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INNOVATION AT KAISER PERMANENTE

HIMSS NORCAL - JUNE 30, 2009

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Unique Factors in Health Care Innovation



- Health care combines many industries
- Highly labor intensive
- Health care workers tend to be older
- Typically a local service
- Heavily regulated
- High stakes and little margin for error, so changes tend to be incremental
- Complexity without much repetition

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Three Enablers of Health Care Disruption¹

1. **A simplifying technology** that transforms a problem requiring deep training, intuition, and practice into one that can be solved in a predictable, rules-based way
2. **A business model innovation**, usually from new entrants in the industry
3. **A disruptive value network** that supports and reinforces the disruptive technology

¹ Clayton Christensen

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How do Disruptive Innovations Succeed?



- The proven path to success is to solve the industry's **simplest** problems first, then expand usage incrementally
- Problem is health care leadership has always lobbied against disruptive innovations from being used **anywhere** until they are certifiably good enough to be used **everywhere**

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Some Questions KP Asks

- Does the innovative technology fit KP?
- Does it confer a strategic advantage?
- Is there a demand for it now? In the future?
- How might KP pursue it? What would it take? Who should drive it?
- Is there a clear definition of success?
- Will management support it?

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Sources of Innovation



- Internal groups and individuals
- Disruptive start-up technologies
- New products from established vendors
- Academic research and commercialization
- Government and military research
- Health care technologies new to KP
- Technologies from outside health care

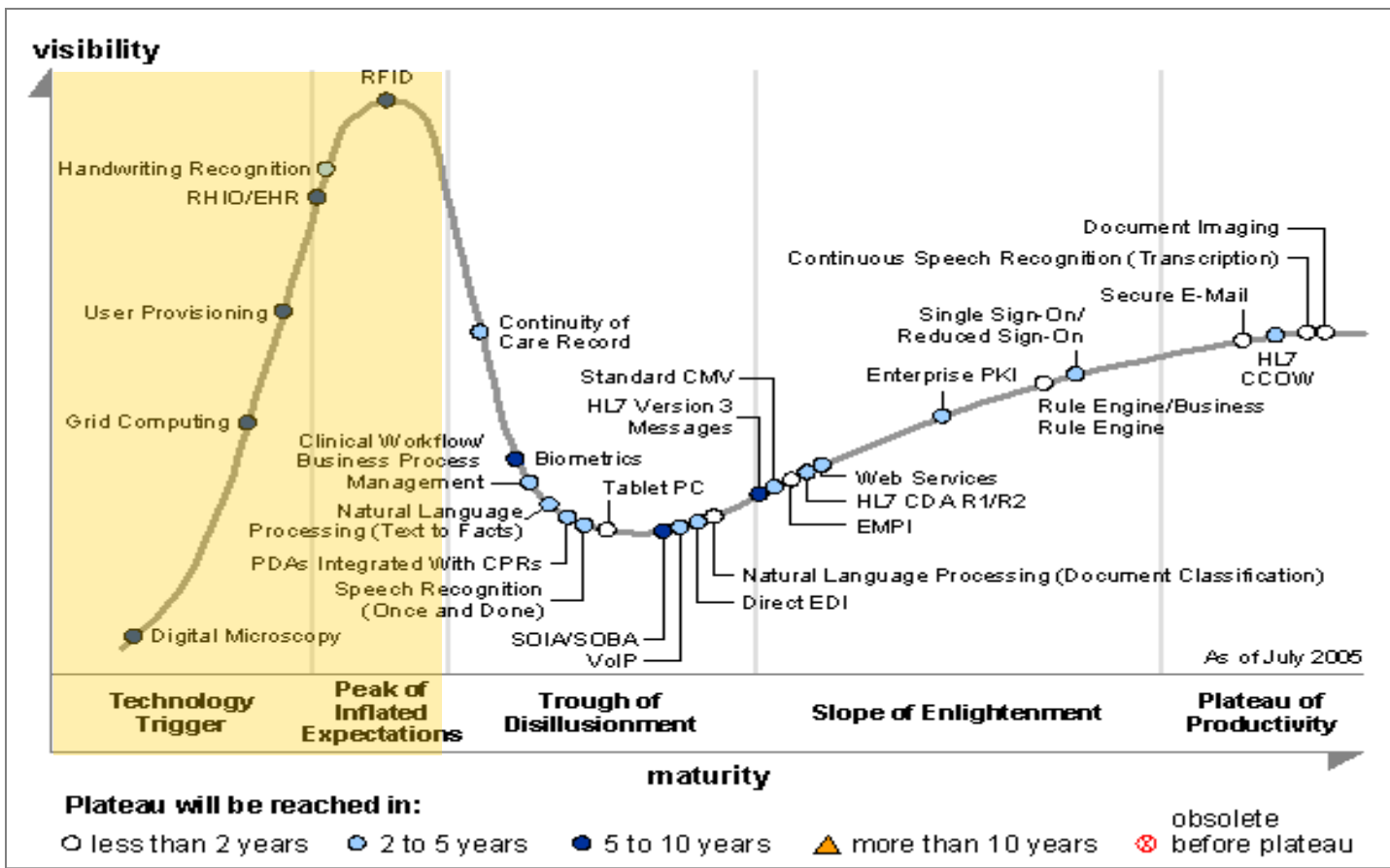
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Innovation & Advanced Technology Group (IAT)

