

15th Annual Healthcare Summit
Disruptive Forces in Healthcare
Jun 22-23, 2015, Kelowna, BC



Beyond the EHR: Mobility, Patient Engagement, and Analytics

Judy Murphy, RN, FACMI, FHIMSS, FAAN
Chief Nursing Officer & Director
IBM Global Business Services Healthcare



What we will cover:

- Today's healthcare landscape – what is changing and why we need to change too
- Leveraging Health IT beyond the EHR
- Reimagining Healthcare with Mobile
- The Power of Patient Engagement
- Emerging Consumerism and eCommerce
- Analytics and Pop Health:
 - Data into insights to drive business and care outcomes
 - Knowledge-driven and data-driven methods
 - Cognitive computing – role of Watson



Healthcare transformation is happening, driven by fundamental shifts in expectations and critical drivers

Expectations for better quality, value and outcomes

Escalating incidence and cost of chronic disease

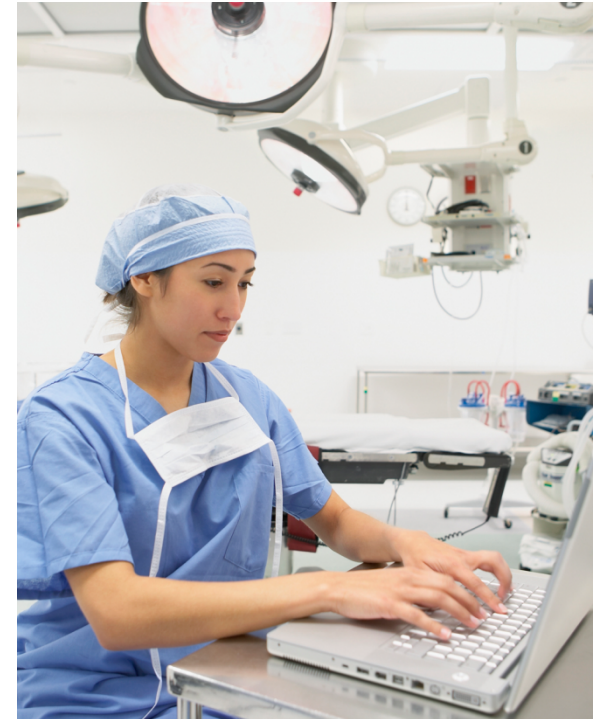
Changing demographics and lifestyles

Globalization of health care

Critical resource shortages

Increased competition and new entrants

Advances in technologies and treatments



This transformation is an evolutionto a new model for healthcare

Old Healthcare

Fee for service

Volume

Delivery

Employer-centric

Prices unknown

One way dialogue

Transactional

Data poor & disconnected

Reactive

Standards



New Healthcare

Pay for performance

Value

Quality Outcome

Consumer-centric

Cost transparency

Engaged & mobile

Brand loyal

Integrated rich “big” data

Predictive & prescriptive

Personalized & optimized



Healthcare is moving to a system focused on value, coordinated around the individual and integrated into our communities

Focus is on **value**, **coordinated** around the individual and integrated into communities

