David Bates
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Partners Health Care Systems
Health IT Policy Development in the U.S. and Supporting Integrated Clinical Care

*Health Improvement Scotland, March, 2016*

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Medical Director of Clinical and Quality Analysis, Partners Healthcare
Overview

• Where U.S. was starting
  – Quality/Safety/Efficiency
  – Health care reform
• HIT policy in the U.S.
  – Adoption
  – Data exchange
• Using HIT to improve care in the medical home
  – Care coordination
• Conclusions
“To lower health care costs, cut medical errors, and improve care, we’ll computerize the nation’s health records in five years, saving billions of dollars in health care costs and countless lives.”
HITECH will Advance the “Tipping Point”

- National Coordination
- Enhanced Trust
- Grant Programs
- Payment Incentives

Technology Adoption

TIME

[Diagram showing the timeline from 2004 to 2012 with a curve indicating the advancement of technology adoption]
Meaningful Use Follows an “Ascension Path”

2009  2011  2013  2015

HIT-Enabled Health Reform

HITECH Policies

2011 Meaningful Use Criteria (Capture/share data)

2013 Meaningful Use Criteria (Advanced care processes with decision support)

2015 Meaningful Use Criteria (Improved Outcomes)

*Report of sub-committee of Health IT Policy Committee
Three Key Components for Higher-Performing Healthcare System

• Better information on what works and what doesn’t
• Ability to rapidly apply knowledge to practice
• Changes in the financing and organization of care that reward physicians for considering cost and quality in decision-making

Blumenthal, ONCHIT coordinator
Health IT Policy Committee

• Required to make recommendations to the National Coordinator on:
  • A policy framework for the development and adoption of a nationwide health IT infrastructure
  • The areas in which standards, implementation specifications, and certification criteria are needed

• Working groups
  – Meaningful Use
  – Certification/Adoption
  – Interoperability and information exchange
Observations from HIT Policy

- Everything has been conducted in open
- Stakeholders on group from many perspectives
- Regulations have gotten much better after public commentary, response
- Sometimes has been significant time pressure
- Can’t keep everyone happy, but highly successful overall
  - Lately vendors and providers are asking to slow down, consumer groups and insurers to keep going/move faster
  - Has been consensus about direction
Health System IT Priorities

2011 HIMMS Leadership Survey

- Meaningful Use: 50%
- Focus on Clinical Systems: 22%
- Optimizing Current Systems: 13%
- Leveraging Information: 10%
- Focus on Ambulatory Systems: 2%
- Interoperability: 0%
- Integration of IT Medical Devices: 0%
Payment Incentives and Meaningful Use

- A hospital or eligible provider must be a meaningful user to receive payment incentives
- Changes the focus from technology potential to clinician behavior
- By law, a “meaningful user” must:
  1. Use a certified EHR
  2. Exchange health information
  3. Report quality measures
Guiding Principles

**MU Objectives**

- Supports **new model of care** (e.g., team-based, outcomes-oriented, population management)
- Addresses **national health priorities** (e.g., Million Hearts)
- **Broad applicability** (since MU is a floor)
  - Provider specialties (e.g., primary care, specialty care)
  - Patient health needs
  - Areas of the country
- Promotes **advancement** -- Not "topped out" or not already driven by market forces
- **Achievable** -- mature standards widely adopted or could be widely adopted by 2016
# Meaningful Use Incentives

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<tr>
<th>Meaningful use begins</th>
<th>Maximum Eligible Provider Payment</th>
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<tr>
<td></td>
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<tr>
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<td>2014</td>
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BUT...Penalty of 1%/yr (max 5%) reimbursement starting 2015
Hospital progress to Meaningful Use, through June 2013

Note: Categories are hierarchical and mutually exclusive. For example, a hospital that has attested and received AIU payment and is enrolled with an REC is counted only in the Attested MU category. See Data Sources and Definitions slides for more details.
Hospitals attesting to Meaningful Use, through June 2013

Note: Large = 400+ staffed beds; Medium = 100-399 staffed beds; Small = <100 staffed beds. Rural = non-metropolitan; Urban = metropolitan. See Data Sources and Definitions slides for more details.
Much of innovation has come from a few sites
Vendor systems now being implemented
Need support for innovation in future
Essential to look at what is implemented, not just potential
Links with external incentives will be pivotal

Finding the Meaning in Meaningful Use
David C. Classen, M.D., and David W. Bates, M.D.

