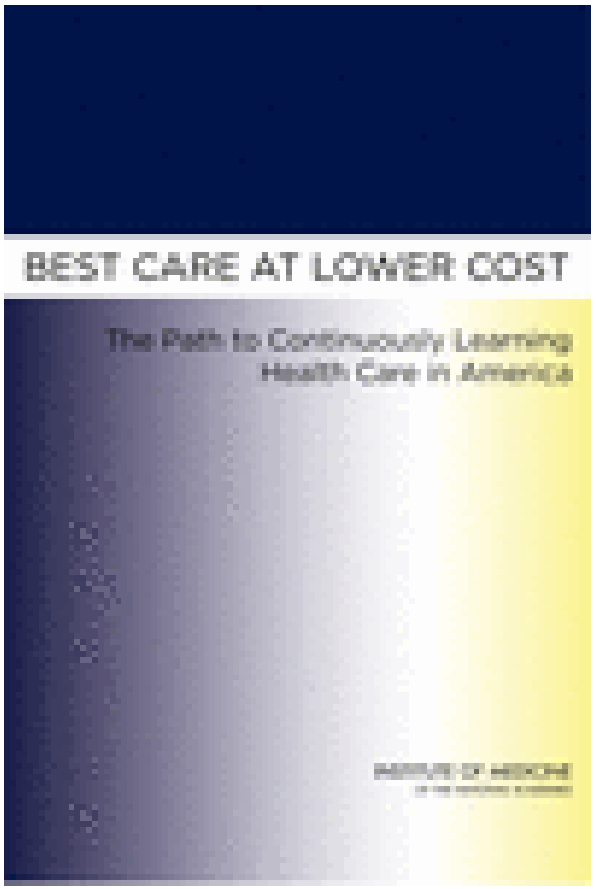

Face Sheet
Medical History: Alphabetically
Explore...
Promote
Inactivate
Move To
Immunizations...
Problem List/Past Medical
Diabetes Mellitus II Controlled (250.00) (Sugars well controlled, continue current medications.)
Hypertension (401.1)
Allergic Rhinitis (477.9)
COPD stable (491.20) (on Oxygen)
Dizziness (780.4)
Hyperlipidemia (272.4)
Knee Pain (719.46)
Osteoporosis, unspecified (733.00)
PAIN IN JOINT INVOLVING MULTIPLE SITES (719.49)
Sleep apnea (780.57) (on CPAP)
Testosterone Deficiency (257.2)
Past Surgical
Allergy
ACE Inhibitors: Cough.
Doxycycline Calcium *TETRACYCLINES*: rash
Isoniazid *ANTIMYCOBACTERIAL AGENTS*: Rash
Peanuts
Family
Social
Health Maintenance
Colonoscopy [8/2010]: Normal.
Depression Screening [8/14/2012]: Depression Screen: Positive, Referral to mental health practioner, PHQ9 Score: .14
Falls Assessment [8/14/2012]: No Risk Identified.
Mammogram, Screening [9/3/2012]: Normal.
Diagnostic Studies
Immunization

Woodstock Health Information & Technology
David A Stumpf, MD, PhD
consulting@woodstockHIT.com

Organizing Information for Actionable Analytics

IOM 2012

Available knowledge is too rarely applied to improve the care experience, and information generated by the care experience is too rarely gathered to improve the knowledge available.



IMAGINE … results were routinely captured and used for continuous improvement.

Tasks are the granular units of care

Just as the quantity of clinical information now available exceeds the capacity of any individual to absorb and apply it, ***the number of tasks needed for regular care outstrips the capabilities of any individual***. Significant change can occur only if the environment, context, and systems in which these professionals practice are reconfigured …

“Foundational Elements” IOM 2012

- **Recommendation 1: *The digital infrastructure.*** Improve the capacity to capture clinical, care delivery process, and financial data for better care, system improvement, and the generation of new knowledge.
- **Recommendation 2: *The data utility.*** Streamline and revise research regulations to improve care, promote the capture of clinical data, and generate knowledge.

Sociotechnical Framework
Emphasized in a Nov 2011 IOM HIT report

- Technology
  - Software, hardware
- People
  - Clinicians, patients, etc.
- Processes
  - Workflow
- Organization
  - Incentives, capacity, etc.
- External environment
  - Regulation, public opinion, etc.

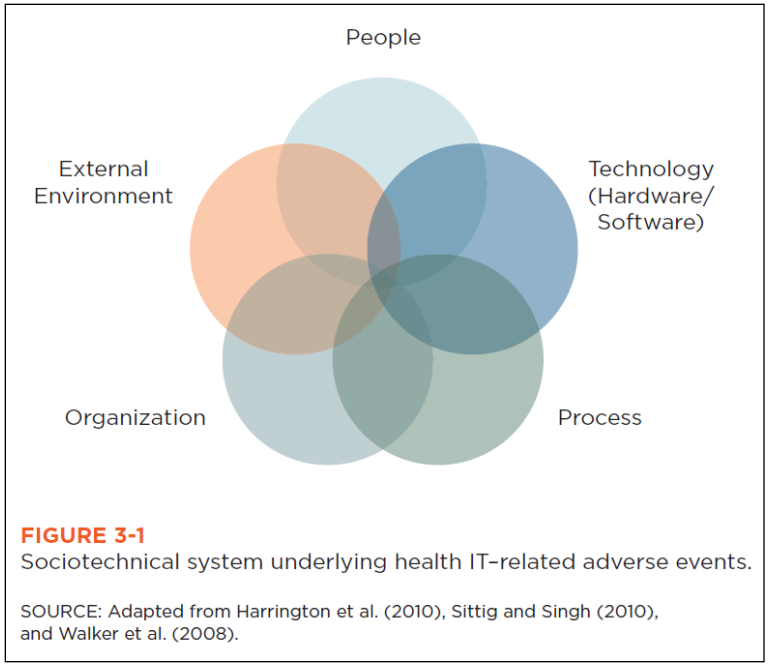


FIGURE 3-1
Sociotechnical system underlying health IT–related adverse events.

SOURCE: Adapted from Harrington et al. (2010), Sittig and Singh (2010), and Walker et al. (2008).

Accountability falls short …

- Certification of EHRs is not enough.
- Deployment of EHRs is not enough.
- Meaningful use is too narrowly construed.
- Defects are inadequately detected, reported, attributed, and managed.
- Application interoperability is too constrained by proprietary idiosyncrasies.
- ***Tasks*** are granular units of work in health care, but inadequately managed.
- Transparency is generally lacking.

Interoperability

- **Expand interoperability.**
  Interoperability is currently too narrowly defined. The ability to generate exchangeable documents is important, but has limitations. Specifically, it restricts access to complete data sets and limits end user ability to integrate other applications.
- **Systems should support applications.**
  Application programming interface (API) designs will facilitate next generation interoperability and also allow measurements of usability and meaningful use.
- **Harmonized data platforms.**
  Data from multiple sources can be organized ontologically on platforms, thereby enabling multidimension queries. Such systems are non-disruptive, scalable and extensible.

