Health IT and Collaborative Care
Preconference Workshop

THIRD NATIONAL MEDICARE READMISSIONS SUMMIT
The Leading Forum on Medicare 30-Day Readmissions Policy and Technology-enabled Strategies for Transitions of Care

June 13 - 15, 2011
ONSITE
Ritz-Carlton Hotel
Washington, DC

Vince Kuraitis JD, MBA
Better Health Technologies, LLC
http://e-CareManagement.com blog
(208) 395-1197
Your iPhone gets better with every new app.

Applications for iPhone are like nothing you've ever seen on a mobile phone. Explore some of our favorite apps here and see how they allow iPhone to do even more.
A Decade of Opening Up Platforms to 3rd Party App Developers

<table>
<thead>
<tr>
<th>Year</th>
<th>APIs</th>
</tr>
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<tbody>
<tr>
<td>2000</td>
<td>105</td>
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<tr>
<td>2002</td>
<td>352</td>
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<td>1,116</td>
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<td>2006</td>
<td>1,628</td>
</tr>
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<td>2007</td>
<td>2,647</td>
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</table>

Logos of various companies and platforms.
Overview

I. Key Frameworks: (Health) IT Evolution & Collaborative Care Management Networks (CCMNs)

II. The Central Debate in Tech Circles: Walled Gardens vs. The Open Web

III. Health IT Evolution:

IV. The State of Care Management Technology & Integration

V. Clinical, IT, Business Strategy: From Company Centric to Network Centric

VI. Emergence and Rise of Collaborative Care Management Networks (CCMNs)

VII. Summary
I. Key Frameworks: (Health) IT Evolution & Collaborative Care Management Networks (CCMNs)
Three-stage evolution of HIT

New Business Ecosystem (Value Network)

1. Closed

2. Walled Garden

3. Open Platform & Apps

Cohesive / Collaborative

Fragmented

Technology Architecture

Closed

Open
Emergence of Collaborative Care Management Networks (CCMNs)

- Many embryonic examples of CCMNs
  - Accountable Care Organizations (Medicare Shared Savings model, expect others)
  - Leading edge integrated delivery systems: Kaiser, Geisinger, Group Health, Intermountain
  - Institute for Clinical Systems Improvement, Minnesota
  - State Chronic Care Initiatives: Iowa, Pennsylvania, Vermont, Washington, Rhode Island, Colorado, others
  - Improving Performance in Practice initiatives
  - Patient Centered Medical Home (PCMH) initiatives?
    - PCMH physicians are nodes on the network
    - A PCMH is not the network
    - PCMH “neighborhood” could be a CCMN
Collaborative Care Management Networks (cont.)

- Characteristics of CCMN construct
  - Regional focus
  - Common clinical guidelines/shared care processes
  - Aligned financial incentives and shared accountability across providers
  - Governance varies
  - Multi-payer participation
  - Common IT infrastructure enabling information exchange and shared workflow (highly desirable today, essential in the future)
    - Proprietary?
    - Open?
  - Trust and shared responsibility
  - Contrast
    - Care management programs enabled by CCMNs (readmissions, medication management, DM, etc.
    - CCMN is the dog, programs are the tail
II. The Central Debate in Tech Circles: Walled Gardens vs. The Open Web

A Case Study in Disruptive Innovation: Apple iPhone & Google/Android
2 Success Stories
Phone Fight!

*It’s Apple vs. Google in the battle over the future of computing.*

by [Daniel Lyons](/authors/daniel-lyons.html)  
June 12, 2010
Apple iOS and Google Android
From 0% to 62% Market Share in 4 Years
Walled Garden
What’s a Walled Garden (WG)?

- Controls users’ access to content and services
- Restricts the user’s navigation within particular areas (applications)
- Not all alike: differing heights and levels of permeability to the walls.
Walled Garden (WG): Apple iPhone

• **Chronology**
  – March 7, 2007: Apple introduces iPhone “product”
  – March 2, 2008: Apple opens API to developers
  – March 6, 2008:
    • 100,000 downloads of SDK
    • Kleiner, Perkins announces $100 M investment fund
  – November 4, 2009: 100 K apps
  – April 2011: 398 K apps
• Business model
  – Open API
  – Virtually every other aspect closed
    • Integrated hardware/software platform
    • Non-swappable applications
    • Exclusive distribution of apps.
    • Restriction on carrier choice
    • Restrictions and controls on developers
  – Multiple revenue sources -- HW $$, developer $$, app store
  – Highly controlled user experience
Apple iPhone + iTouch + iPad Ramp – The Likes of Which We Haven’t Seen Before

iPhone + iTouch vs. NTT docomo i-mode vs. AOL vs. Netscape Users
First 20 Quarters Since Launch