Health care has long lagged behind all other major industries in the adoption of information technology, but it is beginning to catch up. Because of the belief that electronic health records (EHRs) will be a key foundational tool for improving safety and quality of care and for reducing costs, the federal government has implemented substantial incentives for providers to adopt EHRs through the Health Information Technology for Economic and Clinical Health (HITECH) Act. Some recent surveys suggest that physicians

WHAT IT TAKES TO ACHIEVE BENEFITS WITH EHRs
Success in improving care with EHRs may be related to the types of EHRs that are used, their settings of use, and the incentives in place. Most studies of the successful effect of EHRs on quality and safety of care have come from four organizations that use internally developed EHRs that have been in place for more than 25 years: Brigham and Women’s Hospital in Boston, LDS
Health Care Reform

• Affordable Care Act
  – Provides access to all patients
  – Incentives to improve costs, quality, efficiency
    • “Accountable care organizations”
    • Bundling

• Many have questioned whether pressure on costs will be sufficient

• Still politically contentious

• No strong movement to single payer
Partners IS—Where We Are/Current State

• Biggest integrated delivery system in NE—serve about 3 million people
  – All physicians, patients in system
  – Just implemented Epic, $1.3 billion
  – Complete data exchange within Partners
  – 400,000 patients with personal health records
  – Very strong clinical decision support
Who Is Be Struggling?

• Small hospitals, and disproportionate share hospitals
  – Especially if they don’t have relationships with larger entities

• Small practices
  – Evidence shows that many practices actually become less efficient after conversion, especially if they don’t adapt their workflow

• Regional health information organizations
  – They need public support and right now no plan to give it to them
Safety Results of CPOE Decision Support Among Hospitals

- 62 hospitals voluntarily participated
- Simulation detection only 53% of orders which would have been fatal
- Detected only 10-82% of orders which would have caused serious ADEs
- Almost no relationship with vendor

Metzger et al, Health Affairs 2010
PCMH and HIT

• 7 Major areas:
  – Clinical Decision Support
  – Registries
  – Team Care
  – Personal Health Records
  – Care Transitions
  – Telehealth
  – Measurement

Decision Support

• Delivered within EHRs or Personal Health Records
• Improve processes and intermediate care outcomes
• Reduce adverse drug events

- Many providers won’t turn it on (or turn it off)
- Most EHRs include lousy decision support
  - Need better support:
    - Care transitions
    - Medications
    - Chronic disease support
MAPLE: Results

- Pre: 20,477
- Post: 20,812 (Control)
- Post: 30,720 (extrapolated) (Intervention)

48% increase
The Future

• Should be able to implement much more complex rules
  – Take into account wide array of factors
  – Leverage analytics
• “Think along” with provider
• Eventually be more directive in certain situations
  – May be collective repositories to draw from
  – Treat as web services
Registries

- Population mgmt tool
- Variety of functions
  - Front end views
  - Ability to readily generate lists
  - Usable by multiple providers within team

- Highly functional multi-disease tools not widely available

- Key Needs
  - Abstract registry data from existing EHR
  - Train staff to interface with registries
  - Really strong registry tools
## Registry Population Manager (MGH)

Viewing 117 patient(s) of IMA - Team 3

### Diabetic Roster

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<th>LDL ▼</th>
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<th>UMA ▼</th>
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**Mr. Smith (59 yo)**

**Tel:** (Day) 02/17/06 06/15/06 08/14/06

**Tel:** (Evening) 06/13/06 10/31/06

**Last Connection:** 07/16/2006

**Address:**

BURLINGTON, MA 01803

**Labs:**
- Last HbA1c: 9.6 (07/19/2006) - Not Due
- Last LDL: 82.0 (01/17/2006) - Not Due
- Last UMA: () - Due
- Last Eye: - Not Due