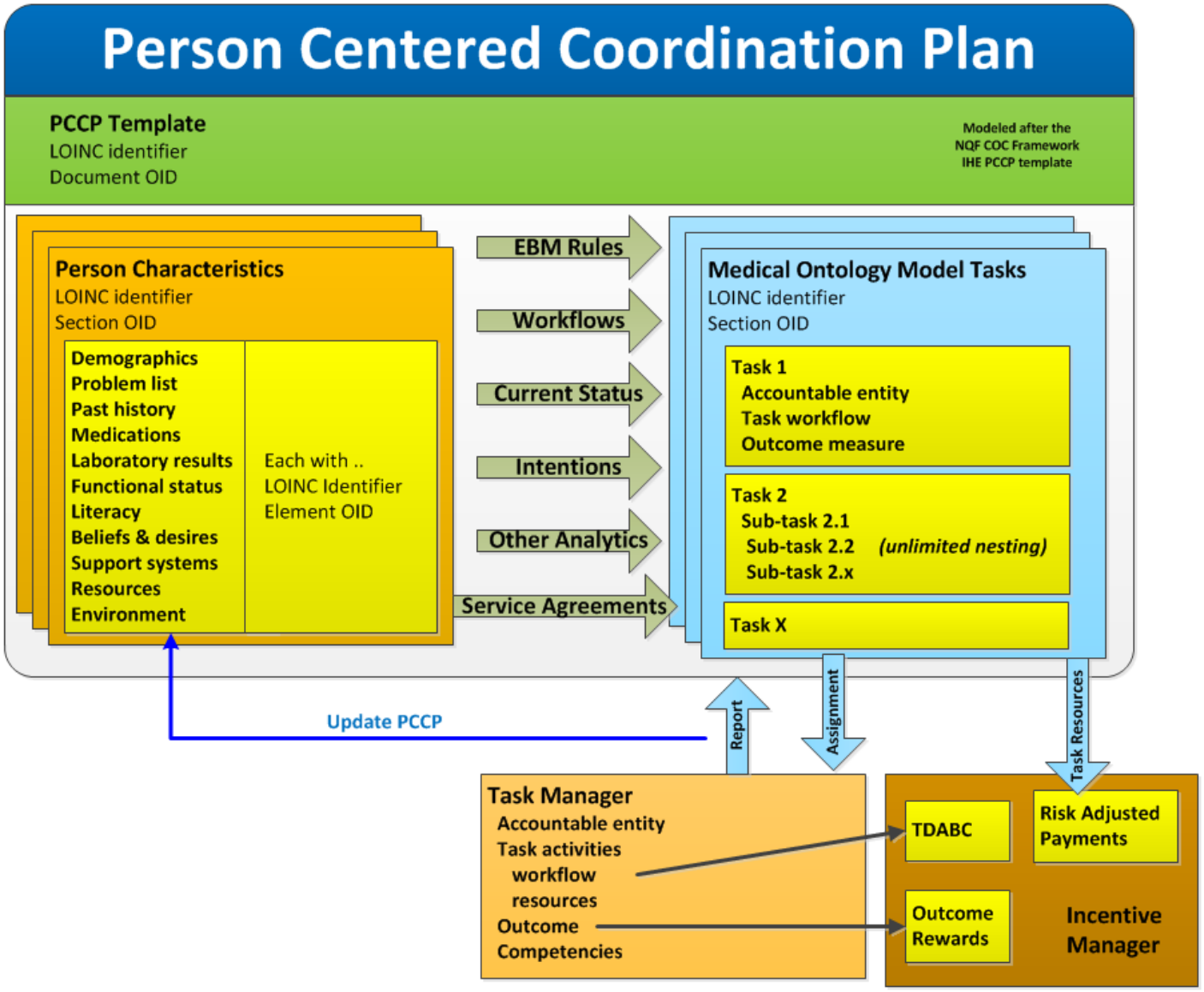
Modularity

- **Modular capabilities are desirable.**
  They compartmentalize capabilities into units which can be developed and managed by subject matter experts incorporating their best system capabilities.
- **Modularity stimulates innovation.**
  Modularity fosters creative, diverse and synergistic applications, producing exponential growth.
- **Harmonized data platforms.**
  Harmonization effectively manages the “last mile” by overcoming the insularity of EHR and other health information systems. Modular applications leverage and create the value of a harmonized data platform.

References at NQF / IHE
This presentation is based on prior works

- National Quality Forum (NQF), Preferred Practices and Performance Measures for Measuring and Reporting Care Coordination: A Consensus Report, Washington, DC: NQF; 2010. http://www.qualityforum.org/projects/care_coordination.aspx.
- National Quality Forum (NQF). Health Information Technology Automation of Quality Measurement: Quality Data Set and Data Flow. Washington, DC: 2009 http://www.qualityforum.org/Publications/2009/11/Health_Information_Technology_Automation_of_Quality_Measurement__Quality_Data_Set_and_Data_Flow.aspx
  Current update (June 2012) is out for public comment: http://www.qualityforum.org/QualityDataModel.aspx#t=2&s=&p=6%7C
- National Quality Forum (NQF), Driving Quality—A Health IT Assessment Framework for Measurement: A Consensus Report, Washington, DC: NQF; 2010 http://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=52609 (http://www.qualityforum.org/Projects/HIT_Utilization.aspx)
- National Quality Forum (NQF), Driving Quality and Performance Measurement—A Foundation for Clinical Decision Support: A Consensus Report, Washington, DC: NQF; 2010. http://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=50721 (http://www.qualityforum.org/Projects/Clinical_Decision_Support.aspx)
- Jon Hilton, IHE Patient Care Coordination (PCC) Technical Framework Supplement, Patient Centered Coordination Plan (PCCP), Integrating the Healthcare Enterprise, 2010. http://ihe-australia.wikispaces.com/file/view/PCC_Supplement_PCCP_v1.40.doc
- Kaplan RS, Porter ME: How to solve the cost crisis in health care. Harvard Business Review, Boston, Sept 2011.