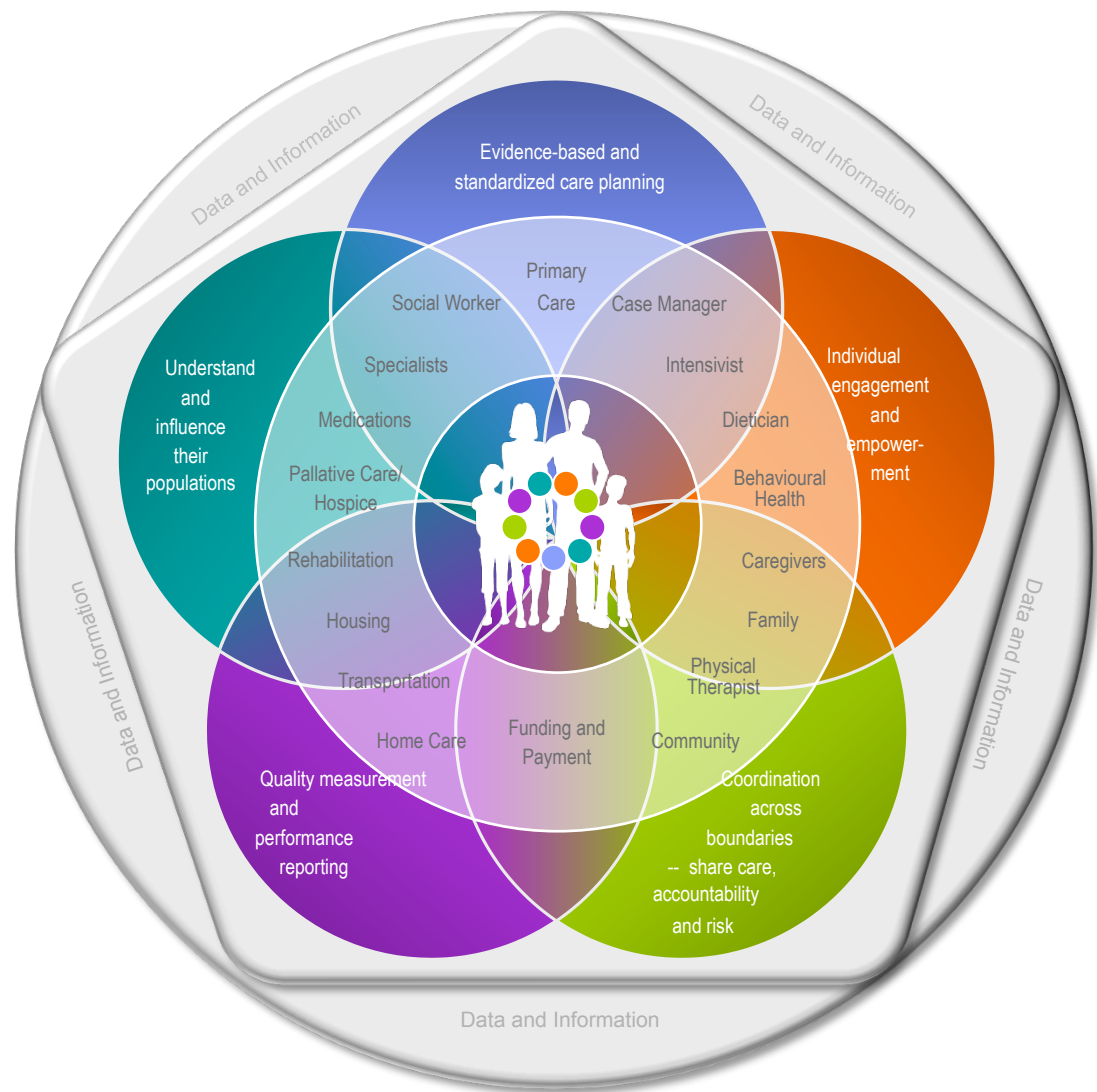
Emphasis is on **proactive care** to meet health needs

Payment will be based on **value** and **outcomes**

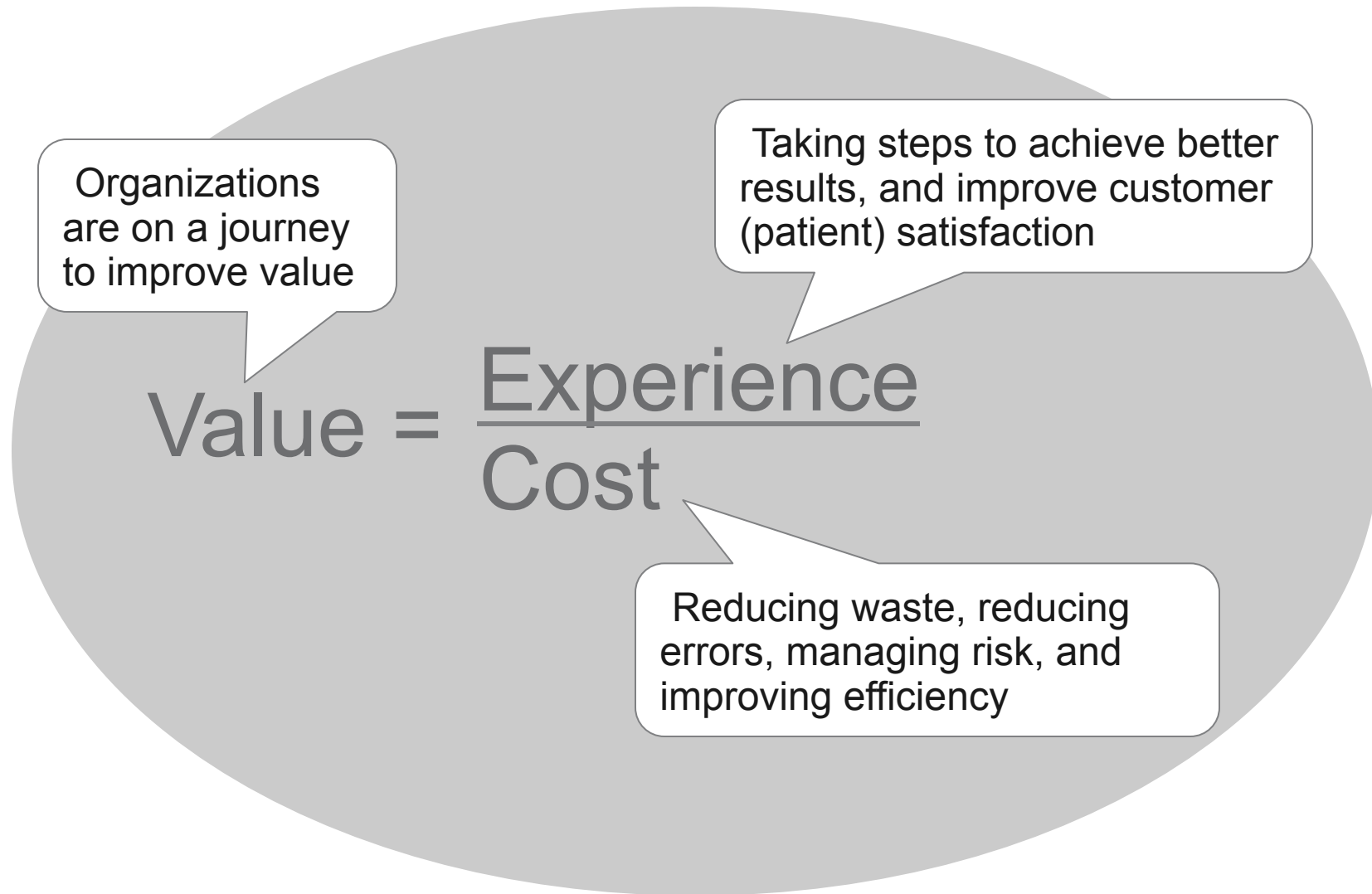
Care is **standardized** according to **evidence-based** guidelines

