

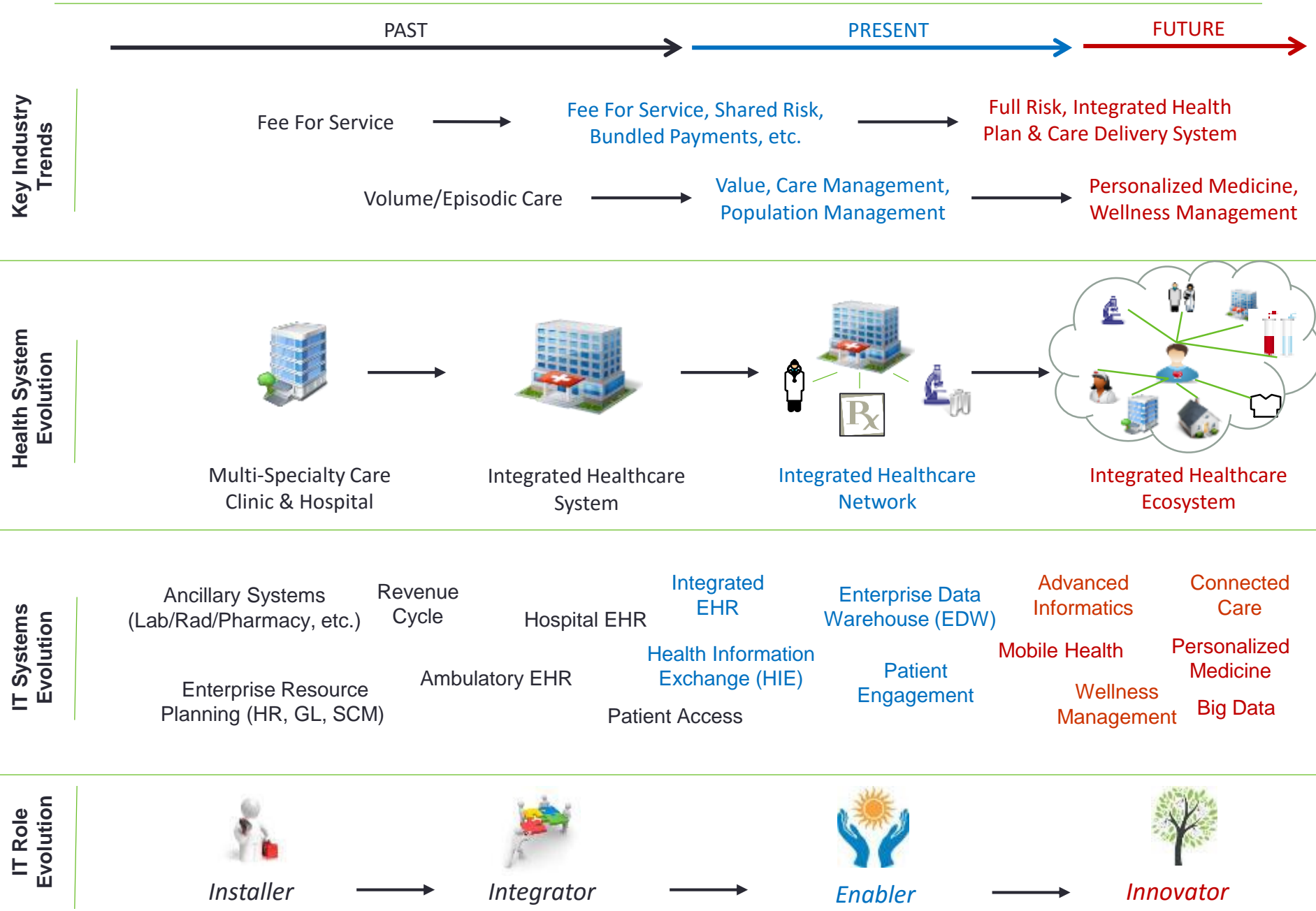
THE NEW ROLE OF IT IN DRIVING INNOVATION AND THE EVOLVING HEALTHCARE LANDSCAPE

Bruce A. Metz, Ph.D.