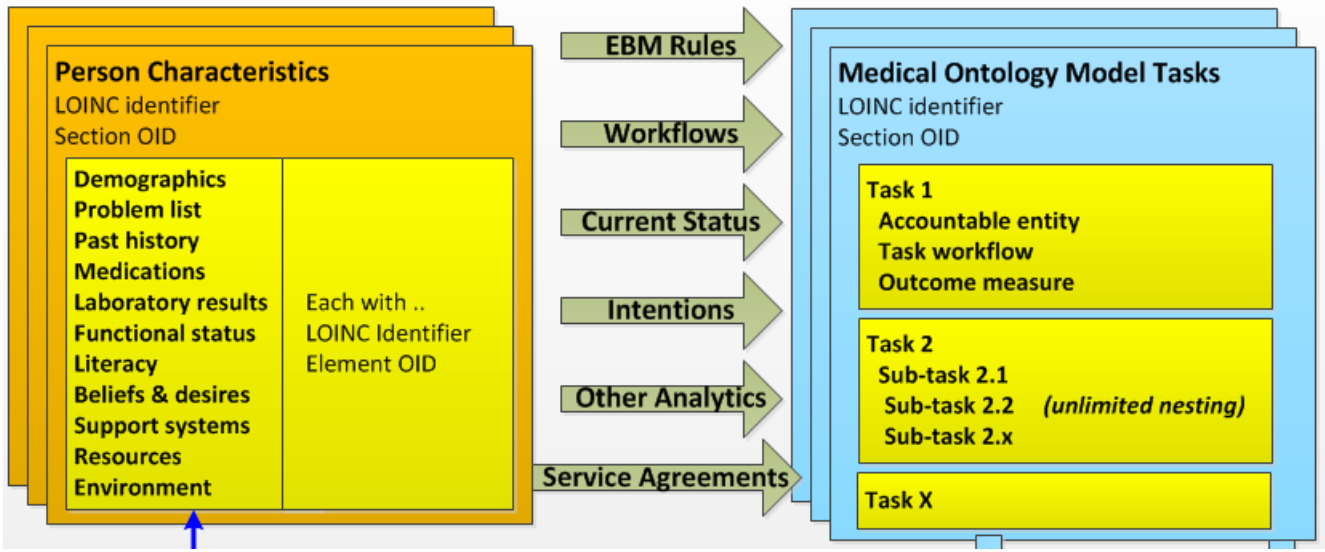
NQF / IHE Frameworks



Quality Data Model (QDM)
A prelude to a unifying ontology

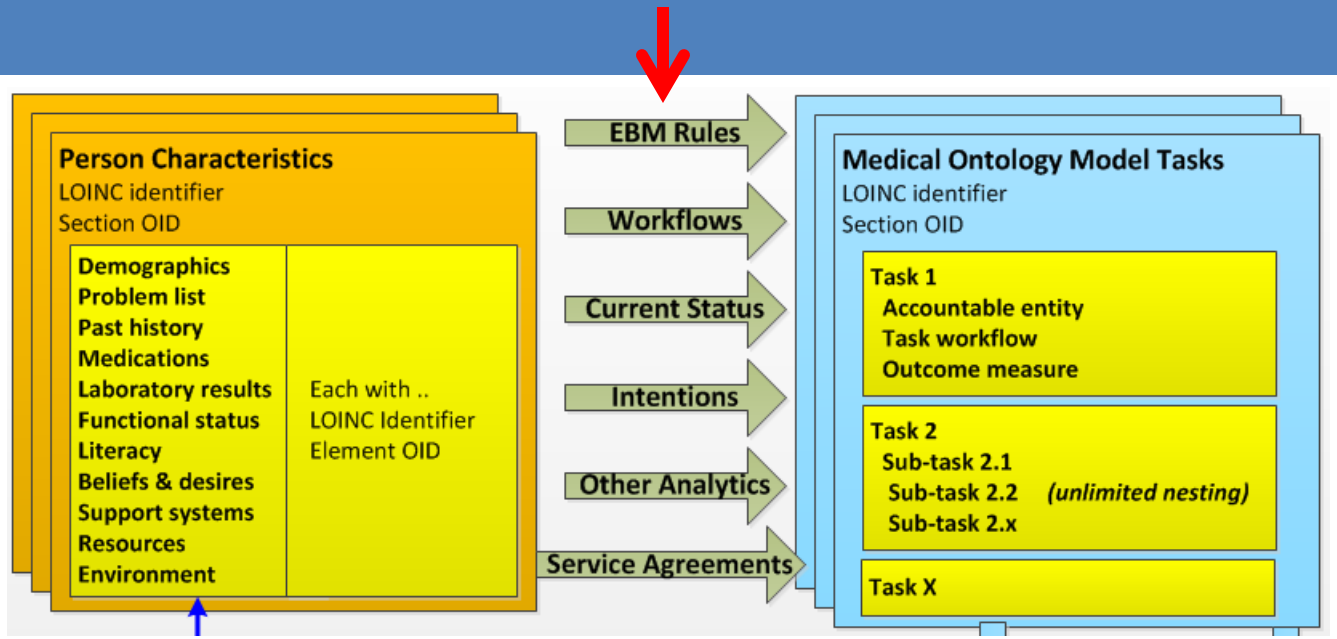
- Used in …
  - eMeasure (HL7 HQMF)
  - Quality Data Reporting Architecture (HL7 QRDA)
- Modeled in …
  - NQF Clinical Decision Framework
  - NQF Utilization Framework (workflows)
- Suitable for …
  - Service agreements
  - PCCP Tasks
  - Privacy policies
  - Reimbursement transactions
  - Etc.

Task Framework



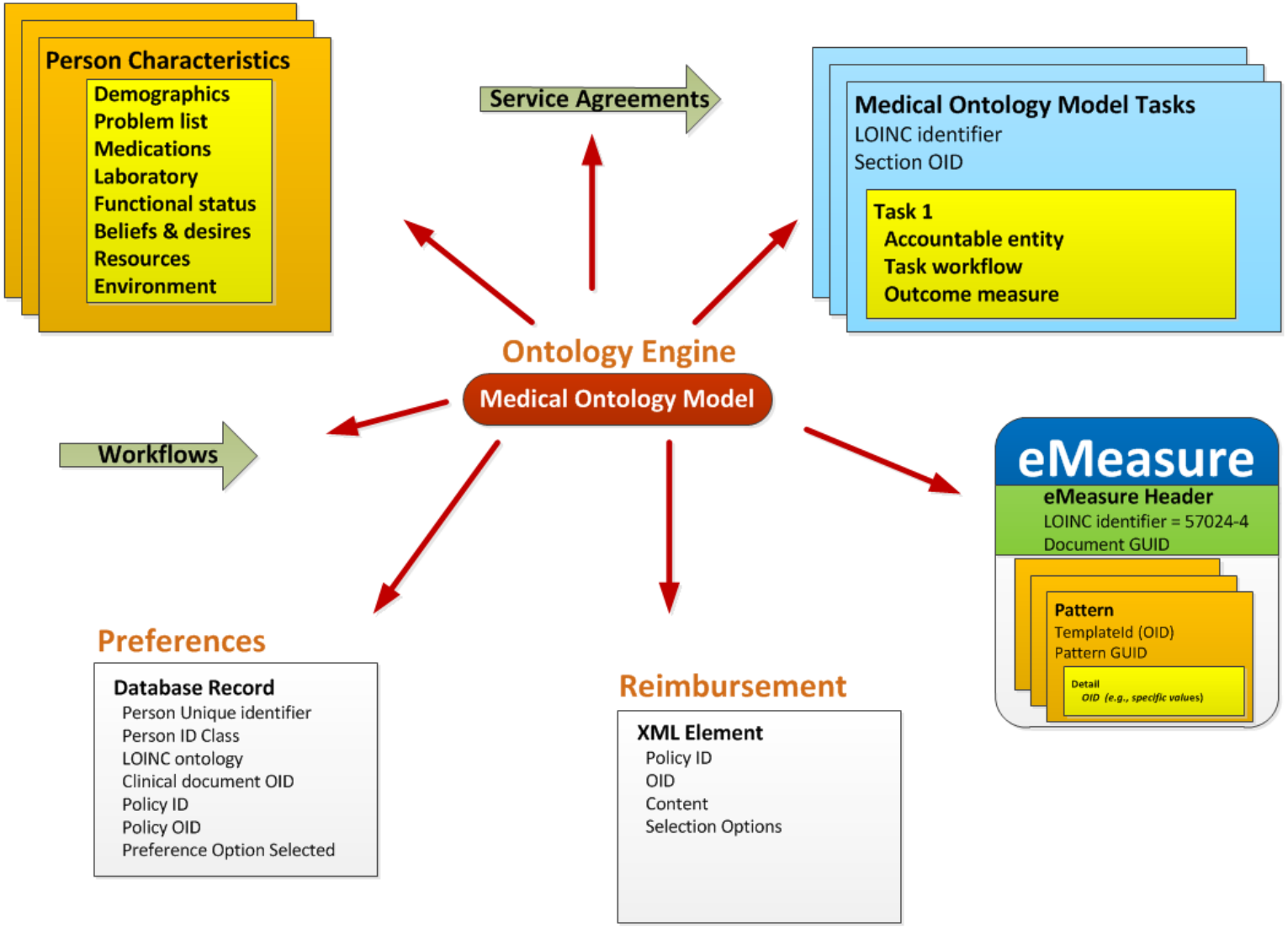
- Tasks are the fundamental currency of care
  - This conceptual framework is simple
  - Key elements are accountability & outcome
- Tasks can be sequential and hierarchical
  - Bypasses confusing and contentious existing terms
  - Granulizes complexity, enabling computability

Task Generation



- Tasks are generated from analytics
  - This conceptual framework is simple
  - Key elements are person-centeredness and context
- Analytics consider …
  - Persons have beliefs, desires and intentions (BDI)
  - The ecosystem has rules and workflows
  - Service agreements define accountabilities

Integrating Capabilities Ontologically



Ontologic query identifies best practices

Clinician and patient oversee creation of tasks

Rules have expectations

Event		Rules		Data		TASK				
						Action		Accountable		Expectation
New Diabetes diagnosis	→	HgA1c	→	none = gap	✓	order lab	→	laboratory	→	result range
	→	Diabetes Education	→	none = gap	✓	refer	→	nurse	→	actionable intelligence
	→	Eye Exam	→	normal exam			→		→	
	→	Weight control	→	high BMI	✓	Weight Watchers		patient	→	weight target
					✗	refer	→	dietician		
	→	Lipid	→	normal			→		→	

Top level query

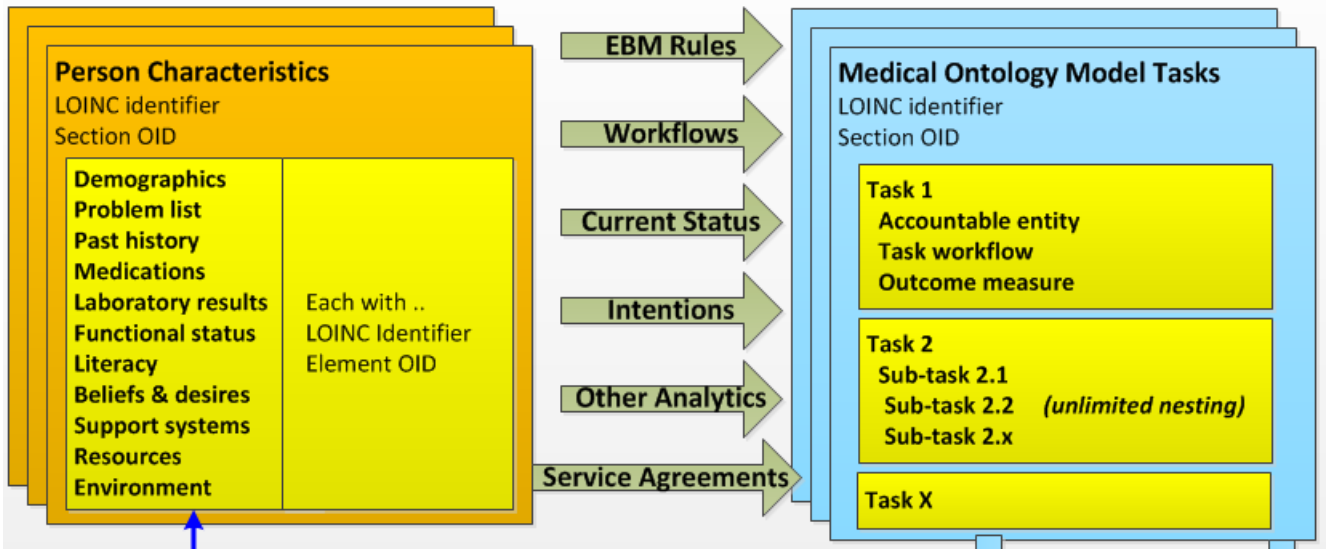
Query using rule and clinical data aligned ontologies

Linked workflows address gaps

Service agreements have accountable entity

A robust ontology enables a **SINGLE** query to harvest all these data assets.