**Appointments:**
- PCP: Last: ⬤ Next: ⬤ 02/03/06
- DM edu: Last: ⬤ Next: ⬤ 04/14/06 08/18/06
Popup window displaying a list of barriers to care
Impact on Process Efficiency

- Pilot site: Revere
- Measure:
  - Time for a diabetes nurse manager to identify whether a reminder letter should be sent

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<th>With RPM</th>
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<tr>
<td>Total number of patients reviewed</td>
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<td>Total time to complete task</td>
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<td>15 min with 1 nurse</td>
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## The Panel Support Tool

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<th>Search / Panel View</th>
<th>Visit Info</th>
<th>Risk Factors</th>
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<td>No PC Visit in 12 Months</td>
<td>BMI</td>
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<td>Search by MRNR or Name</td>
<td>ER Visits last 7 days</td>
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<td>Run a Panel Query</td>
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<tr>
<td>Search for Caregaps</td>
<td>CAD Risk</td>
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### PCP: DEMO DOC  Panel Size: 1158

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Team Care

- Pivotal for high level of overall PCMH (and system) performance
- May be most important of all
- Relationship-centered care

- Most EHRs unable to provide support
- Limited incentives for non-physician providers
EHRs and Care Coordination

- Continuity within team
- Documentation of information
- Process referrals (both in and out)
- Share care plans with other providers
- Assist with transitions

➢ Must be available to all team members; and all team members must be rewarded

O’Malley et al, Center for Health System Change
Personal Health Records

- Increased pt engagement & self-efficacy
- Portable, real-time information
- Many organizations developing PHRs

- Best architecture uncertain
- Lack of pt uptake
- Low health literacy
- Provider hesitancy
Personal Health Records: Partners Experiences

- Have over 250,000 patients using Patient Gateway and figure growing rapidly
- With little stimulation, 15% of patients sign up
  - Some practices have enrolled 60-70% of patients
- Functionalities—ask a question, referral, med refill, check laboratories
- 70% of queries can be handled by someone other than a physician
- Need to bolster functionality for patients with chronic diseases
Kaiser PHR Experience

• Deployed KP HealthConnect (EHR) and My Health Manager (PHR) in Hawaii region in 2005

• Impact between 2004-2007
  – Annual office visit rate  -26.2%
  – Primary care  -25.3%
  – Specialty care  -21.5%
  – Total patient contacts  +8.3 percent
  – Quality and satisfaction maintained or slightly improved

What Will It Take to Transform Care?

Safety

• Key issue is making essential processes more reliable
  – New approaches like CPOE, bar-coding, etc
  – Checklists
    • And central line infection rates (Pronovost)
    • And rates of ventilator-associated pneumonia
    • Surgical checklists in the operating room (Gawande)
    • Will likely need dozens of checklists

• Also essential to measure performance in ongoing way
What Will It Take To Transform Care?

Quality

• Need an electronic health record, and three basic things in addition:
  – Clinical decision support at the point of care
  – Registry tools
  – “Team” care

• Need to actually measure performance on many measures
  – Right number is probably hundreds
  – Need transparency
Conclusions (I)

• US healthcare has huge room for improvement in efficiency, safety, quality
• Overall HIT policy direction taken so far has been terrific
  – Early returns positive, but jury still out
• Information technology will become ubiquitous in healthcare—near a tipping point
  – Electronic prescribing is a big early win
  – Yet adoption is just the beginning
• EHRs and HIT more broadly can provide major benefits with respect to safety, quality, efficiency
• Safety is perhaps most straightforward
  – Checklists, reliable processes
Conclusions (II)

• Quality improvement is achievable with HIT in many domains

• Efficiency benefits least well-demonstrated and linkages with incentive key

• Key frontiers
  – Engaging patients
  – Care coordination
  – Leveraging social, mobile, big data, cloud

• Lots to be learned about how to get benefits
  – HIT is simply a tool—part of a program
  – But nearly every other effort to improve safety/quality/efficiency will rely on HIT

• Getting right decision support in place is central
“Insanity is doing the same things the same way and expecting different results”

Albert Einstein
"It was done by a doctor – it’s called ‘Orders.’"