Health Informatics in the Cloud

Stormy Weather or Clear Sailing Ahead?

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Professor of the Practice
A Long Road
Huge Spending, Poor Results ...
... Longer Term It’s MUCH Worse

Source: CBO
The Good News
Low Mortality Rates

Source: Brent James, Intermountain
The Bad News ...

99% of Medicare spending is on behalf of beneficiaries with at least 1 chronic condition. 96% of Medicare spending is on behalf of beneficiaries with multiple chronic conditions.

... Even Among the Employed

68% of Kaiser’s cost is chronic disease. Only 8% of their patients are Medicare.

Source: Recent Verbal Communication
“The single greatest cause of rising healthcare spending in the U.S. is the growing prevalence of chronic disease.”

The Trends

- Infectious Disease → Chronic Disease
  - Cost/Mortality

- Low Tech → High Tech → Personalized
  - Care

- Fee for Service → Employers → Employers / Government
  - Who Pays

- Procedures / Services → Outcomes
  - Incentives

Why Health IT?
Key Components

Electronic Health Records
- Hospitals
- Providers
- Patients

Clinical Databases
- Medical Knowledge
- Clinical Effectiveness
- Public Health
The HIT Prescription

Poor Quality: Electronic Records/Clinical Decision Support

Poor Behavior and Compliance: PHR, Ubiquitous Computing (i.e. cell apps)

Episodic Interaction/Poor Care Coordination: Health Information Exchange
**PCAST:** *Properly implemented,* health IT can:

Integrate technology into the flow of clinical practice as an asset, while minimizing unproductive data entry work.

Give clinicians real time access to complete patient data, and provide them with information support to make the best decisions.

Help patients become more involved in their own care.

Enable a range of population level public health monitoring and real time research.

Improve clinical trials, leading to more rapid advances in personalized medicine.

Streamline processes, increase their transparency, and reduce administrative overhead, as it has in other industries.

Lead to the creation of new high technology markets and jobs.

Help support a range of economic reforms in the healthcare system that will be needed to address our nation’s long term fiscal challenges.
Does it Work?
“For sixteen of eighteen clinical performance indicators, critical to the care of veterans, and directly comparable externally, Veterans Administration is now the benchmark. ... Veterans Administration is essentially identical to the best private sector healthcare performance on the remaining two indicators.”

Source: The Center for Health Transformation and The Gingrich Group
Costs are Reduced

“Veterans Administration cares for over 50% more patients today than it did in 1995. Cumulatively, Veterans Administration's budget has only gone up by 15% since then. Thus, costs per patient are down by 26% with measurably better outcomes. These improvements don't just look good on paper, they save lives, reduce hospitalizations, improve quality, lower costs, and satisfy patients.”

Source: The Center for Health Transformation and The Gingrich Group
Office of the National Coordinator

• $2 billion to support HIT infrastructure, loans, research, training, and education.

• Infrastructure
  – HIE (GA DCH $13,003,003)
  – REC (MSM $19,521,542)
    • Assist critical assess and rural hospitals
Meaningful Use

Federal Reimbursement of EHR Cost

- **Step 1: Adopt Certified EHR Technology**
  - EHR is certified by an ONC-authorized testing and certification body against ONC-developed criteria and standards and NIST test procedures

- **Step 2: Achieve Meaningful Use**
  - Hospital or Eligible Provider achieves Meaningful Use goals, objectives, and measures published by CMS

- **Step 3: Apply for Payment**
  - Hospital or Eligible Provider submits data or reports in a manner to be defined by CMS, collect payment
Current/Future HIT Landscape

Proprietary/Closed Systems
Lack of Interoperability
Client-Server technology
Provider Focused
Hard to Install, Setup and Maintain
Transactional
Data for Care

Open/Proprietary Systems
More Interoperability
Cloud/Client-Server technology
Provider/Patient Focused
Easier to Install, Setup and Maintain
Process/Workflow Based
Data for Care/Surveillance/Research
Health Data In the Cloud

Blue Button
Download
My Data
EHR in the Cloud
PHR in the Cloud
**Actionable Data**

- All Data
- Actionable Data
- Free-form Proprietary structures
- Structured Data
Apixio
Creating a more collaborative network of care givers
Into the Home ...
Obesity Trends in US Adults

(*BMI ≥30, or about 30 lbs. overweight for 5’4” person)

1990

1999

2009

Source: Centers for Disease Control and Prevention
Obesity Causes Disease

Source: Centers for Disease Control and Prevention
Will the Broadband be There?
Zebulon Bound

50 miles but a world apart!
Welcome!

Coker Pediatrics is a small practice, so you and your doctor get to know each other. Our schedule allocates time to address all of your concerns about your child. We enjoy getting to know you and watching with you as your child grows and develops.

Pediatricians specialize in all aspects of healthcare for children from birth through age 19. We see patients at regular intervals throughout childhood as regular well child checkups. At each visit, we answer all your questions about your child's health. We discuss growth and nutrition, sleep habits, developmental milestones and immunizations. Your child will be examined thoroughly. We will review age-appropriate safety concerns and discuss behavior. As your child gets older, the issues change. We are happy to talk to you about school and learning problems, as well as your child's changing health needs.

We provide same-day sick appointments and convenient non-urgent appointments. If you are unsure if your child needs to be seen, a phone nurse will guide you. Our nurses have years of pediatric experience and are happy to help.