Mobile Internet
iPhone + iTouch + iPad
Launched 6/07

Desktop Internet
Netscape*
Launched 12/94

~120MM+

~32MM

~27MM

~9MM

Quarters Since Launch
Q1 Q3 Q5 Q7 Q9 Q11 Q13 Q15 Q17 Q19

Subscribers (MM)

0 20 40 60 80 100 120

Note: *AOL subscribers data not available before Q3:94; Netscape users limited to US only. Morgan Stanley Research estimates 85MM+ netbooks have shipped in first 11 quarters since launch (10/07). Source: Company Reports, Morgan Stanley Research. Data as of Q3:10.
Google Android Operating System--
Open Source SW Platform

• Open Handset Alliance: 30+ companies
  – Google Android open source SW
  – Multiple handset developers bring hardware
• Open API
• 20+ smartphones on the market use Android OS
• 176 K Android apps
• Google maintains “control points”, e.g., see http://www.visionmobile.com/blog/2010/04/is-android-evil/
Google can give away Android because...

“...we make money, and lots of it, it turns out, from advertising on mobile phones.”

Eric Schmidt, CEO, Google
Result: A Vibrant, Competitive Marketplace
III. Health IT Evolution:
1) Closed/Monoliths to
2) Walled Gardens to
3) The Open Web
Evolution of EMR/EHR Technology

1) Yesterday: Closed/Monolithic

2) Today: Walled Garden EHR Platforms

3) Tomorrow: Open EHR Technology Platform(s) with Plug-and-Play Modular Apps
Three-stage evolution of HIT

New Business Ecosystem (Value Network)

1. Closed
2. Walled Garden
3. Open Platform & Apps

Technology Architecture

Closed

Open

Fragmented

Cohesive / Collaborative
1) Yesterday’s HIT: Closed/Monolithlc

- Proprietary, non-interoperable technology
- Low volume, high margin sales
- Customers can have high needs for installation support and customization
- High switching costs and customer lock-in.
Three-stage evolution of HIT

- **Closed**: Cohesive / Collaborative
- **Walled Garden**: Fragmented
- **Open Platform & Apps**: Closed

New Business Ecosystem (Value Network)

Technology Architecture:
- Closed
- Open
2) Today: “Walled Garden” EHR Platforms

1) **AMA/Dell** [AMA to team with Dell for EHR info platform](#) 3/10
2) **AT&T** [AT&T Expands Healthcare Community Online to Improve Patient Care](#) 2/10
3) **Axolotl** [Axolotl Corp Showcases New SOA Technology at HIMSS 2010](#) 3/10
4) **Covisint** [Covisint Jumps onto PaaS Bandwagon](#) 11/09
5) **Eclipsys** [Eclipsys Introduces Open Platform to Transform Health IT and Drive Electronic Health Record Adoption](#) 3/10
6) **GE** [GE IT CEO touts debut of next-gen clinical knowledge platform, eHealth Platform](#) 3/10
7) **Henry Schein** [Henry Schein Announces the Launch of Innovative Henry Schein ConnectHealth (TM) Collaborative](#) 3/10
8) **Medecision** [MEDecision Webinar Will Introduce New InFrame Collaborative Health Information Service Technology](#) 3/10
9) **Medicity** [Medicity Opens Its Health Information Exchange Platform to Third-party Application Development](#) 11/09
10) **Microsoft/Eclipsys** [Microsoft and Eclipsys Announce Health Care IT Alliance](#) 2/10
11) **Navinet** [NaviNet Offers End-to-End Healthcare Communications Platform](#) 2/10
12) **Quest Diagnostics** [Quest Diagnostics Unveils Care360 EHR](#) 3/10
13) **Verizon** [Verizon Launches IT Platform to Help Accelerate Adoption of Electronic Health Care Records](#) 3/10
3) Tomorrow: Drivers Toward an Open Health IT Technology Platform

