

Patient-Centered Medical Homes and Meaningful EHR Use: Competing for Scarce Resources or Dynamic Synergy?

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Objectives

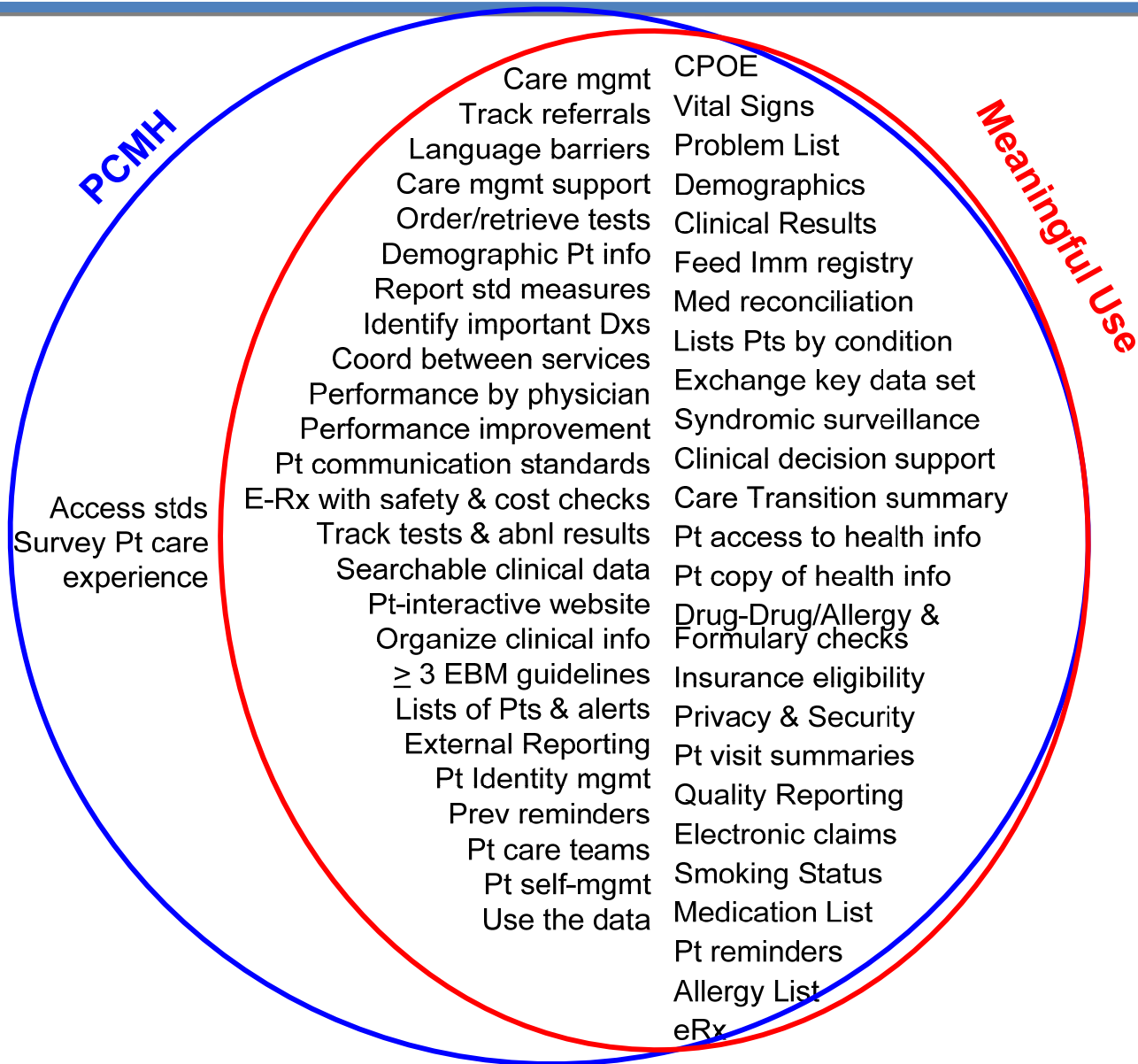
Background: Many PCMH innovators and early adopters are resource-challenged and feel the need to prioritize between PCMH and MU