Task Implementation



- Start simple
  - Develop a team to create PCCPs
  - EBM defines tasks we know are required
  - Persons can define their intentions
  - Re-cast existing task creators: orders & referrals
- Manage tasks
  - Maintenance of single source PCCP

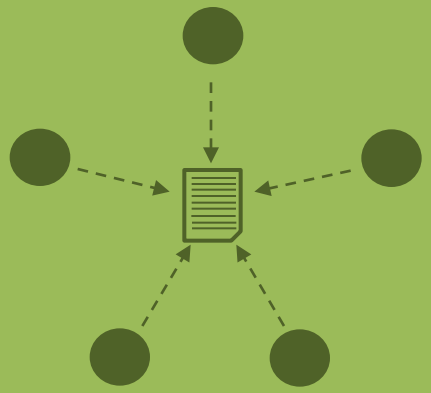
Recommendations

- Utilize a Medical Ontology Model (MOM) to link task-related capabilities within electronic health information systems.
- Encourage the development of synergistic modules that amplify the value of the MOM.
- Measure and improve the competencies of accountable-entities, including people, organizations, and electronic systems.

Four strategies for exposing data

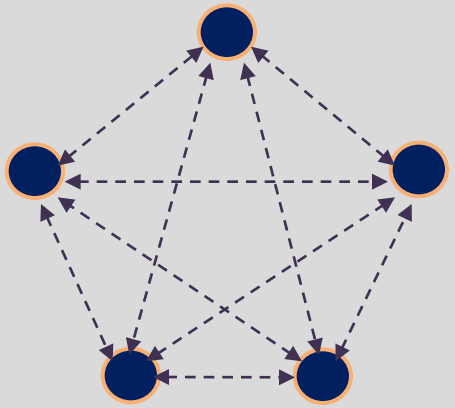
1. Silo Back-office Reporting:

- Summaries copied into another silo system
- Everybody working off different datasets
- Information stays fragmented & disorganized



2. Information Interchange:

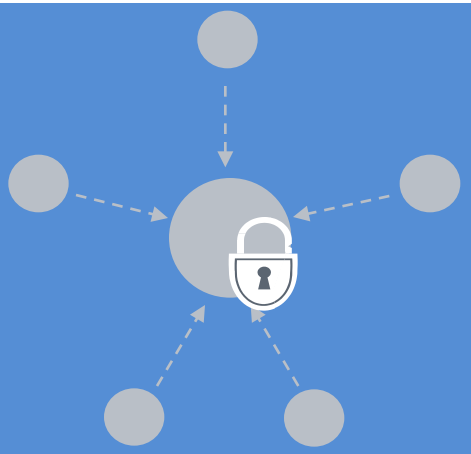
- A spiders web approach
- Everybody working off different datasets
- Information stays fragmented & disorganized



Four strategies for exposing data

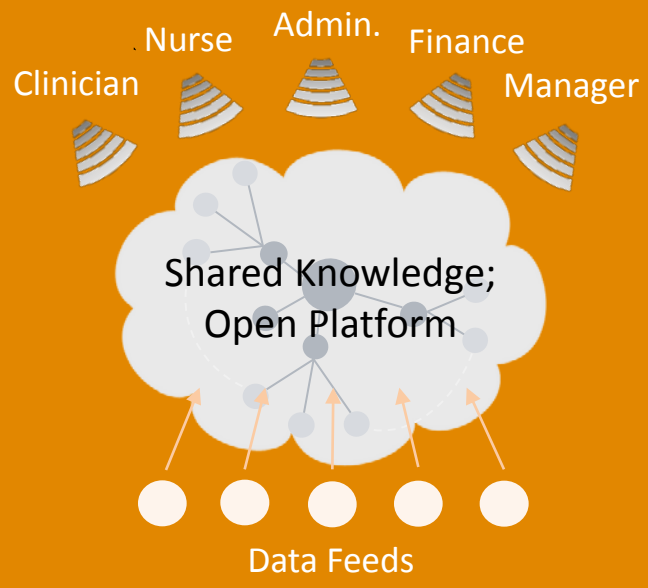
3. Generic Data Warehousing:

- Proprietary and complex data models
- Back-office, single vendor applications
- No shared information resource

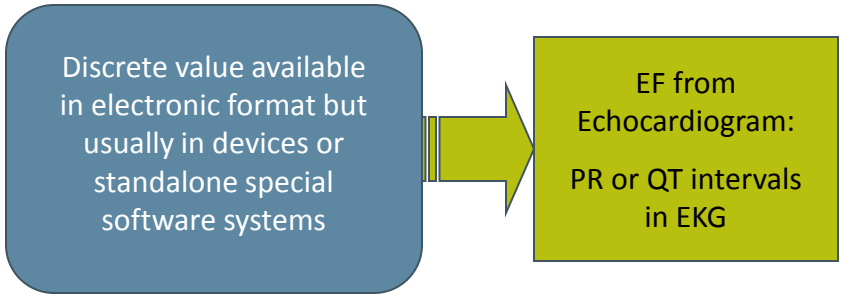


4. Shared Open Knowledge Platform:

- Information is unified into a knowledge base
- Semantically organize and normalized
- Becomes a shared platform for all apps.
- Metrics and goals flow across all organizations

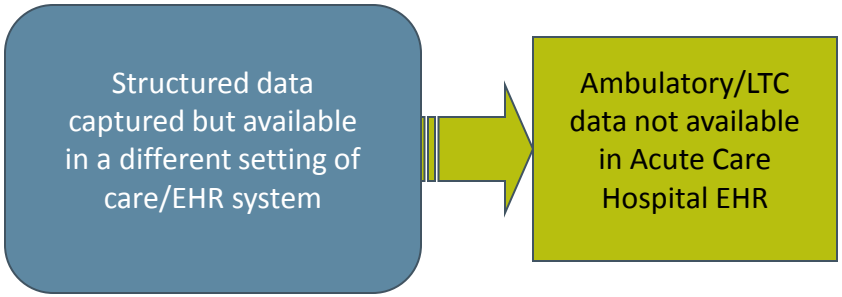


Discussion



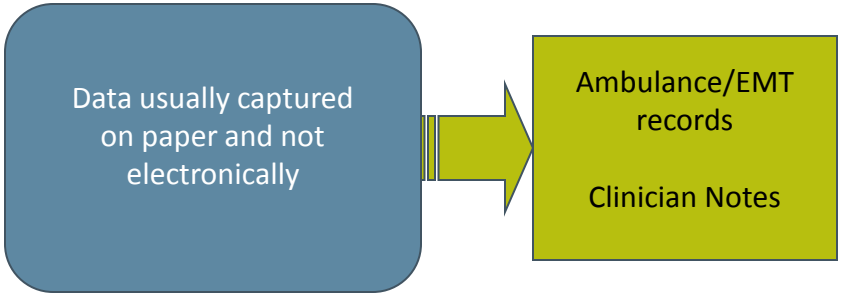
- **Possible Solutions/Challenges**
- Device Interfaces/Standards based data interchange
- Technologic barriers?

Discussion



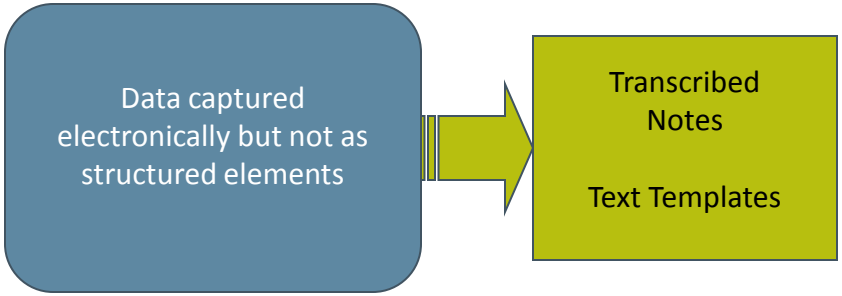
- **Possible Solutions/Challenges**
- Standards based data interchange between EHR's
- HIE / NwHIN
- Technologic / implementation challenges?