We measure quality and make rapid changes to improve it

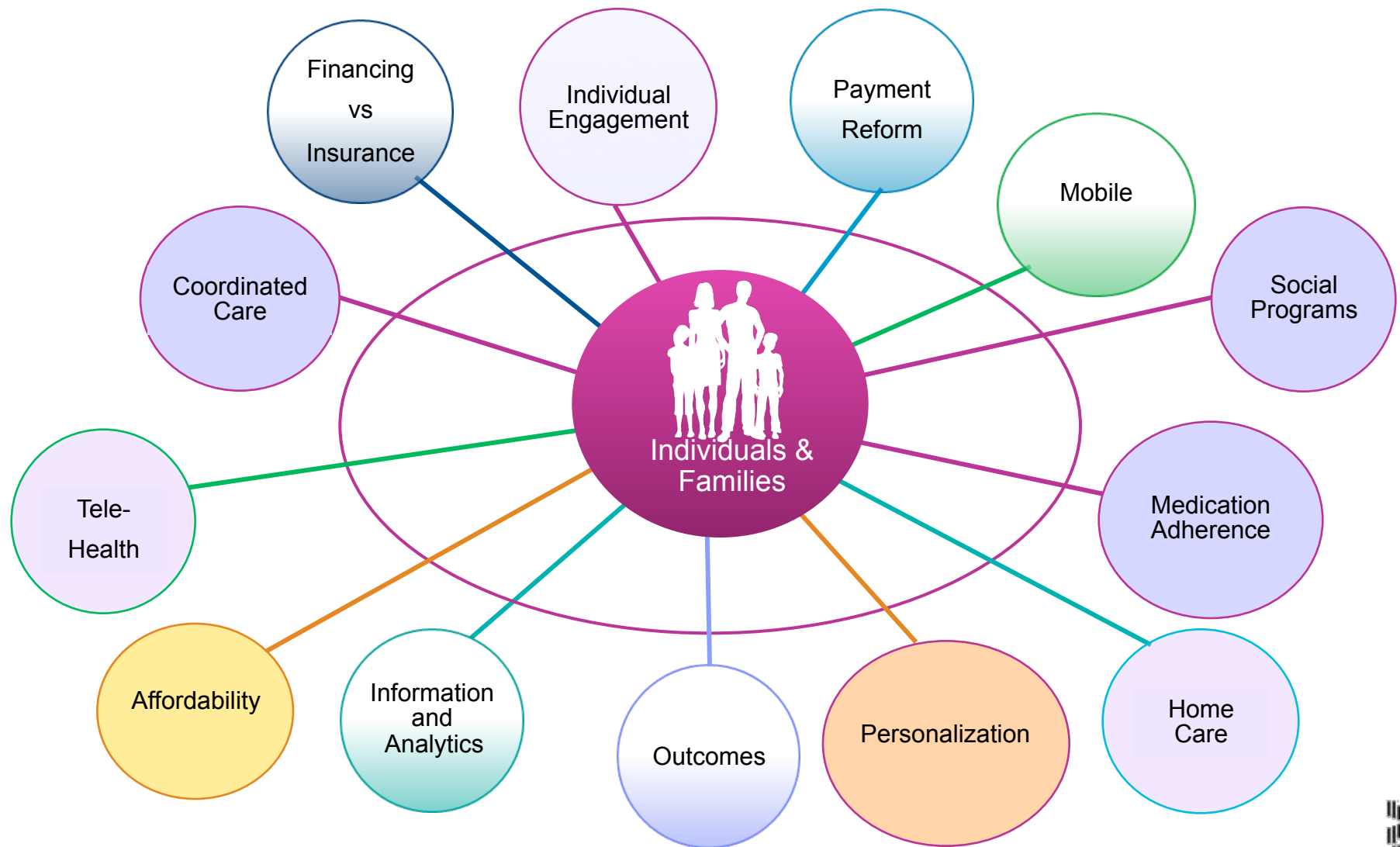
Knowledge is translated into practice quickly