- Discuss exactly how they fit together
 - Patient Centered Medical Home is the vision
 - Meaningful use is the tool set
- Review several operational examples
- Goal: Convince participants that the most direct route to a PCMH is through meaningful EHR use

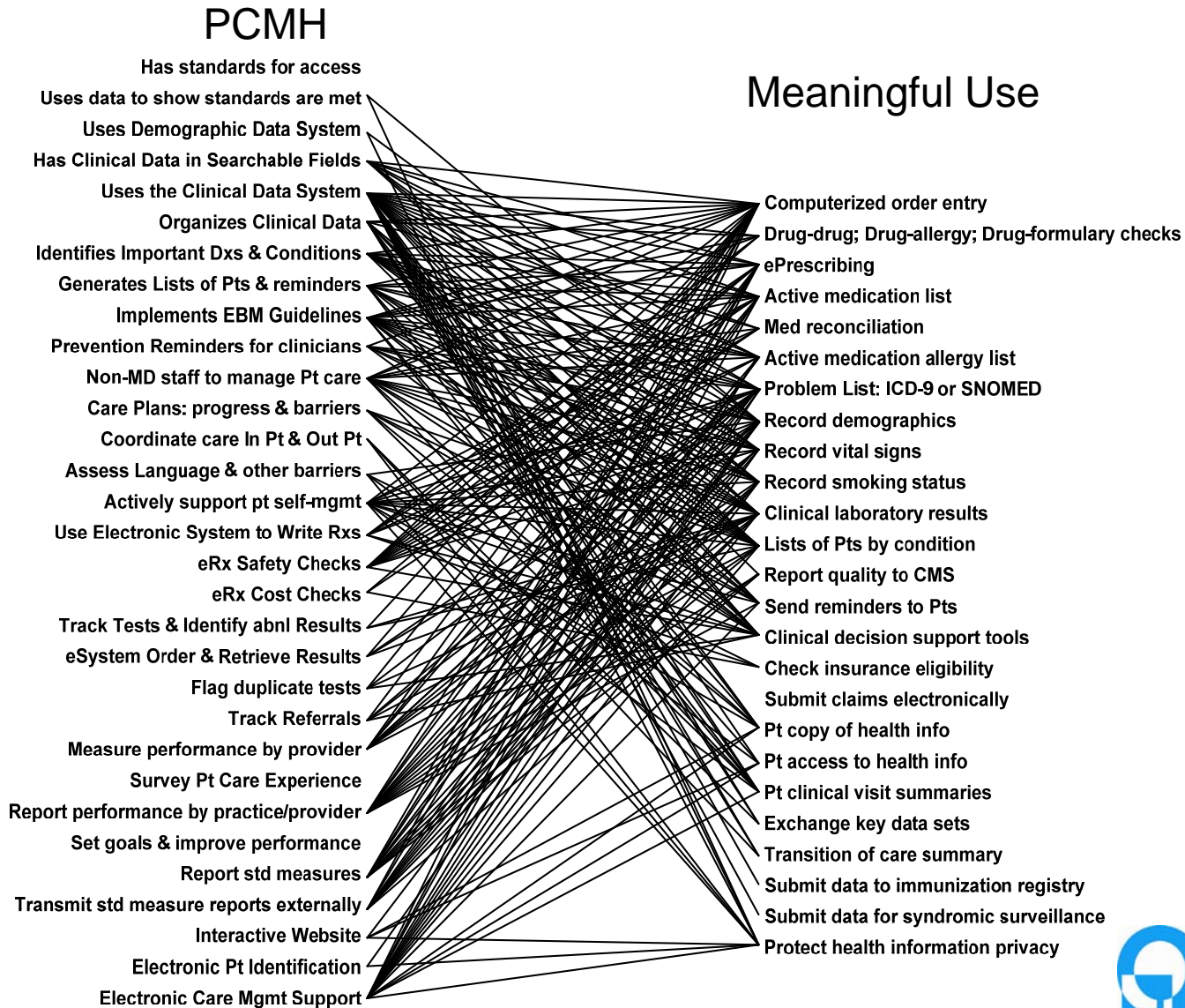
Disclosure: Jeff Hummel has financial affiliations with the following organizations