Becker's CIO and Health IT Conference

July 28, 2016

The Evolving Digital Healthcare Enterprise





To be successful in the new health care landscape, CIOs and their organizations need to understand and embrace three related major trends.

- Ongoing evolution of the **CIO Role**
- Heightened importance of **Innovation**
- Widespread growth of **Connected Health**

Ongoing Evolution of the CIO Role



- Lead a staff of well trained and skilled professionals
- Get the infrastructure and ongoing operations right
- Provide top flight customer service
- Ensure appropriate security to protect IT assets
- Serve as a trusted, effective business partner and educator
- Align IT and business strategy, leadership and funding; execute flawlessly
- Champion meaningful, broad-based IT governance
- Demonstrate value for IT investments
- Perform periodic checkups making changes as necessary

What will the CIO Role Look Like by the End of the Decade?



- Core foundation will be critical for CIO success but in different ways
- CIOs will control less of IT as information and technology are disseminated/migrated/embedded around and outside the organization
- CIOs will have an opportunity to play a broader role in influencing enterprise decision making
- CIOs will need to acquire/possess deep competency and skills as digital business savvy leaders who can challenge the status quo
- CIOs who do not have this orientation or skill set may well retool and seek to move into other executive or leadership roles

Heightened Importance of Innovation



- Easier to identify than define
- Depends on an organization's perspective
 - Definition is relative to a company's culture, goals and current processes
- Can be a number of new things such as:
 - Product, service or process
 - Idea, method or brand
 - Business model, offering, customer segment or revenue channel
- Encompasses an entire process from idea to implementation
- Results in creation of significant value for the organization
- A charter is often useful to define purpose, scope and success measures of the innovation effort

Approaches to Managing Innovation

Identify Your Targets & Pursue Aggressively



- Centralized innovation team
- Aligned with leadership
- Rapid translation of targeted ideas to implementation



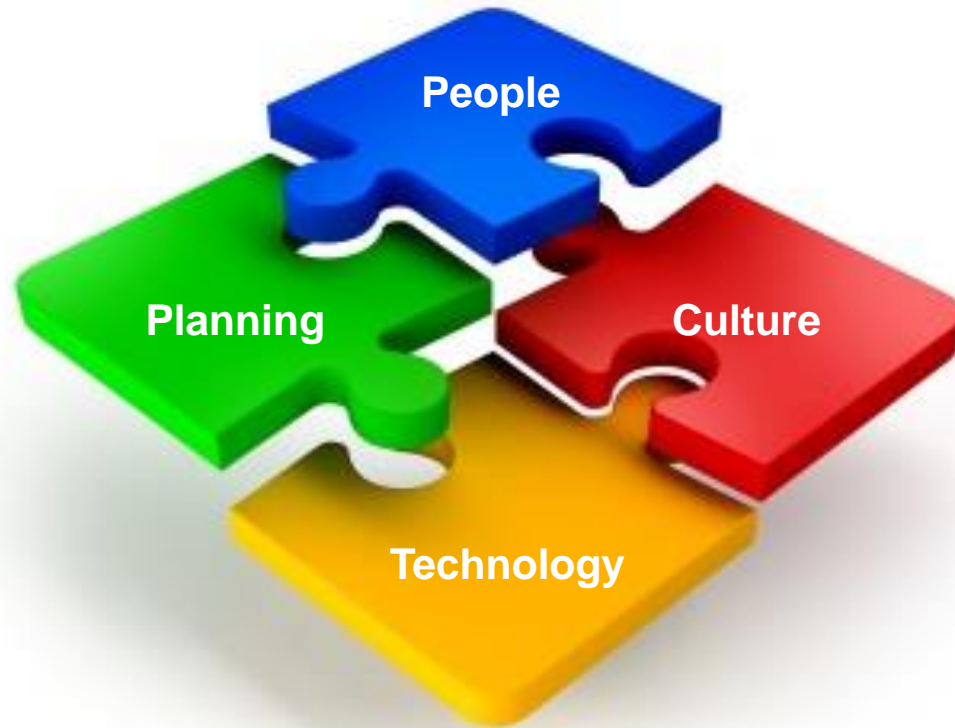
Plant 1,000 Seeds & Allow them to Grow



- Diffuse participation throughout the enterprise
- High volume of innovative ideas
- Requires infrastructure to vet and select targeted ideas for implementation