Discussion



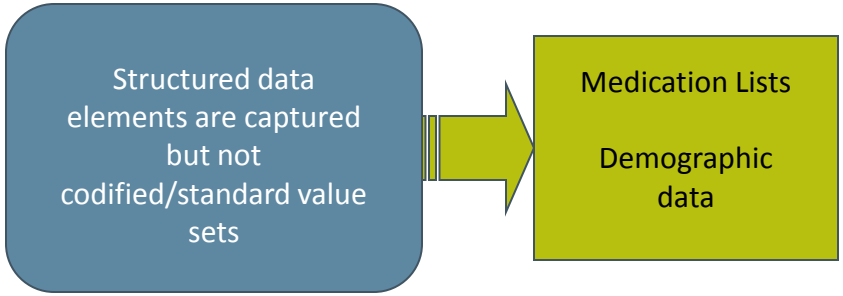
- **Possible Solutions/Challenges**
- Electronic documentation.
- Technological or workflow barriers?

Discussion



- **Possible Solutions/Challenges**
- "Embed" structured data entry fields in electronic documentation at point of care.
- Workflow issues/incentives for clinicians to support this form of data entry
- NLP/Data mining.
- Technologic solutions and issues/implementation challenges?

Discussion



- **Possible Solutions/Challenges**
- Use codified/standard value set dictionaries for data entry.
- Workflow issues/incentives for clinicians to support this form of data entry.
- Mapping Ontologies / QDM
- Standardized Value sets. NLM Value set Repository

Data visibility questions to think about moving forward

- Can Measure developers help with elusive data elements in specifying measures without elusive elements and without loss of Measure fidelity?
- How can vendors/implementers help in capture of important elusive data elements as part of “routine” clinical documentation without overburdening clinicians? Are there new technologies/out of the box thinking that can solve some of the elusive data element problems.
- What are the benefits/incentives for clinicians to capture structured/codified data? Is CDS the carrot?

Networking Break

2:15 pm – 2:30 pm

eMeasure Development

Sharon Hibay, RN, DNP
Measure Instrument &
Development and Support (MIDS)
Director

Quality Insights Pennsylvania

NATIONAL QUALITY FORUM

Quality Insights of Pennsylvania
Clinical Quality Measure Development Background

- **In 2006, Quality Insights started developing voluntary ambulatory administrative claims & clinical registry reportable clinical quality measures (CQM) for the Center for Medicare & Medicaid Services (CMS). Select measures were eventually used in PQRS (currently PQRI) & the e-Prescribing Incentive Programs.**
- **Quality Insights has lead the development and/or maintenance activity for over 35 CMS stewarded CQMs in primarily in PQRS, and also in HITECH, ACO, PGP Demo & other measures programs, including MU1 hallmark BMI eMeasure & multiple MU2 eMeasures.**

Quality Insights Pennsylvania

Quality Insights eMeasure Activity

- CMS Contracted Measure Developer for select PQRS eMeasures
- Developed & Tested MU eMeasures (1 MU1 & 6 MU2)
- eMeasures Issues Group (eMIG) Participant *(QDM, MAT & "The Blueprint")*
- eMeasure Learning Collaborative
- Measure Authoring Tool (MAT) Consultation Group Participant
- NLM/MITRE Value Set & Logic Review Participant
- Coding/Value Set Training (SNOMED-CT, ICD-10, LOINC, RxNorm, HL7)
- US SNOMED-CT Concepts Acceptance
- Eligible Professional & EHR Vendor Engagement in eMeasure testing & REC work
- Alpha Testing (Feasibility & Usability)
- Reliability Testing (Reliability & Validity)

Quality Insights Pennsylvania

The Measure Development Cycle

- **Gap Analysis (clinical & measure gaps), CQM Identification & Selection**
- **Environmental Scan/Literature Review**
- **Convene Technical Expert Panel**
- **CQM Specification Development (Title/Description/D/N/E/E)**
- **ALPHA Testing**
- **Public & Stakeholder Input**
- **Call for Measures**
- **CQM Program Implementation**
- **BETA Testing**
- **NQF Standards (Measures) Endorsement Activity**

CQM development & endorsement activities may take between 2 to 3 years from measure concept to NQF endorsement roughly costing between $125,000 to $150,000 per measure.

Quality Insights Pennsylvania

Developing eMeasures
de Novo & Retooled CQMs

de Novo CQMs – New measures concepts

1. Start with The Measure Development Cycle
2. Develop CQM conceptual framework & calculation algorithms
3. Develop measure logic
4. Develop coding/value sets of for logic elements (transitional & standard)
5. Complete ALPHA & BETA eMeasure Testing
6. Collaborate, collaborate, collaborate!!!

Retooled CQMs – Reconstruct CQMs into eMeasures *(de Novo steps 2 thru 5)*.

This may prove more challenging than de Novo eMeasures due to:

- Input & calculation constraints of the current processes *(Shared IP & OP documentation AND QDM/MAT logic evolution)*
- Availability & specificity of coding/value set data elements
- The human component of "source" measure reporting

Quality Insights Pennsylvania

eMeasures ALPHA Testing

ALPHA Testing

Feasibility

- Are the data elements present in an EHR to calculate the measure or could they easily be added?
- Are they structured or free-text data elements?

Usability

- Where do the data elements reside in the EHR?
- How many clicks to locate & document?
- Are they located in an "usable" area of the EHR?
- Are there available ONC HITSC transitional or standard value sets for each measure concept?

Quality Insights Pennsylvania

eMeasures BETA Testing

BETA Testing

Validity

- Do the data elements represent the clinical concepts of the measure specification (numerator, denominator, exclusions, exceptions, etc.)?
- Does the measures calculate what is intended to calculate?

Reliability

- Does the measure consistently calculate the measure concepts(numerator, denominator, exclusions, exceptions, etc.)?

Quality Insights Pennsylvania

eMeasures Next Steps

- Coding/Value Set Review
- Measure Calculation Logic Reviews
- Testing Scenario Development & Execution
- Further EHR Vendor & End-User Engagement
- CQM Implementation
- Ongoing Stakeholder Input

Developing & Testing eMeasures
Lesson Learned

- **"The Accountability Factor"- Eligible Professionals want to know when and how to report CQMs**
- **Collaboration between CQM programs, stakeholders, measure developers, EHR vendors & eligible professionals reporting eMeasures is essential and will progress the standardization of eMeasure development mechanisms, as well as the evolution and reliability eMeasures reporting.**
- **The more eyes the better!!!! Peeling back the layers of the onion is painful, yet necessary.**