- Qualis Health: Medical Director, Washington-Idaho Regional Extension Center, and for Clinical Informatics
- UW Medicine: Clinical Associate Professor and Staff Physician, Belltown Clinic
- Deep Domain, Inc: Co-founder & Chief Medical Officer
- Preferred Professional Insurance Company: Consultant assessing quality of care issues for physicians accused of medical malpractice

High Degree of Overlap



A Many-to-Many Relationship



A Many-to-Many Relationship

PCMH

All of the many things that people need to do in order to assure high quality patient-centric care in a sustainable manner and at a cost that is affordable to society

Meaningful Use

All of the many things that computers need to do to store, organize and manage information in a way that supports people in the enterprise of healthcare

A Couple of Observations

- Each MU functionality supports ≥ 1 key PCMH criterion
- Some MU features support many PCMH criteria
- Some PCMH criteria require many meaningful use information management tools

Don't confuse people with technology

- Technology is a great tool (when it works)
- Technology is a terrible master, no matter how well it works
- Technology can mess up well designed workflows and interfere with communication between people
- Let technology do what it does best
- Let people do what they do best

What does technology do best?

- Keep track of large amounts of data
- Keep track of data over long periods of time
- Organize data so that patterns are apparent
- Remember complex rules and protocols
- Maintain check-lists for completeness
- Prompt humans with decision support
- Function with constant reliable performance

What do people do best?

- Make decisions and be accountable for them
- Pattern recognition: separate signal from noise
- Judge the relative importance of information
- Put information into the context of the Pt
- Use intuition and experience to give advice
- Assess emotional valence of information
- Assess the value of quality of life
- Establish and maintain relationship with Pts