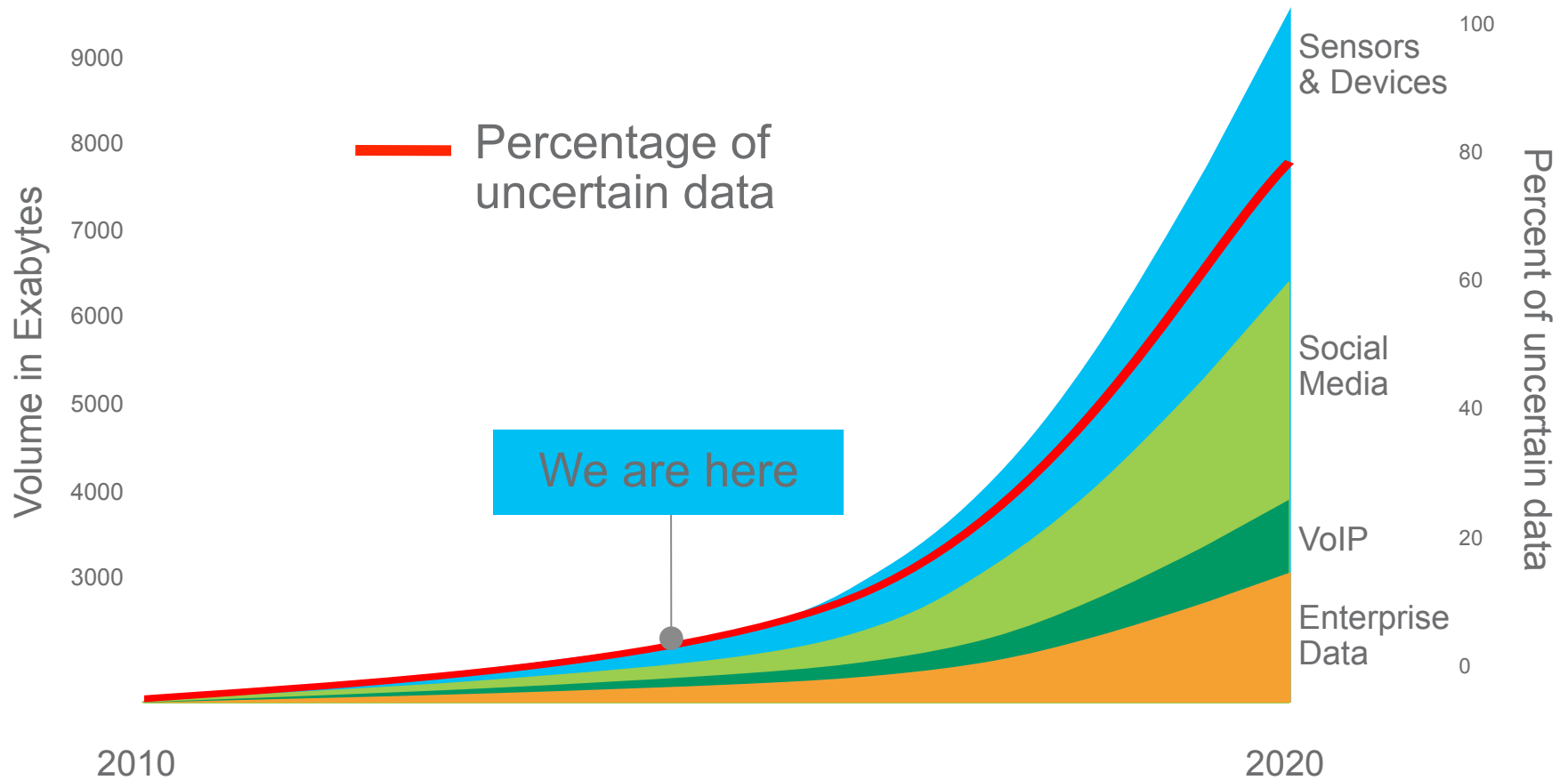
The new model is Value Based Care - centered around the patient



Much new data and revised systems of engagement - *delivered via mobile, the web and the cloud* - ensure acceleration of change



And made more urgent by an escalating volume of healthcare data



Source: IBM Global Technology Outlook - 2012



Healthcare Solution Focus for IT



Transforming Health and Healthcare

Leveraging health IT beyond the EHR

Tapping into & Shaping the Expanding Consumer Marketplace

- Customer centricity
- Personalization
- Consumer engagement
- CRM
- Choice
- I-Experience
- E-commerce
- Cost transparency
- Customer loyalty
- Branding
- Loyalty