• The **Office of the National Coordinator for Health IT** (ONC).
  – …we believe that it will be common in the near future for Certified EHR Technology to be assembled from several replaceable and swappable EHR Modules. Health & Human Services, *Interim Final Rule on Standards*, December 2009 p.41
• PCAST HIT Report (12/10)
• Google Health and Microsoft HealthVault
• The Clinical Groupware Collaborative
• Free or freemium EHR offerings such as Practice Fusion
• Free and open source software (FOSS) e.g., Mirth, VISTA
• openEHR
• NHIN-Direct
• ONC SHARP Grant for Childrens Hospital Boston and Harvard Medical School
• Application vendors
• WG platforms (…migration toward openness)
Next Stage of HIT Evolution: Competition Between Walled Garden and Open Platforms

Collaborative Healthcare Business Ecosystem (Value Network)

Technology Architecture

Closed

Cohesive / Collaborative

Walled Garden

Open Platform & Apps

Fragmented

Closed

1

Closed

2

Walled Garden

Open

3

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IV. The State of Care Management Technology & Integration
Survey Overview: 2008 & 2010

- **Purpose**
  - Primary focus was to look at health information technology trends in the care management field
- **Survey Sponsors**
  - Joint survey co-sponsored by CMSA, TCS and ABQAURP
  - Questions developed by representatives from all 3 organizations
- **Distribution**
  - Survey sent to approximately 15,000 health care professionals – through CMSA, TCS and ABQAURP distribution channels
  - Response rate approximately 3.5%
  - Both surveys in 2008 and 2010 were open for six weeks each Spring
- **Results:** white Paper is available for download at [www.tcshealthcare.com](http://www.tcshealthcare.com) or [www.cmsa.org](http://www.cmsa.org)

*American Board of Quality Assurance and Utilization Review Physicians (ABQAURP), Case Management Society of America (CMSA), and TCS Healthcare Technologies (TCS)*
Integration Question Series
Two Year Comparison

- Use one HIT system
- Use multiple HIT systems
- System integrated and interoperable
- Most of the work is still paper-based
- Completely paperless environment
- Physician access to report cards
- Clinical data shared electronically with providers
- Consumer health info website
- Patient access to case information
- Patient access to a web-based PHR
- Scan documents into HIT system

2008 vs 2010
Your clinical practice or medical management data are electronically linked to which of the following items? (Respondents could select more than one option)

- Electronic provider authorization system
- Consumer health information
- A predictive modeling application
- Data warehouse
- Radiology data
- Laboratory/LOINC data
- Pharmacy claims
- Claims payment data

*Question not asked in 2008
V. Clinical, IT, Business Strategy: From Company Centric to Network Centric
Network Science
Network Effects -- Value from Increasing Number of Network Users
Network Effects (Tipping Point)

Source: Shapiro, C. Varian, H. *Network Effects* 1998
Are Physicians Amenable to Multihoming on EHR Platforms?

• **Single homing** – tendency for customers to prefer single platform
  - Cell phone
  - Internet service provider (ISP)
  - Computer operating system (OS)

• **Multihoming** – tendency for customers to accept multiple platforms
  - Credit cards
  - Securities brokerage
  - Newspaper
Strategy: Shifting Lens From Company Centric to Network-Centric

Firm-centric  Network-centric

VI. Emergence and Rise of Collaborative Care Management Networks (CCMNs)
“We need to make care linkages a core competency of American health care.”

George Halvorson, Chairman and CEO, Kaiser Foundation Health Plan, Kaiser Foundation Hospitals
Emergence of Collaborative Care Management Networks (CCMNs)

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    • Care management programs enabled by CCMNs (readmissions, medication management, DM, etc.
    • CCMN is the dog, programs are the tail
ICSI is a non-profit organization that brings together diverse groups to transform the health care system so that it delivers patient-centered and value-driven care. It is comprised of 60 medical groups and sponsored by six Minnesota and Wisconsin health plans.
The absence of Medicare at a multi-payer table...

- Limits ability to spread costs for practice transformation
- Limits payer participation
- Limits provider interest
1) One payer with 10% regional market share tries to dictate adoption of proprietary evidence based guidelines (e.g., for diabetes care).
2) Multiple payers with 30% regional market share (but not including Medicare) collaboratively influence development and implementation of evidence based guidelines.
3) Multiple payers with 75% market share (including Medicare) collaborate in creating public utility like infrastructure for care and care management.
PAYMENT REFORM ACTIVITY
Innovative Alternative Delivery and Payment Models
Private Sector Initiatives

Patient Centered Medical Home
Accountable Care Organizations (ACO)
(Activity=38)
Under Development
Bundled Payments
(Activity=16)
Under Development
VBP
(Activity=19)
Comprehensive/Global Payment
(Activity=4)

A grey shading indicates Medicare participation
*In Vermont, costs are subsidized by the state under the ACO initiative