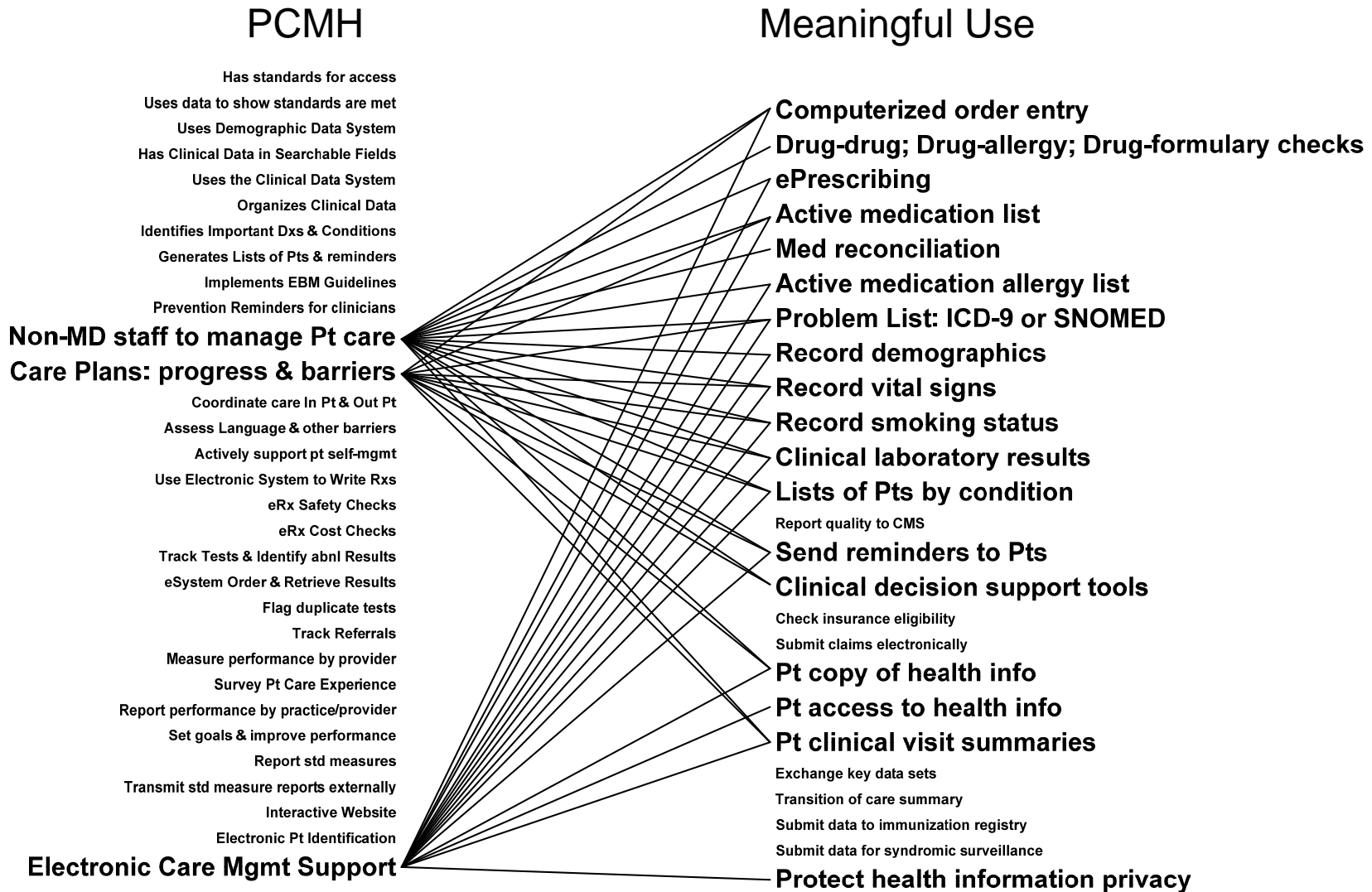
Conceptual Framework

- Patient-centered Medical Home is the best vision we have for a sustainable model to deliver high value healthcare at an affordable cost
- An EHR, used correctly (meaningful use) becomes the information management infrastructure for *powering the workflows* in a PCMH
- “Meaningful use” is simply a operational definition of the information management requirements for supporting a PCMH

Key Concept: Powering the Workflows

- What exactly is care management?
 - A lot of different processes designed to assure nothing falls through the cracks
 - Chronic conditions or other at risk populations
 - Prevention issues
 - Self-management
- Both an organizational and interactional framework for engaging the entire patient
- Care management comprises a whole lot of different workflows

Drill-down to a Key Facet of PCMH



MU supports workflows to power PCMH

Pt-Centered Medical Home Element: Care Management



Workflows



CPOE
Vital Signs
Problem List
Demographics
Clinical Results
Feed Imm registry
Med reconciliation
Lists Pts by condition
Exchange key data set
Syndromic surveillance
Clinical decision support
Care Transition summary
Pt access to health info
Pt copy of health info
Drug-Drug/Allergy & Formulary checks
Privacy & Security
Pt visit summaries
Quality Reporting
Smoking Status
Medication List
Pt reminders
Allergy List
eRx



Let's look inside the Black Box and examine some workflows

- Prevention
- Verification of medication list at start of visit
- Chronic illness care

Prevention

- Goal: Maximize the percent of patients up to date on preventive measures
 - Immunizations & Cancer Screening
 - Smoking, Weight, Diet and Exercise
- Strategy: All Pts leave clinic with prevention issues addressed
- Meaningful Use Tools:
 - Demographics
 - Decision Support: (Rules engines and dashboards)
 - Patient copy of health info, health record & visit summary
 - CPOE & Clinical Result
 - Vital Signs & Smoking status