Quality Insights Pennsylvania

Questions

Thank You,

Sharon Hibay, RN, DNP

Measure Instrument & Development and Support (MIDS) Director

Quality Insights of Pennsylvania

shibay@wvmi.org

The Joint Commission's Measure Development Process

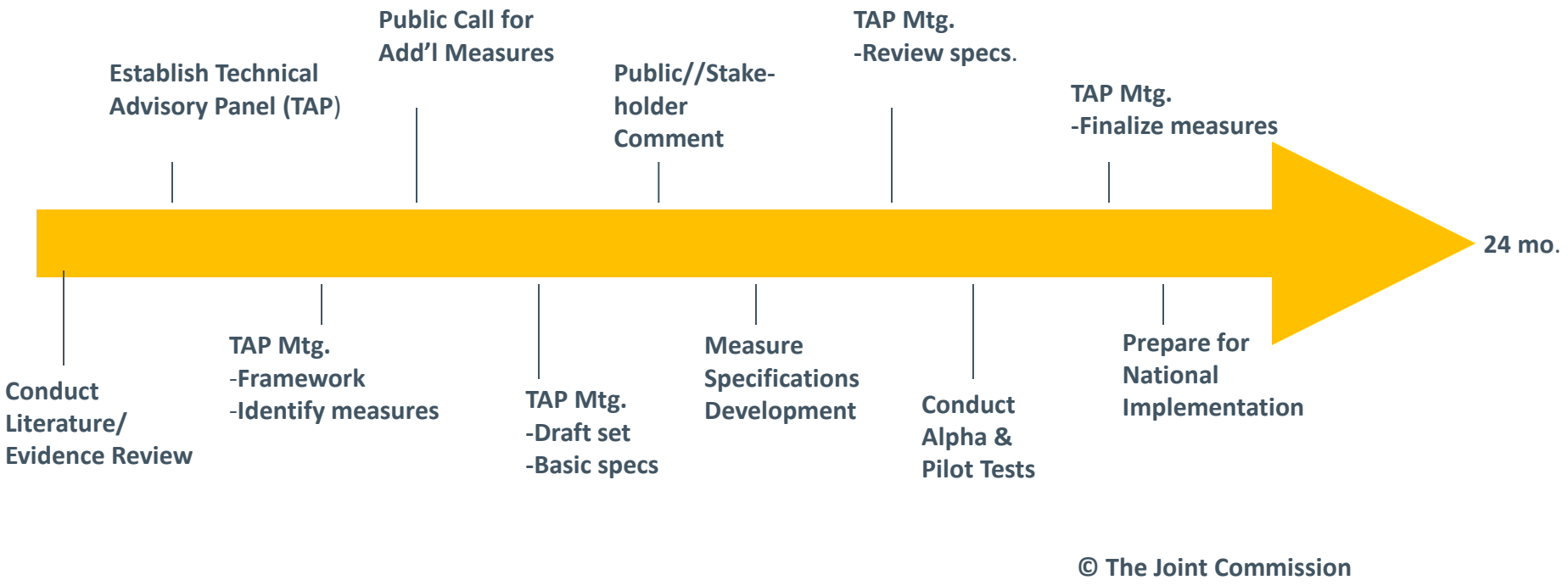
Ann Watt, MBA
Associate Director
Department of Quality Measurement

NATIONAL QUALITY FORUM

The Joint Commission

Mission: *To **continuously improve health care** for the public, in collaboration with other stakeholders, **by evaluating health care organizations** and inspiring them to excel in providing safe and effective care of the highest quality and value.*

Joint Commission: The Model for Paper Based Performance Measurement Identification, Specification & Testing



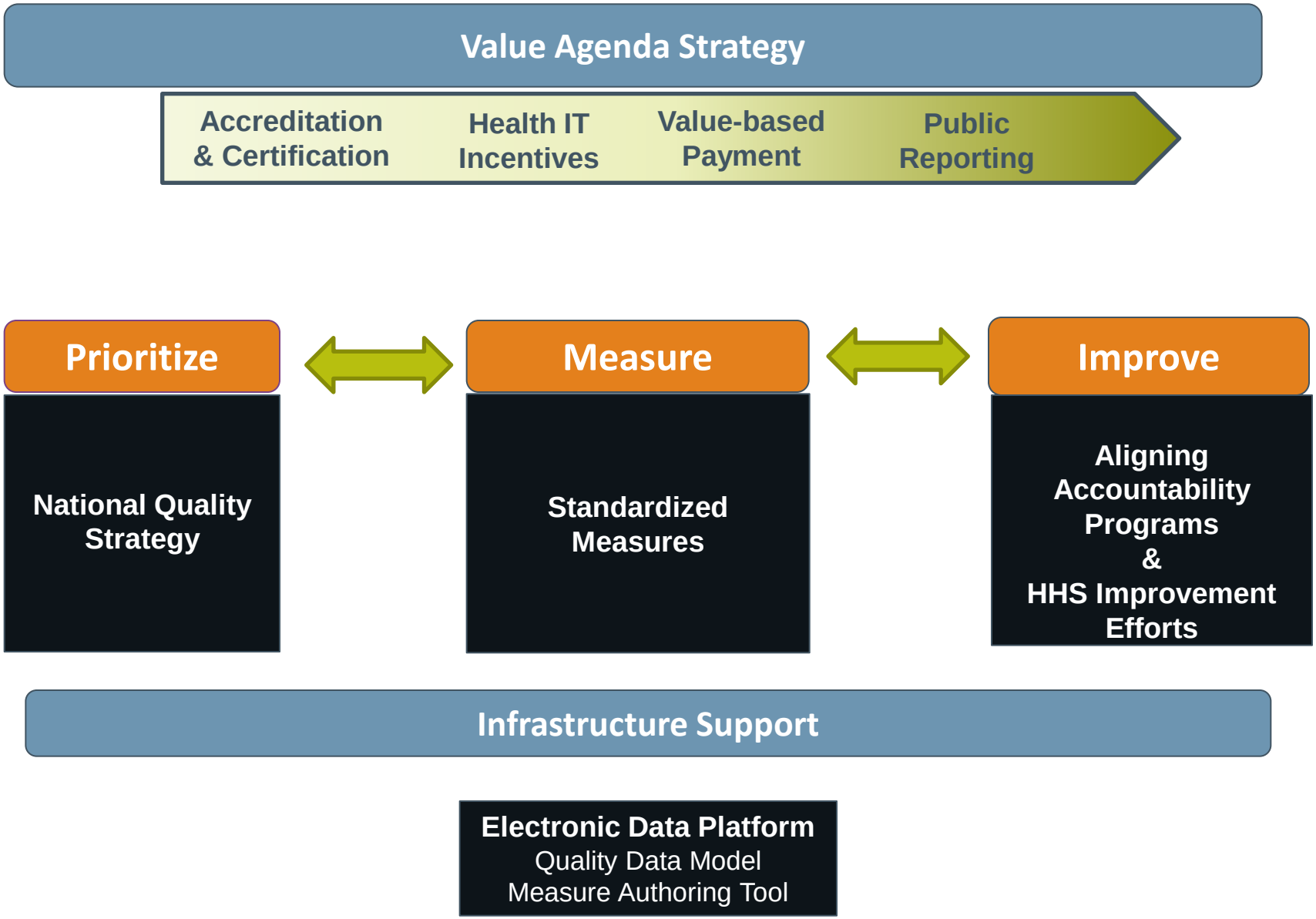
Closing: Summary, Implementation Perspectives and Next Steps