Managing the Transition to Innovation

- The evolution of IT's role from “installers” to “innovators” has been occurring over the past 25 years
 - Trend has accelerated with the intensified strategic impact of IT
 - Leadership is increasingly looking for IT to deliver market differentiating solutions, not just systems and data
 - Preparing for this transition requires a new approach based on focused strategies in four areas:



Innovation Evolution: Top Areas of Focus

#1: People



Challenges	Strategies
<ul style="list-style-type: none">➤ Current demands feel overwhelming; staff don't have the time to innovate.	<ol style="list-style-type: none">1. Create multi-specialty teams and a community of innovators charged with innovation.
<ul style="list-style-type: none">➤ Healthcare IT has traditionally been dominated by vendor solutions and organizations are staffed to install & maintain.	<ol style="list-style-type: none">2. Develop leaders who are capable of motivating their teams to collaborate and think in broader, more strategic terms.
<ul style="list-style-type: none">➤ It's difficult to find innovators who understand health care.	<ol style="list-style-type: none">3. Look outside the organization and industry for thought leaders who can help define and champion innovation initiatives.

#2: Culture



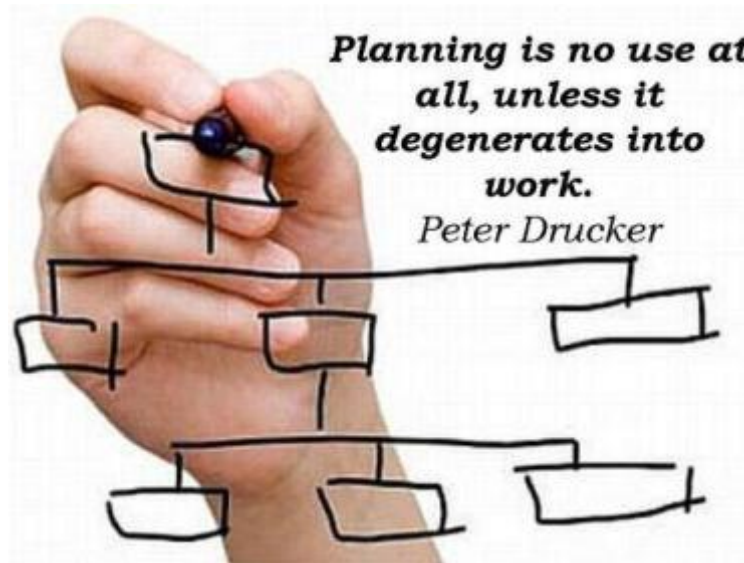
Challenges

- New problems require new ways of thinking.
- Thoughtful risk taking has not always been rewarded. Health IT has focused on managing risk and not rewarding innovation.
- IT has often left innovation to the business and clinical domains and assumed a role of implementers. Providing leadership in innovation is a new challenge.
- Legacy culture will eat innovation every time.

Strategies

1. Build a culture of innovation starting small and slowly, leveraging results to a broader transformation.
2. Align incentives, encourage innovative thinking across all domains; and celebrate successes.
3. Develop a diverse organization and build your team with people that have varied experiences and well developed “soft skills.”
4. Identify and pursue opportunities to partner with different stakeholders outside the organization.

#3: Planning



Challenges

- Growth, integration, regulatory compliance, cost/spend pressure are all impacting resources. Planning for innovation competes with everything else and has not been a priority.
- Innovation is typically thought of in terms of the result, not in terms of a structured process that requires planning.