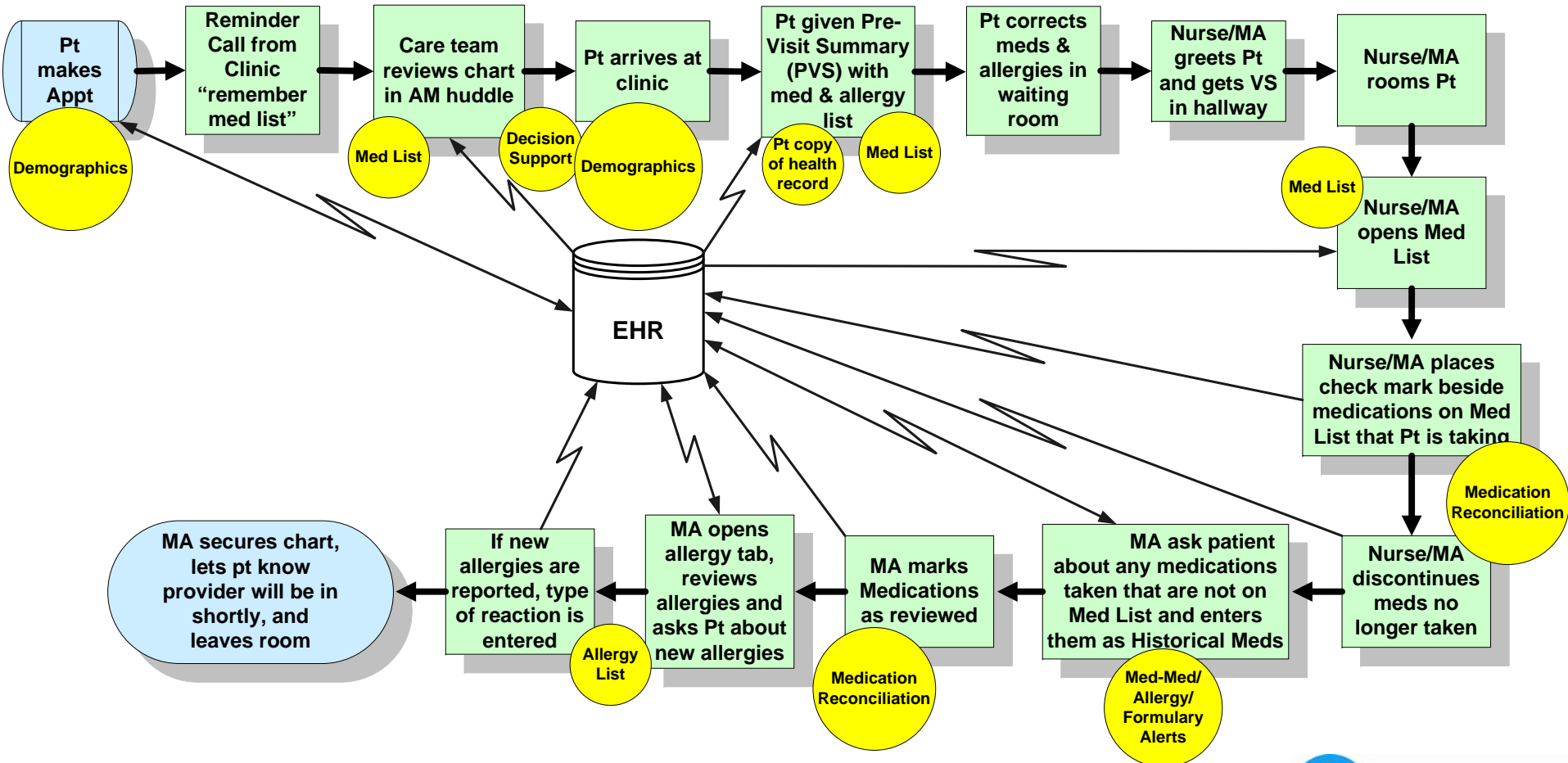
Key Points of this workflow

- Rules engine inputs determine if mammo due
 - demographic information
 - results reporting & historical information
- Team plans based on rules engine output
- Pt given same information to prepare for visit
- MA applies simple algorithm to confirm plan with Pt, updates info, orders & pends mammo
- Provider pushes button to order test
- Nothing is left to chance