Moderator: Zahid Butt, MD

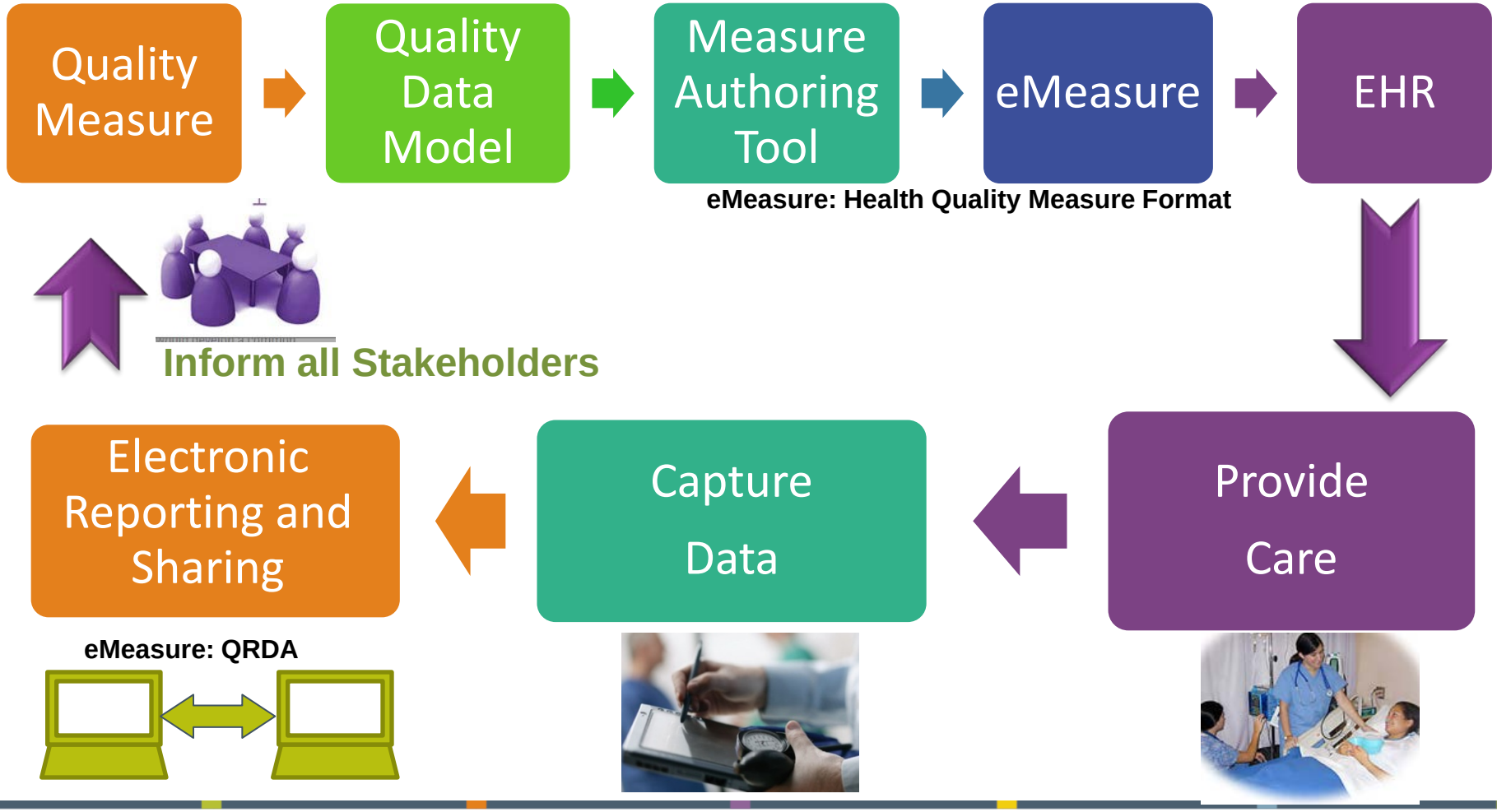
NATIONAL QUALITY FORUM

Thank you Panelists!

- Panelists:
  - Zahid Butt, MD, Chair, Planning Committee
  - Peggy Pollard
  - Jude Pierre, MD
  - Ted Palen, MD
  - Samer Khodor, MD
  - Brandy McGinnis, PharmD
  - Skekhar Mehta, PharmD
  - Heather Sobko, PhD, RN
  - Kenneth Goldblum, MD
  - David Stumpf, MD, PhD
  - Sharon Hibay, RN, DNP
  - Ann Watt, MBA
- Moderators:
  - Ginny Meadows, RN
  - John Derr, R. Ph
  - Karen Nielsen
  - Kevin Larsen, MD


Value Agenda Strategy
Accreditation & Certification
Health IT Incentives
Value-based Payment
Public Reporting
Prioritize
Measure
Improve
National Quality Strategy
Standardized Measures
Aligning Accountability Programs & HHS Improvement Efforts
Infrastructure Support
Electronic Data Platform
Quality Data Model
Measure Authoring Tool

The eMeasures chain



Feasibility of Condition related QDM states

Quality Data Model (QDM) Style Guide for EHR Feasibility

QDM Category	Standards	Feasible*	Feasible but require additional effort, e.g., workflow changes**
Condition/ Diagnosis/ Problem	**Vocabulary (Code system):** SNOMED-CT **ONC 2014 EHR Certification Standard (proposed):** § 170.314(a)(5) – Problem List § 170.207(m) – Encounter diagnoses [ICD-10 (ICD-10-CM and ICD-10-PCS, respectively)]	**States:** Active Inactive Resolved **Attributes:** *None*	**States:** *None* **Attributes:** Severity Anatomical structure Cardinality (1,2,3...) Laterality Ordinality (principal, secondary, ...) **Suggest retire these contexts from QDM:** Declined (*That a patient declined to report diagnoses or conditions is a significant issue for clinical care but a measure or clinical decision support requires only knowledge that a diagnosis or condition exis or does not exist)* Reconciled (*An individual condition is not reconciled, but the problem list is reconciled, an individual problem or condition is updated*)

eMeasures Learning Collaborative:
Advancing Solutions for eMeasures Implementation

QDM Category	Standards	Feasible*	Feasible but require additional effort, e.g., workflow changes**
Medication	**Vocabulary (Code system):** RxNorm for medications CVX for vaccinations (acknowledging that vaccinations are treated as medications in some contexts and as separate category in others) **ONC 2014 EHR Certification Standard (proposed):** **Standard** § 170.299 – by reference includes medications § 170.207(h) – Medications for transitions of care and ambulatory clinical summaries	**States:** Active Administered Dispensed Ordered **Attributes:** Dosage Frequency Effective time Start datetime Stop datetime Drug name	**States:** *None* **Attributes:** Infusion duration Method Recorder Reason Route Cardinality (1,2,3…) Patient preference Source **Suggest retire these contexts from QDM:** Declined (*That a patient declined to take a medication is a significant issue fo clinical care but a measure or clinical decision support requires onl knowledge that a medication was used or it was not.)* Discontinued (*A medication has a start datetime and stop datetime. Discontinued a process context generally used with ordering. For the purpose of measures or clinical decision support, actual end of use may be the preferred concept.)* Inactive (*Similar to discontinued, a medication is either active or not. In hospital settings "hold" is interpreted as 'discontinued' until the medication is re-ordered, if "hold" is allowed at all. In ambulatory settings, the Medication List should indicate what is active and what is not at each point in time.*) Reconciled (*An medication list is reconciled, an individual medication is updated*

Categorizing Data Elements
Joint Commission Example

GREEN = Element easily available in EHR	1. Typically collected and captured as structured data 2. Typically captured in the national vocabularies (RxNorm, LOINC, SNOMED-CT, ICD, CPT) as structured data.
YELLOW = Moderate ability to use element	1. Not routinely and consistently captured as structured data, but the element might be derived using various techniques, including post coordination of multiple discrete values, or using NLP or other data mining techniques to derive element from unstructured data. 2. Available, but most clients haven't captured these yet in their EHR. 3. eMeasure documentation deficiencies. 4. Industry constraints – element is not supported in the current version of HL7 standards, Quality Data Model (QDM), national vocabularies, but it is expected to be supported in the next version. 5. Physicians tend to resist entering data or changing their workflow to allow data entry. Expect that with time and/or training they could be persuaded to enter the data/change their workflow.
RED = Not available	1. Interoperability/technology barriers exist and infeasible to report data. 2. The way the data is documented in the spec doesn't allow the bedside clinician to document. 3. Industry constraints – element is not supported in the current version of HL7 standards, Quality Data Model (QDM), national vocabularies, and it is unknown when/if it will be supported. 4. Physicians often refuse to enter data or change workflow to allow for data entry. Expect that is would be impossible to change physician behavior, and no amount of time or training will resolve this problem.

Categorizing Data Elements Continued

Steps to Categorize the Data Elements

- For each data element determine what category is it currently in and choose the appropriate color: green, yellow or red.
- Also, denote which item(s), by number, that you used to choose the color. When using Green #2 (typically captured in national vocabularies), also include which vocabulary(s) the data is captured in.
- If the data element is not in green, then state the following:
  - What step(s) needs to be taken – what needs to be done to move this data element to the next highest category?
  - How much effort would it take to move this data element to the next level? Effort rating below:

    Low = minimal effort required

    Mid = medium effort required

    High = significant effort required
  - Who / What entity needs to be involved to move this data element to the next level?

Meaningful Use Stage II and Conditions/Problem List

- Problem List

MU Objective
Maintain an up-to-date problem list of current and active diagnoses.
2014 Edition EHR Certification Criterion
§ 170.314(a)(5) (Problem list)

Record/Change/Access

Over Multiple Ambulatory Encounters OR a Single Inpatient Encounter

Vocabulary: SNOMED CT US

Mapping to Local Terms / ICD 10 permitted as long as EHR data is recorded in the database in SNOMED

Meaningful Use Stage II

We stated that SNOMED CT® (and not ICD-10-CM) would be required for calculation of CQMs and proposed only SNOMED CT as the appropriate standard for the recording of **patient problems in a problem list**.