March, 2011
Kaiser/Group Health Cooperative PHRs

• Examine current PHR adoption
  – U.S. average: 7%
  – Best Practice
    • Kaiser: 35%+
    • Group Health Cooperative (GHC): 60%

• Why?
### Features/Functionality of Kaiser & GHC PHRSSs (as of mid 2008)

<table>
<thead>
<tr>
<th>Feature</th>
<th>GHC</th>
<th>Kaiser</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHR</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>EHR integration (patient view)</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Secure patient/physician messaging</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Prescription renewal</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lab/test results</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Request for Dr. appointment</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Integrated consumer health content</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Health Risk Assessment</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Caregiver/parental access</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Review of insurance benefits</td>
<td>X</td>
<td>x</td>
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<tr>
<td>Appointment scheduling</td>
<td>x</td>
<td>X</td>
</tr>
<tr>
<td>Medication management</td>
<td>X</td>
<td></td>
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<tr>
<td>Behavior change programs</td>
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<td>X</td>
</tr>
<tr>
<td>After visit summary</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>View x-ray, MRI, CT</td>
<td>x</td>
<td></td>
</tr>
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</table>
Health Care Reform Legislation

• Pilots
  – Sec. 3023. National pilot program on payment bundling
  – Sec. 4202. Healthy aging, living well; evaluation of community-based prevention and wellness programs for Medicare beneficiaries
  – Sec. 4206. Demonstration project concerning individualized wellness plan
  – Sec. 10326. Pilot testing pay-for-performance programs for certain Medicare providers

• Demonstrations
  – Sec. 2704. Demonstration project to evaluate integrated care around a hospitalization
  – Sec. 2705. Medicaid global payment system demonstration project
  – Sec. 2706. Pediatric Accountable Care Organization demonstration project
  – Sec. 3024. Independence at home demonstration program
  – Sec. 3027. Extension of gainsharing demonstration
  – Sec. 2601. 5-year period for demonstration projects. (for dual eligible beneficiaries)
  – Sec. 3140. Medicare hospice concurrent care demonstration program.
  – Sec. 3510. Patient navigator program.
  – Sec. 4206. Demonstration project concerning individualized wellness plan.
• Center for Medicare and Medicaid Innovation (pilots)
  (i) Promoting broad payment and practice reform in primary care, including patient-centered medical home models for high-need individuals
  (ii) Contracting directly with groups of providers of services and suppliers
  (iii) Utilizing geriatric assessments and comprehensive care plans to coordinate the care of individuals with multiple chronic conditions
  (iv) Promote care coordination between providers of services and suppliers that transition health care providers away from fee-for-service based reimbursement and toward salary-based payment.
  (v) Supporting care coordination for chronically ill individuals at high risk of hospitalization through a health information technology-enabled provider network that includes care coordinators, a chronic disease registry, and home tele-health technology.
  (vi) Varying payment to physicians who order advanced diagnostic imaging services
  (vii) Utilizing medication therapy management services
  (viii) Establishing community-based health teams to support small-practice medical homes
  (ix) Assisting individuals in making informed health care choices by paying providers of services and suppliers for using patient decision-support tools
  (x) Allowing States to test and evaluate fully integrating care for dual eligible individuals
  (xi) Allowing States to test and evaluate systems of all-payer payment reform
  (xii) Aligning nationally recognized, evidence based guidelines of cancer care with payment incentives
  (xiii) Improving post-acute care through continuing care hospitals that offer inpatient rehabilitation, long-term care hospitals, and home health or skilled nursing care during an inpatient stay and the 30 days immediately following discharge
  (xiv) Funding home health providers who offer chronic care management services to individuals
  (xv) A collaborative of high-quality, low-cost health care institutions that is responsible for– best practices and proven care methods
  (xvi) Facilitate inpatient care through the use of electronic monitoring by specialists based at integrated health systems
  (xvii) Promoting efficiencies and access to outpatient services through models that do not require a physician or other health professional to refer the service
  (xviii) Establishing comprehensive payments to Healthcare Innovation Zones, consisting of groups of providers
VT Coordinated Health System Diagram

Vermont Blueprint Integrated Pilots
Coordinated Health System

- Hospitals: Inpatient & ER
  Discharge Planning and Follow Up
- Public Health & Primary Prevention
- Mental Health & Substance Use Disorders
- Community Health Team:
  Nurse Coordinator
  Behavioral Health
  Social Workers
  Dieticians
  Community Health Workers
  Medicaid Care Coordinators
  Public Health Prevention Specialist