Verification of Med List at start of visit

- Goal:
 - The medication list is accurate when provider starts visit
- Strategy:
 - Use the team and Pt to gather information
 - Give the patient time to think about the medications
- Meaningful Use Tools:
 - Demographics
 - Medication Reconciliation
 - Pt copy of health record
 - Drug-Drug, Allergy, Formulary Alerts
 - Medication List
 - Decision Support
 - Allergy List

Gathering Medication Information before the Provider walks in the room



Key Points of this workflow

- Rules engine inputs determine if elderly patient is taking inappropriate medications
 - Demographic information
 - Medication list
- Team uses med list to prepare for visit
- Pt given opportunity to prepare med list
- MA applies simple algorithm to delete meds no longer taken & add meds/allergies not on list
- MA verifies med & allergy lists validated

Chronic Illness Care

- Goal:

- All members of target population are monitored
- All members of target population receive recommended interventions

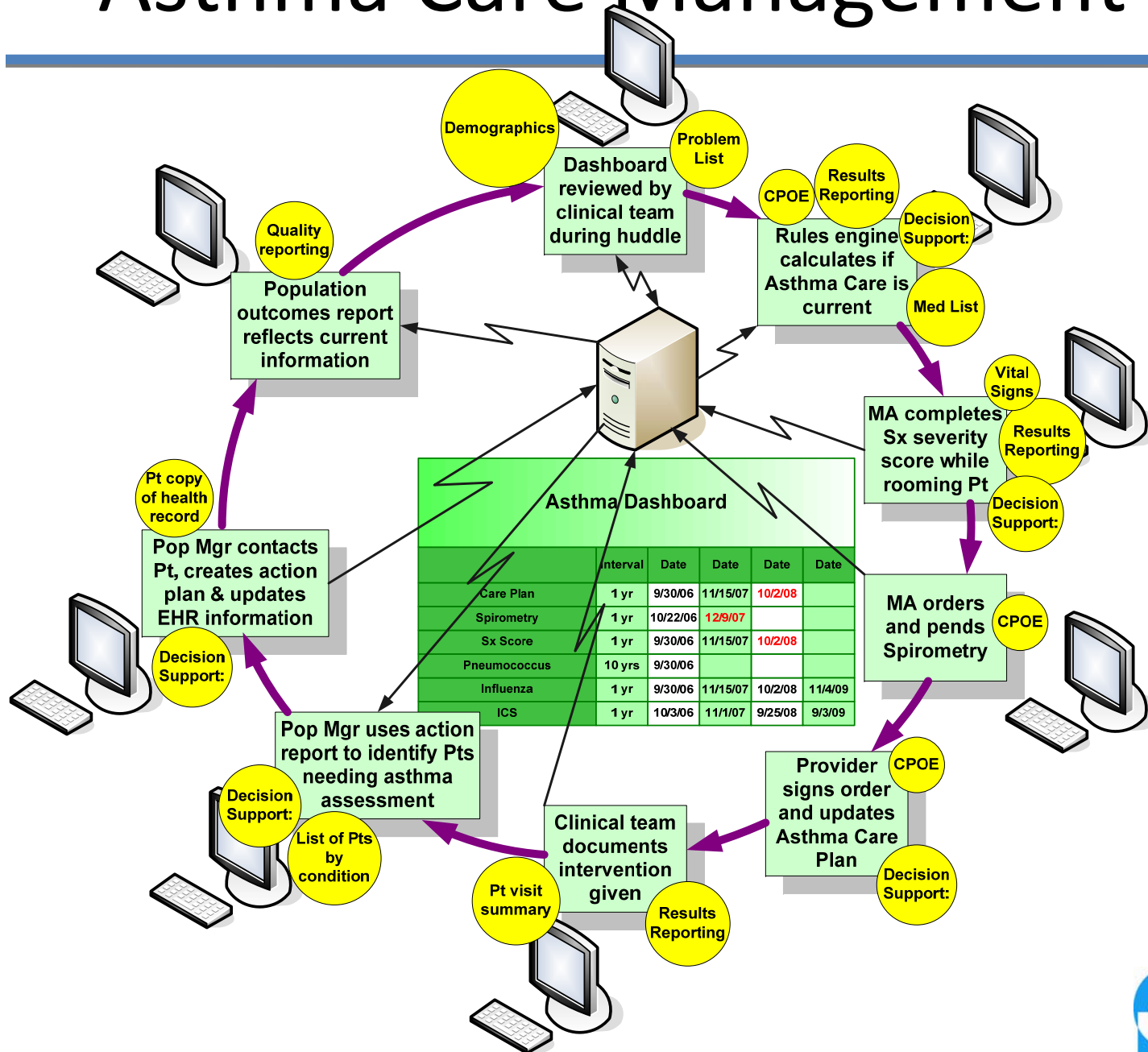
- Strategy:

- All gaps identified when patient is in the clinic
- Population surveillance to identify gaps

- Meaningful Use Tools:

- Problem list
- CPOE & clinical results
- Med list
- Clinical decision support
- List Pt by condition
- Pt visit summary
- Pt copy of health record
- Pt reminders

Asthma Care Management



Key Points of this workflow

- Rules engine populates dashboard so team can see at a glance what need to be done
 - Tests
 - Intervention
 - Update care plan
- Team uses dashboard to prepare for visit
- Pt has same information as the care team
- Pt can take greater responsibility for chronic illness care

Quick, what does this patient need done today?

Asthma Dashboard					
	Interval	Date	Date	Date	Date
Care Plan	1 yr	9/30/06	11/15/07	10/2/08	
Spirometry	1 yr	10/22/06	12/9/07		
Sx Score	1 yr	9/30/06	11/15/07	10/2/08	
Pneumococcus	10 yrs	9/30/06			
Influenza	1 yr	9/30/06	11/15/07	10/2/08	11/4/09
ICS	1 yr	10/3/06	11/1/07	9/25/08	9/3/09

Rules Engines: The power behind decision support

- Inputs:
 - Any discrete data: dates, results, values, demographic information etc.
 - Special fields that are required for specific rules: e.g. How often someone should have a cancer screening test
- Rules: Boolean logic (if, and, then, else)
 - E.g. If age > 50, and colonoscopy date exists, and screening interval exists, and colonoscopy date + screening interval > today's date, then Pt up to date, else fire alert
- Outputs: alerts, reports, dashboards, letters

The Rules Engine Runs when the Chart is Opened

Inputs:

- Dates of Orders
- Results of Orders
- Problem List
- Medication List
- Special data entry fields, e.g. screening interval



Programmed Rules



Outputs:

- Dashboards:

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- Pop-up Alerts
- Patient Lists

Meaningful EHR Use is a Huge Step

- Actually it is a bunch of smaller steps
- Stairs and ladders work best when the steps are taken in the correct order
- Each step includes several elements of “meaningful use” logically grouped together
- A significant amount of benefit to the practice (e.g. Patient Centered Medical Homes workflows) comes with the initial few steps

Meaningful Use as a series of steps

- Step 1: Practice Management System:
 - demographics, privacy, insurance eligibility & claims submission
- Step 2: Clinical laboratory results reporting
- Step 3: Discrete data entry
 - CPOE, eRx, Med & Allergy Lists, Med Reconciliation,
 - Problem List
 - VS, smoking status
- Step 4: Start using the data
 - Decision support tools & Med-med/allergy/formulary checks
 - Lists of Pts by condition
 - Pt reminders & Pt clinical visit summaries
- Step 5: Start sharing information
 - Pt copies and access to info, and care transition summaries
 - quality reporting & feeding immunization registries
 - Syndromic surveillance
- Step 6: Exchange key data summary with other entities

PCMH & MU as a Serious Expedition

Transmit std reports externally

Report Std measures
 Measure performance by provider
 Report performance by provider
 Coordinate care In & Out Pt
 Set goals and improve performance
 Interactive Website