Building the Care Team of the Future

- Care planning support
- Efficiency & logistics
- Demand management
- Quality improvement
- Team coordination
- Secure (& remote) communications
- Reducing HAIs
- Fewer readmissions
- Cost reduction
- Workflow design
- Monitoring
- Optimized processes
- Decision support
- Employee satisfaction
- Customer satisfaction

Managing Populations for Continuous Improvement

- Outcome measurement
- Quality measurement
- ROI
- Cohort analysis
- Patient similarity analysis
- Risk assessment
- Cost prediction
- Chronic disease management
- Proactive intervention
- Case management
- Wellness / fitness
- Education
- Incentives
- Gamification

Optimizing & Securing the Healthcare Value Chain

- ERP solutions
- Clinical & financial data integration
- Supply chain optimization
- Complying with new drug safety / security requirements
- Workforce planning & optimization

Requires: Integrated Data, Powerful Analytics, Cloud Computing, Security Systems and Mobility



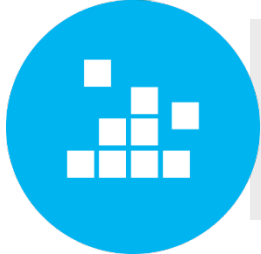
Mobile is being exploited to:



Facilitate anytime anywhere access to data and extend services beyond traditional settings



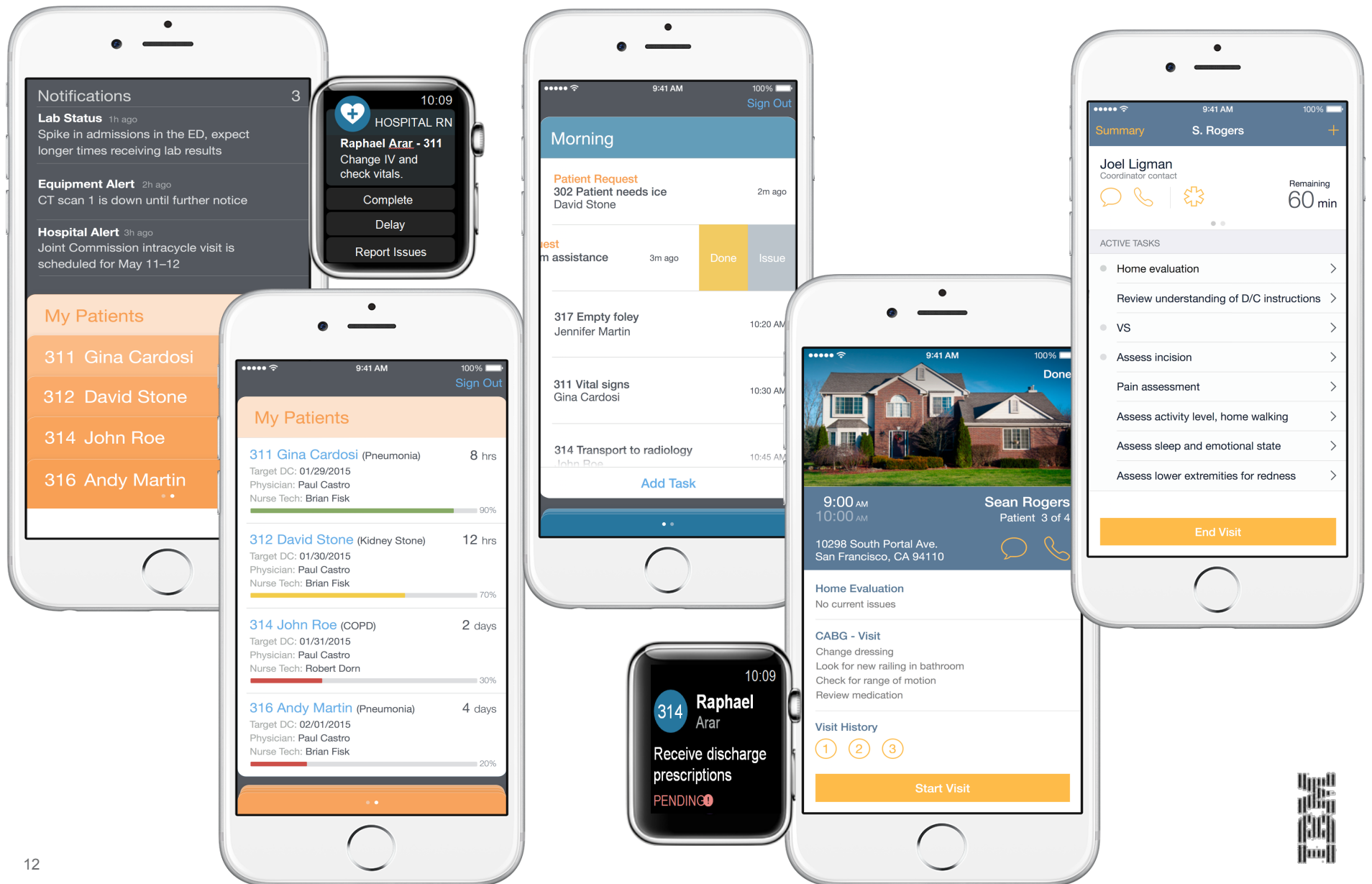
Develop new engagement techniques and health strategies with patients and consumers