- Started in September 2006
- Part of Information Management Strategy
- VP of Innovation: Naomi Fried, Ph.D.
- Three physicians, one nurse
- IT staff
- Project managers
- Clinicians Advisory Council

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Gartner Hype Cycle



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IAT Mission

- **INNOVATE**
 - Identify, assess, and introduce innovative technologies that positively impact quality, service, and costs
- **CULTIVATE**
 - Use research, resources, and tools to enhance the adoption and integration of innovative technologies
- **CONNECT**
 - Advise and support innovators from vision and ideation to prototyping and optimization
 - Foster collaboration between innovators

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INNOVATE



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Areas of Focus in 2009

- Technologies to improve workflow
- Time-saving and communication technologies
- Chronic condition management and prevention
- Telehealth technologies
- New forms of care

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Research Reports

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TECHNOLOGY BRIEF

BlackBerry Storm
Mobile clinical application analysis

January 7, 2009

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TECHNOLOGY BRIEF

PEMSoft®
Pediatric Emergency Medicine
Software

March 1, 2009

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Medication Dispensing Kiosk

- MedVantx
 - Dispensing of prescription generic medications
 - Logistical issues
 - Regulatory issues
 - **Negative** recommendation



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Successful Failures?

- Find failures in R&D, not in deployment
 - Less costly
 - Less risky
 - Less disruptive
- Avoid costly and time-consuming pilots
- Baseball Hall of Famer Babe Ruth said,

**Every strike brings me closer
to the next home run.**



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Virtual Reality

- Forterra built a virtual Kaiser hospital
 - Live online nurse training using avatars
 - **Positive** recommendation
 - Patient Care Services piloted in 2007



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Hospital Courier Robot

- Aethon Tug
 - Better utilization of professional staff
 - Improved delivery infrastructure
 - Significant cost savings
 - **Positive** recommendation
 - KP West LA and LA Sunset started pilots in 2008



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Digital Pathology

- Capture, storage, & display of digital slides
- Improved turnaround times
- Reimbursement benefits
- **Positive** recommendation
- KP SF started Aperio pilot in 2008