Health IT Framework
- Global Information Framework
- Evaluation Framework
- Operations
# The Value of the Clinical Groupware Collaborative

<table>
<thead>
<tr>
<th>Market Development</th>
<th>Advocacy</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration to discover new technologies and business opportunities</td>
<td>A strong voice inside the beltway around HIT</td>
<td><strong>Pathways Program</strong>—Aggregating single solutions into product suites</td>
</tr>
<tr>
<td>Thought leadership around clinical programs and initiatives</td>
<td>Vigilence with emerging certification standards and policies</td>
<td><strong>Applications and Platforms Program</strong>—Connecting platform vendors with specialized application vendors</td>
</tr>
<tr>
<td>Bring members together through sponsorship of industry conferences and events</td>
<td>A seat at the table with state and federal initiatives</td>
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</tr>
</tbody>
</table>

[http://clinicalgroupwarecollaborative.org](http://clinicalgroupwarecollaborative.org)
VII. Summary
“...the healing professions are in the midst of a major sea-change, a once-in-a-century shift: We’re moving from ‘medicine practiced as individual heroism’ to ‘medicine as a team sport’”

Brent James MD, Intermountain Healthcare
Brief Bio – Vince Kuraitis

• Vince Kuraitis JD, MBA is Principal and founder of Better Health Technologies, LLC (http://e-CareManagement.com). BHT consults to companies in developing strategy, partnerships and business models for clinical care and care management platforms/applications delivered in homes, workplaces, and communities.

• BHT’s clients -- both established organizations and early-stage companies -- include: Intel Digital Health Group, Philips Electronics, Amedisys, Joslin Diabetes Center, Ascension Health System, Samsung Electronics, Siemens Medical Solutions, Medtronic, Varian Medical Systems, Disease Management Association of America, and many others.

• Vince brings 25 years health care experience in multiple roles: President, VP Corporate Development, VP operations, management consultant, and marketing executive. His consulting and work projects span 100+ different health care organizations, including hospitals, physician groups, medical devices, pharma, health plans, disease management, e-Health, IT, and others.

• Vince speaks frequently at industry conferences and corporate events. He has been the opening keynote speaker at the Healthcare Unbound conferences between 2004 and 2010 and has spoken at about 35 conferences in the past 3 years. He has experience leading strategic planning retreats for Boards and physicians.

• Vince’s experience includes: Principal, Better Health Technologies; President, Health Choice (medical call center), VP Corporate Development and VP Specialty Operations, Saint Alphonsus Regional Medical Center; Regional Director of Marketing, National Medical Enterprises (hospital chain with 100 facilities); Senior Consultant, Amherst Associates, national health care management consulting company.

• His education includes MBA and JD degrees from UCLA, and a BS degree in business administration from USC.

• Contact: vincek@bhtinfo.com, 208-395-1197
BHT Clients

**Pre-IPO Companies**
- RMD Networks
- HealthPost
- Cardiobeat
- EZWeb
- Sensitron
- Life Navigator
- Medical Peace
- Stress Less
- DiabetesManager.com
- CogniMed
- Caresoft
- Benchmark Oncology
- SOS Wireless
- Click4Care
- eCare Technologies
- The Healan Group
- Fitsense
- Elite Care Technologies

**Established organizations**
- Intel Digital Health Group
- Samsung Electronics, South Korea
  - -- Global Research Group
  - -- Samsung Advanced Institute of Technology
  - -- Digital Solution Center
- Amedisys
- Ascension Health System
- Midmark
- Medtronic
  - -- Neurological Disease Management
  - -- Cardiac Rhythm Patient Management
- Siemens Medical Solutions
- Philips Electronics
- Joslin Diabetes Center
- GSK
- Disease Management Association of America
- PCS Health Systems
- Varian Medical Systems
- VRI
- Washoe Health System
- S2 Systems
- CorpHealth
- Physician IPA
- Centocor
- Clinical Groupware Collaborative
A Central Debate in Tech Circles
Walled Gardens vs. The Open Web

WIRED

The Web is dead.
Long Live the Internet

How the Web Wins

The War For the Web
by Tim O'Reilly | @timoreilly | Comments: 67

In
Differences – The Internet vs. The Web

- Internet
  - Network of networks
  - Hardware: computers, cables

- Web (www)
  - Documents, sounds, videos, information
  - Connections: hypertext (HTTP) links
  - 40 billion public web pages