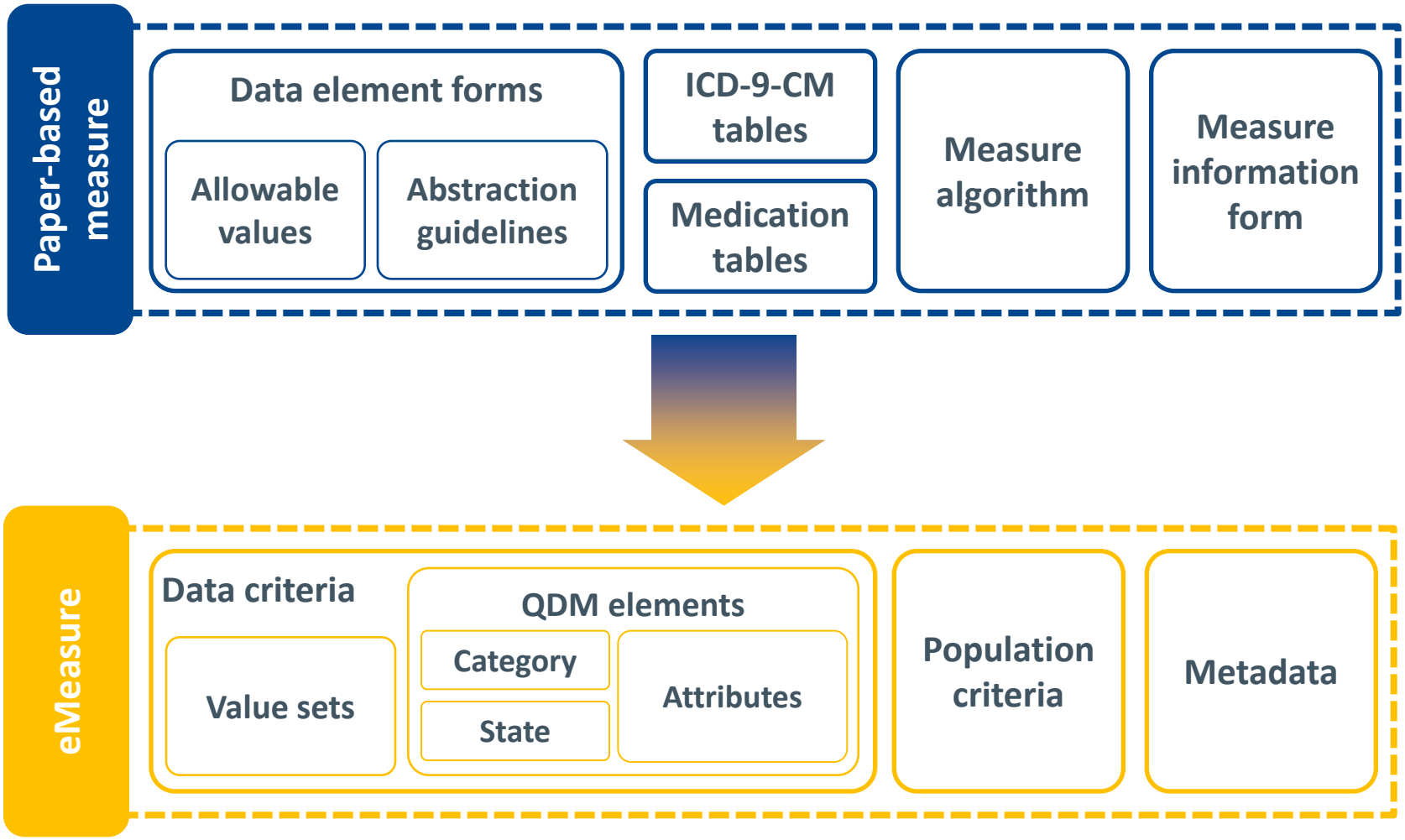
We noted that this proposal did not, however, preclude the use of ICD-10-CM for the capture and/or transmission of **encounter billing diagnoses**.

eMeasures Learning Collaborative:
Advancing Solutions for eMeasures Implementation

Retooling of Quality Measures

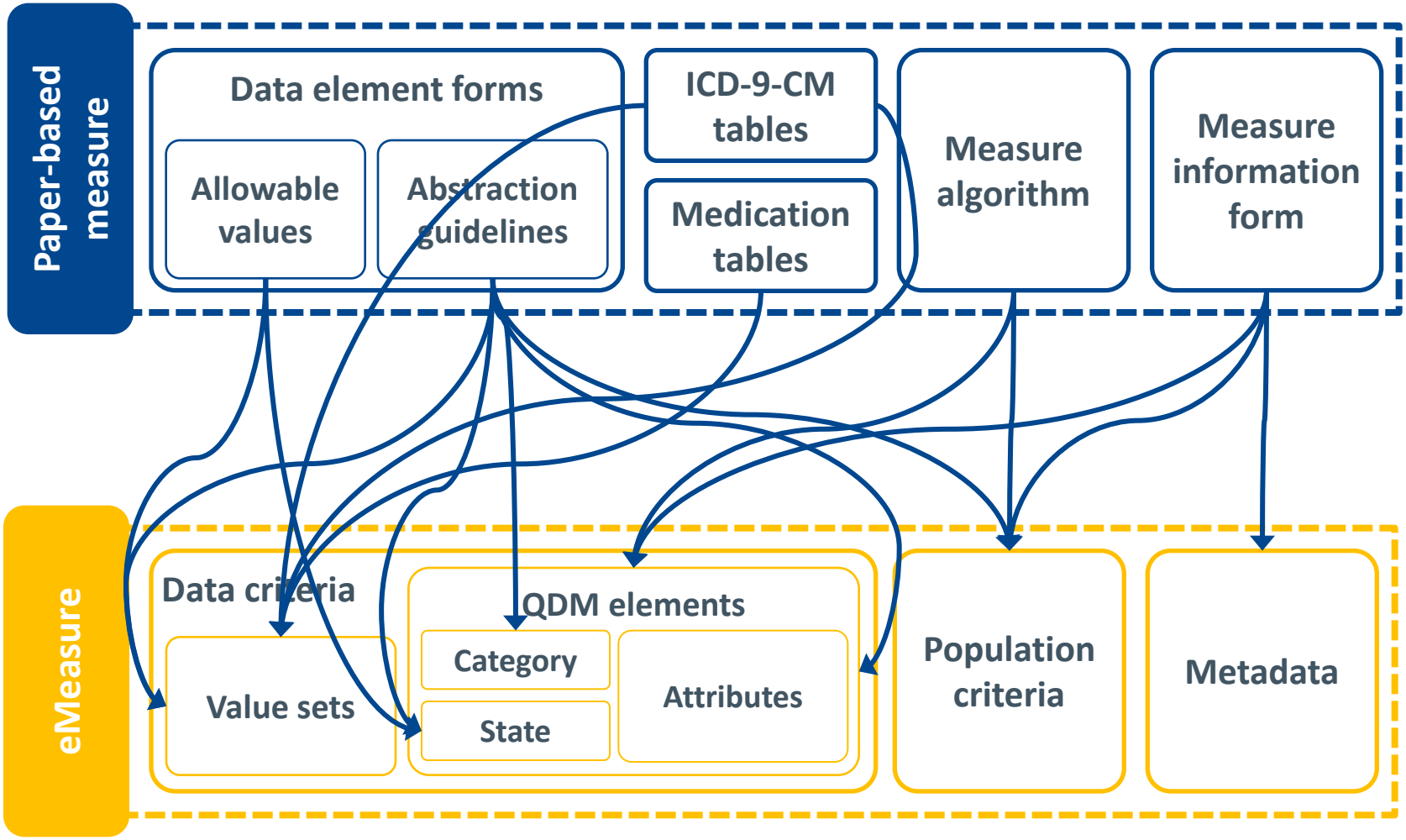
- Process of converting existing measures into an electronic "eMeasures" format replicating **all aspects** of the original measure
- NQF under contract from HHS "Retooled" 113 NQF endorsed measures
- Many of these were selected for reporting Clinical Quality Measures (CQM's) in the CMS Meaningful Use Stage I final rule
- Additional efforts to further refine and study some of the original retooled measures are underway

eMeasures Learning Collaborative: *Retooling eMeasures*



Courtesy: The Joint Commission

eMeasures Learning Collaborative:
Retooling eMeasures



Courtesy: The Joint Commission

Closing: Summary, Implementation Perspectives and Next Steps
Summary of panel discussions

- **Condition/Problem Management**
  - Repeatable Models
  - Recommendations
  - Barriers/Gaps
- **Medication Management**
  - Repeatable Models
  - Recommendations
  - Barriers/Gaps
- **Data Visibility: Essential Elusive Elements**
  - Repeatable Models
  - Recommendations
  - Barriers/Gaps

Closing: Summary, Implementation Perspectives and Next Steps

- **Next Steps:** Rosemary Kennedy

Useful Links

NQF Health IT Knowledge Base

http://public.qualityforum.org/hitknowledgebase/Pages/Knowledge%20Base%20Home.aspx

Thank you for your participation!