Gain insights to provide more personalized, proactive interventions; bring analytics to the point of care



Reimagining Healthcare



Healthcare must become as relevant as their own social networks

“Know me”

Capture and incorporate preferences

- What's my history?
- What are my preferences?
- How will I respond?
- What will motivate me?
- Respect my privacy

“Engage me”

Personalize offerings and services

- Engage in the preferred dialog
- Be relevant (“right information”)
- Be consistent across touch points
- Show sincerity -- “you care”



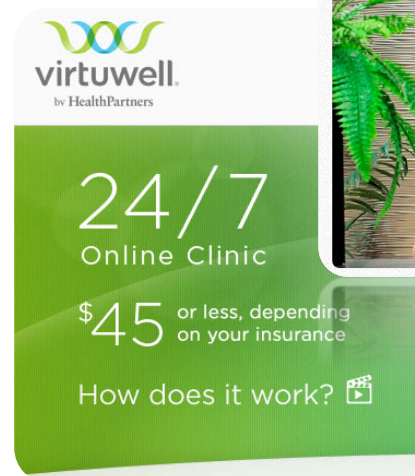
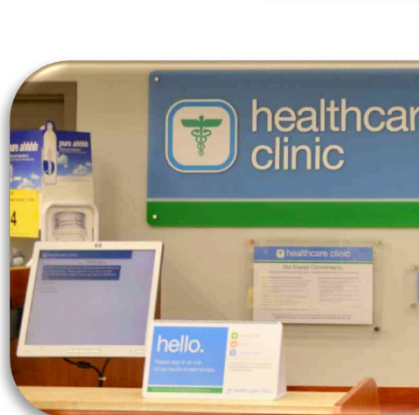
“Empower me”

Innovate to deliver quality, convenience and total experience

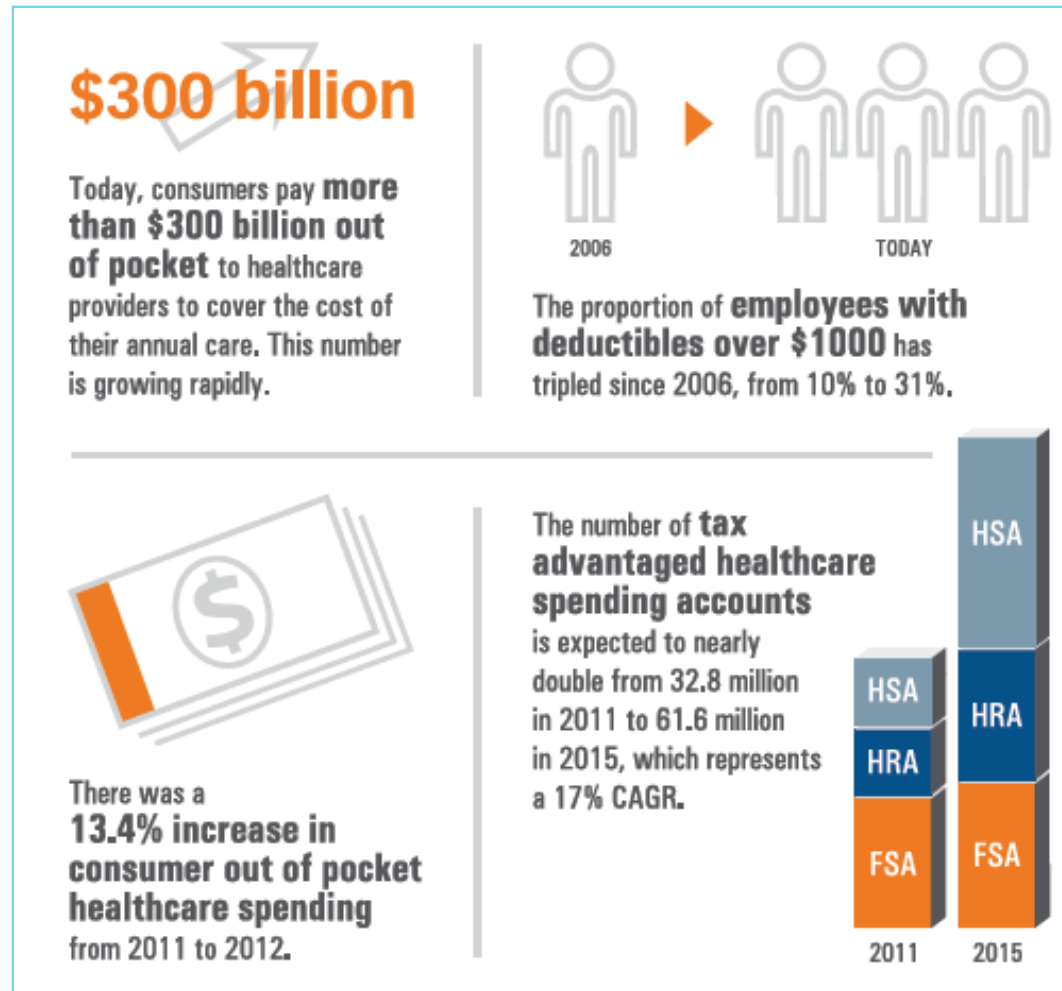
- Give me the information I need
- Connect me with relevant communities
- Simplify control and access
- Enable action and convenience