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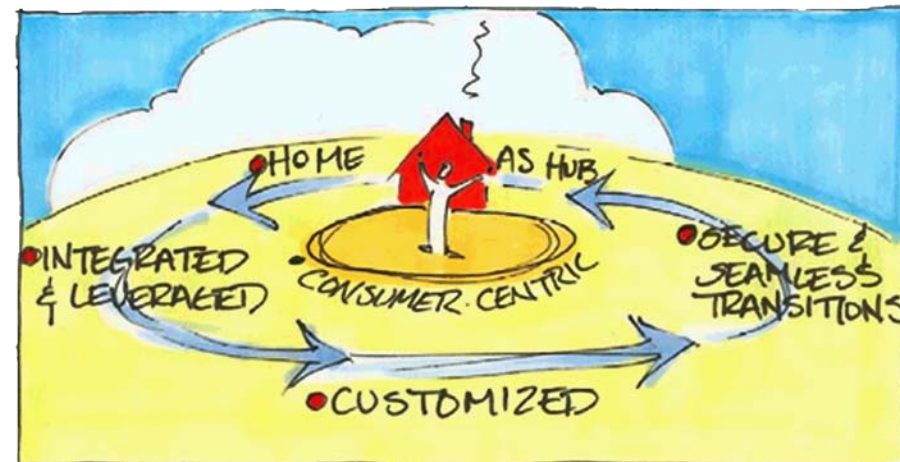
Telehealth Working Group

- Started in 2007
- Multidisciplinary, interregional
- Research the state of telehealth both internal and external to KP
- Develop an evidence-based enterprise telehealth strategy for the next 5-7 years
- Build organizational support through value demonstration
- Phase 2: look at selected operational issues and challenges

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Five Areas of Telehealth

- Chronic condition management
- Episodic care
- Home as hospital
- Health and wellness
- Teleconsultation



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CULTIVATE



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Garfield Center for Health Care Innovation

- Opened its doors in 2006
- Sponsored by KP-IT, NFS, and PCS to cultivate innovation
- 37,000 square feet
- Full-scale med-surg ward; L&D; OR; ED
- Outpatient clinic; home environment
- Open prototyping space
- IT lab; conference rooms

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Medical-Surgical Ward



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Operating Room of the Future



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Telehealth Home Environment



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Garfield Center Activities

- Space Designs

- Workflow Studies



- Technology Demos

- Training and Simulations



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Innovation Fund for Technology

- Established by CIO Phil Fasano in 2008
- Goal is to encourage internal innovation
- Any employee with a good idea can apply
- Rapid cycle proof of concept
- Innovation Fund Board includes
 - KP-IT; Patient Care Services; KP Venture Development; Health Plan; LMP; and Regional Medical Groups



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Innovation Fund for Technology

- 185 applications in 2008
- 49% from front-line clinicians
- Participants from all regions
- 17 projects funded
- Innovator Jump Start workshops
 - How to tell your story
 - How to navigate your idea through KP
 - What to expect on that journey



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CONNECT



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Connecting Innovators to Each Other

Communications

IAT & Innovation Fund
newsletters, websites

Garfield Center Tech Demos

Bringing technology partners in to
showcase new ideas



Innovation
Community

KP Ideabook

Internal innovators social
networking website

Innovation Hunters

Regional innovation
implementation specialists

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2008 Technology Demos

- Tablet and ultra mobile PCs
- Telepresence robot
- Hospital courier robot
- Interactive TV remote care
- Passive sensor array
- Virtual world technology
- Unified communications
- Ultrasound indoor positioning
- Digital pathology
- OR Information Dashboard
- Pediatric rehab teleconsultation
- Mobile lab alert system
- Biometric facial recognition
- Vocera IP telephony
- Librestream mobile videocam
- Nintendo Wii pediatric rehab
- Clinical simulation technology
- Interactive inpatient care
- Telepresence pod

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Innovation Hunters

- Started in 2009 for each of KP's regions
- Regional innovation specialists
 - Educate and advocate for innovation
 - Help to diffuse innovation into regions
 - Communicate regional needs back to national IAT group
 - Cross-fertilize between regions



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KP Ideabook



- Social networking tool for innovators
- Started late 2008 with 150 invitees
- Grew organically through word of mouth
- 1,550 users by end of 3-month pilot
- 57 blogs
- 176 groups
- Enterprise rollout in 2009

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Connecting KP With the World

The New York Times

MercuryNews.com
The Mercury News Silicon Valley

SAN FRANCISCO
Business Times



iHealthBeat
Reporting Technology's Impact on Health Care

 **crossover**
HEALTH


United Business Media
EE Times

CONTRA COSTA TIMES
ContraCostaTimes.com

San Leandro Times

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Q & A

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