Strategies

1. Create a funded staffing and organizational plan for innovation with a “sandbox budget.”
2. Decide how to measure results and communicate success.
3. Be prepared to accept and learn from failures and have them inform future innovation.
4. Establish an innovation governance group(s) and a staged process to help seed and guide innovation throughout the enterprise.

#4: Technology



Challenges

- Health IT vendors traditionally are not on the leading edge of adopting and leveraging disruptive technologies and often establish barriers to their adoption.
- The spectrum of innovative technologies that could be applied to healthcare has gone well past the traditional health IT vendor community and nobody is assigned to focus on these.
- Health IT organizations traditionally buy and don't build solutions.

Strategies

1. Maintain a strong IT core, own IT solutions and don't defer to vendors.
2. Regularly assess new technologies and assign responsibility for monitoring the technology marketplace.
3. Identify the "interesting" problems to be solved along with the technologies needed to create solutions.
4. Understand the gaps between technology driven opportunities and the ability of the business to capitalize on them.

Innovation Evolution: Technology Enabled Innovations in Health Care

#4: Technology



- Integrating EHR across the care continuum
- Health information exchange with partners
- Automating clinical, administrative, & financial processes
- Data warehouse to aggregate and analyze disparate data
- Patient & provider portals to easily access health information

- Predictive modeling
- Mobile technologies
- Engaging social media to amplify patient volume and promote behavior change
- E-communication between providers and patients
- Basic telehealth
- Limited patient monitoring

- Advanced telehealth
- In-home, passive sensors
- Body implants
- Patient behavior management
- Continuous monitoring for chronic care
- Integration of fitness and dietary monitoring with care management