New business models for delivering care are emerging, providing people with more “choice”



So what is driving “consumerism” in healthcare?

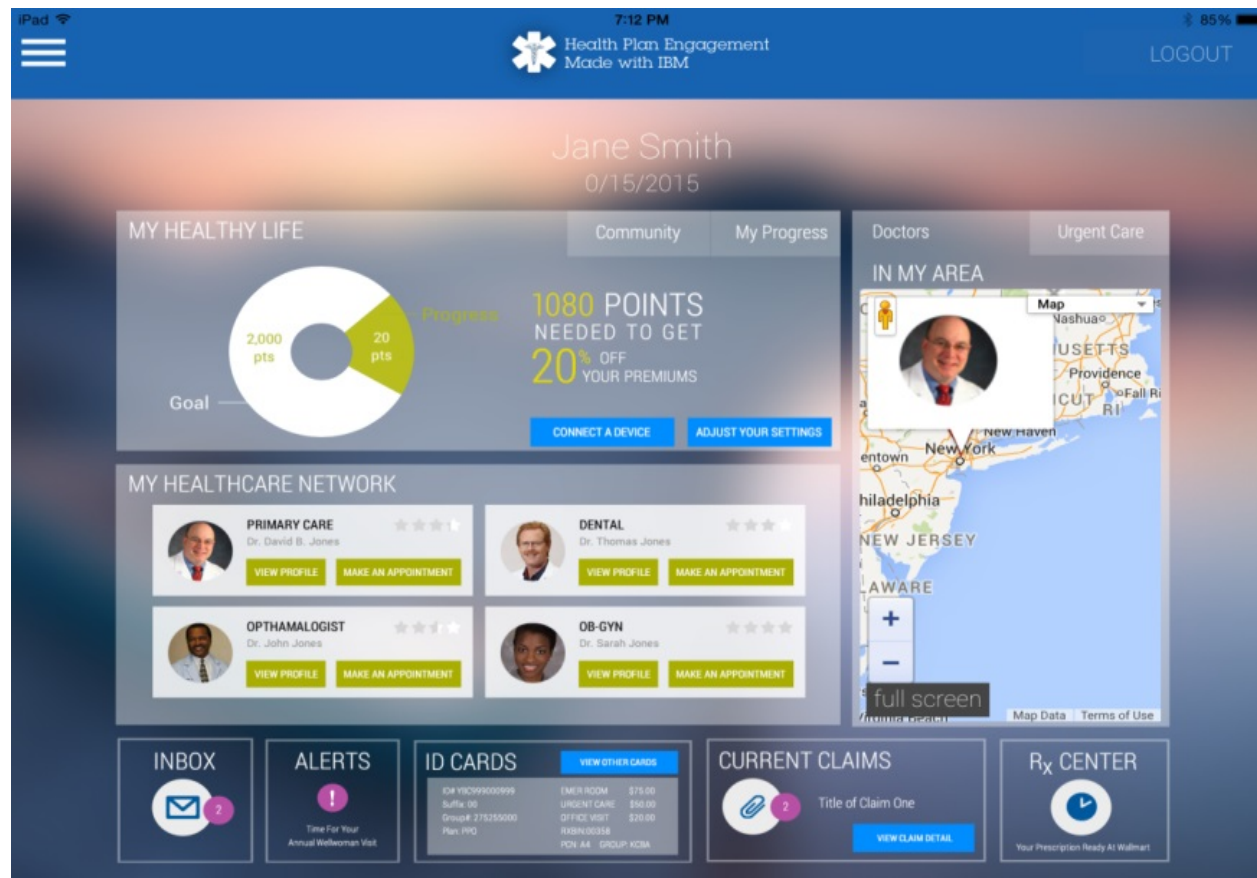


Source: Healthcare Payer News, May 2014

- Cost shifting – “out of pocket” costs are increasing for individual healthcare consumers
- There is an increase in the use of High Deductible plans and Health Savings Accounts (HSAs), leading to more consumer price sensitivity