Exchange Key Data Summary

Report quality to CMS
 Care transition summary
 Pt access to health information
 Pt copy of health information
 Feed immunization registry
 Submit data for syndromic surveillance

Care Plans: Progress & Barriers
 Actively support Pt self-care mgmt
 Electronic care-mgmt support
 Preventive reminders for clinicians
 Evidence-based guidelines
 Generate Lists of Pts & reminders
 Track tests & identify abnl results
 Flag duplicate tests
 Track referrals

Decision support tools
 Med-med/allergy/formulary checks
 Lists of Pts by condition
 Pt clinical visit summaries
 Send clinical reminders to Pts

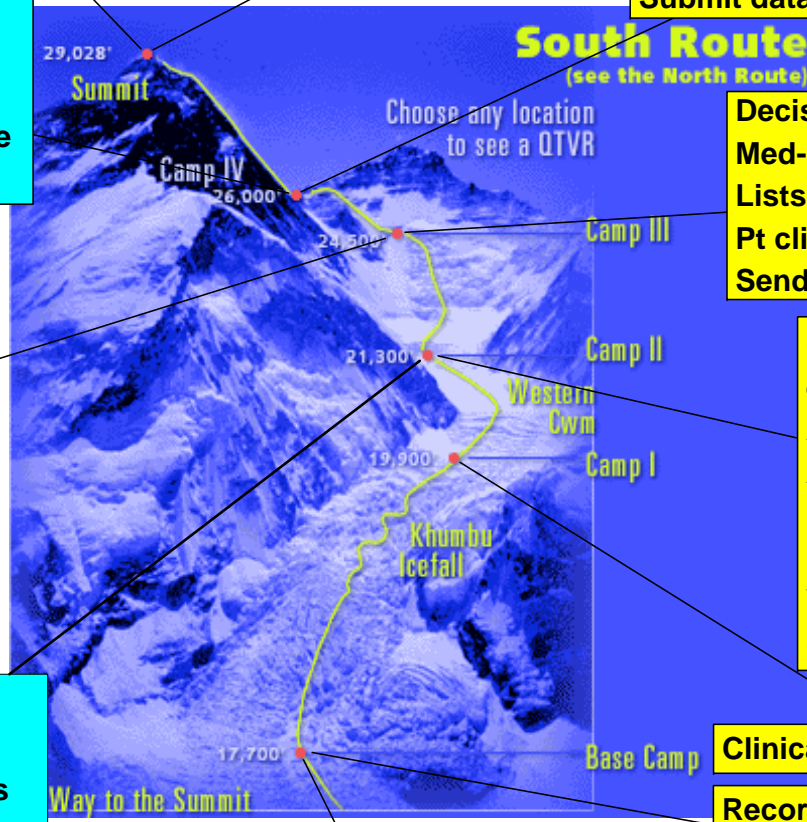
Computerized order entry
 ePrescribing
 Active medication list
 Active medication allergy list
 Medication reconciliation
 Problem List in ICD-9/SNOMED,
 Vital Signs
 Smoking Status

Clinical data in searchable fields
 Use the clinical data system
 eSystem order and retrieve results
 Organize clinical data
 Non-MD staff to manage Pt care
 Use electronic system to write Rx
 eRx with safety checks
 Identify important diagnoses
 eRx with cost checks

Uses demographic data system
 Electronic Pt identification
 Asses language and other barriers
 Has standards for access
 Use data to show how stds met
 Survey Pt care experience

Clinical laboratory results

Record demographics
 Protect health information privacy
 eCheck insurance eligibility
 Submit claims electronically



Key Points of this analogy

- You could try to do this with outmoded technology, but will be a lot harder to succeed
- Success requires careful attention to detail
 - The right equipment for each step
 - The right people with the right skill set at each step
 - Concentrate on where you're at without forgetting the overall strategy for the expedition
- Phased EHR implementation represents a strategic plan for PCMH transition

Conclusion

- Rather than prioritize between PCMH and MU, picking one and putting other on hold...
- ...it makes more sense to prioritize the features of meaningful use and use them to determine the components of a medical home to work on.
- Questions?