Current

Near Term

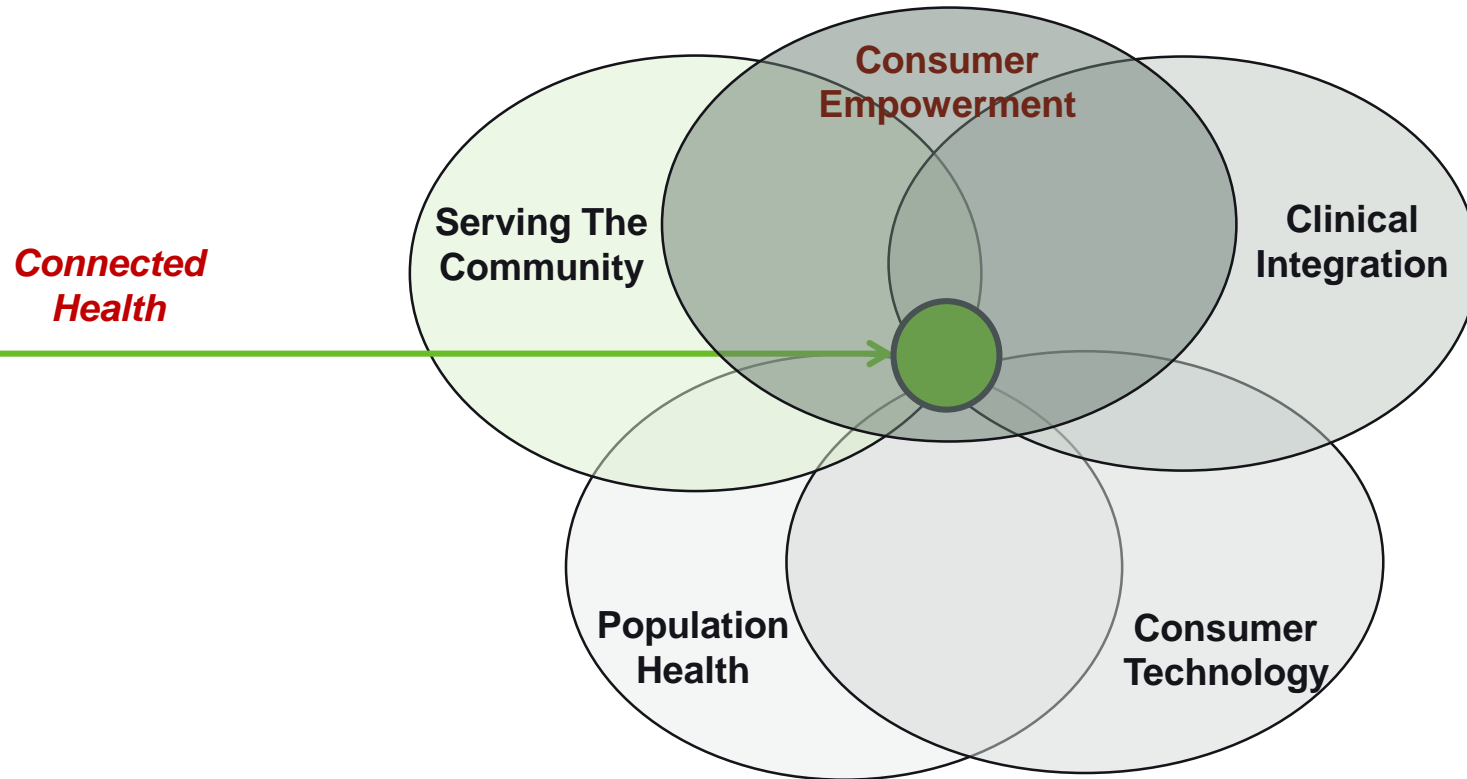
Future



Widespread Growth of Connected Health

Emerging Market Trends Driving Connected Health

Connected Health (and its variations: Digital Health, m-Health, e-Health) is a model for healthcare delivery that leverages technology to engage patients and providers through increased, flexible opportunities to better manage care, health and wellness regardless of time or location.



Some Examples of Connected Health

Billions of dollars are being invested each year in the development of Connected Health technology. A range of Connected Health solutions is available today and an increasingly large number of solutions are emerging and will be available soon.

Current Solutions in the Market

- e-Visit
- e-Consult
- Apps for patient education/engagement
- Teledermatology

Future/Emerging Solutions in the Market

- e-Monitoring
- Nanotechnology/Embedded Sensors
- EHR/Wellness Management Device Integration
- Wearable Technologies

Note: Some Connected Health solutions replace existing services while others provide novel services.

Azoi Inc.

- A phone case with embedded sensors that monitors blood pressure, electrocardiography (ECG), heart rate, blood oxygen, temperature, lung function, and provides alerts that identify the signs of changing conditions.
- Offers instantaneous readings and rapid results along with the ability to track data and look for patterns that develop over time.



Dexcom, Livongo, Others

- FDA approved, wearable, continuous blood glucose monitoring system
- Cloud-based, compatible with Bluetooth devices/Apple Watch (for both data viewing and sharing)



Questions to Ask for Successful Connected Health Initiatives

- Why Connected Health? What is the strategic rationale for Connected Health and what business benefits can it deliver?
- What are the high-level business objectives and key performance indicators associated with each business benefit?
- What are the relevant technologies that are most likely to win and survive?
- What are the lower risk/high value areas to focus on?
- What are the use cases/pilot projects that balance budget/skills/technology requirements with business significance?
- How aggressive – or not – should our strategy be?
- What are the legal and regulatory challenges and how do we overcome them?
- What are the payment and reimbursement considerations?
- What level of investment is required and appropriate?

A Call to Action

Staying Ahead of the Curve Requires Immediate Action



A Five Step Action Plan



- Stay focused on the core foundation and take care of the basics
- Spearhead a transition to technology enabled innovation in your organization
- Launch a Connected Health strategy that is sustainable
- Develop/put into practice the competencies and skills to be a digital business savvy leader
- Create the time and space to understand and embrace how the future of health care is unfolding in your market area

Closing Thoughts

Life as a leader in health care today is not for the faint of heart