Health Plan Engagement App Demo



<https://www.youtube.com/watch?v=brtuc0XRbTA>





End-to-End integration

- Data access
- Integrated patient data



Analytics and big data

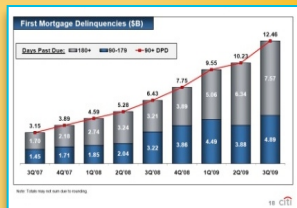
- Population analytics
- Unstructured Information / NLP

Workflow and user interface

- Right information, right time, place, access

The Healthcare Analytics Journey

Basic Reporting

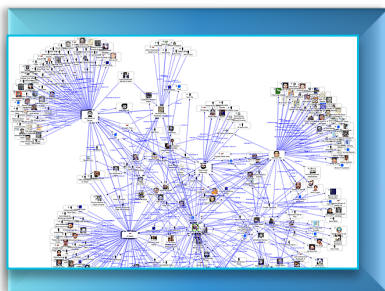


- What happened?
- When and where?
- How much?

Retrospective Reporting

- High latency reporting
- Spreadsheets
- Limited view reports
- Departmental data marts

Foundational Analytics

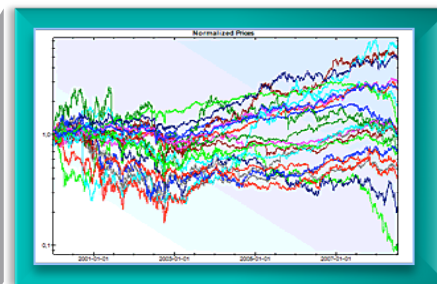


- Who is at risk?
- What is happening?
- How can we improve?
- What is the Right Data?
- What actions to take?

Enterprise – Wide Data Insights

- Data Governance
- Centralize Data
- Structured and Unstructured
- Data Sharing
- Cost of Care Intelligence

Predictive & Prescriptive



- What will happen?
- How can we pre-empt?
- What is the likely outcome? Who would be best at managing this patient?
- What is the expected response to potential medications?

Proactive Interventions and Improved Outcomes

- Population Health Analytics
- Evidence-based medicine
- Streaming Analytics
- Similarity Analytics

Cognitive



- What is the optimal treatment based on the latest literature for my patient's clinical profile?
- Why is this the best protocol?

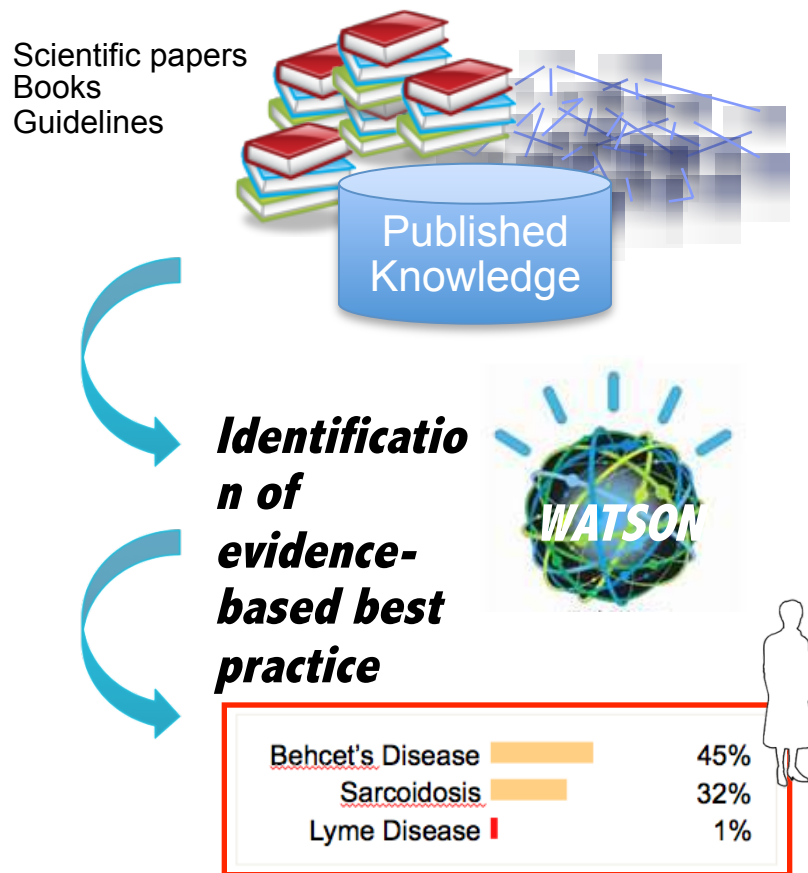
Dynamic Learning for Optimal Care Guidance

- Natural language understanding
- Guided consumer experience
- Watson Applications
- Clinical Content Analysis
- Personalized Healthcare

Analytics strategy must span both knowledge & data-driven methods

From population averages ...

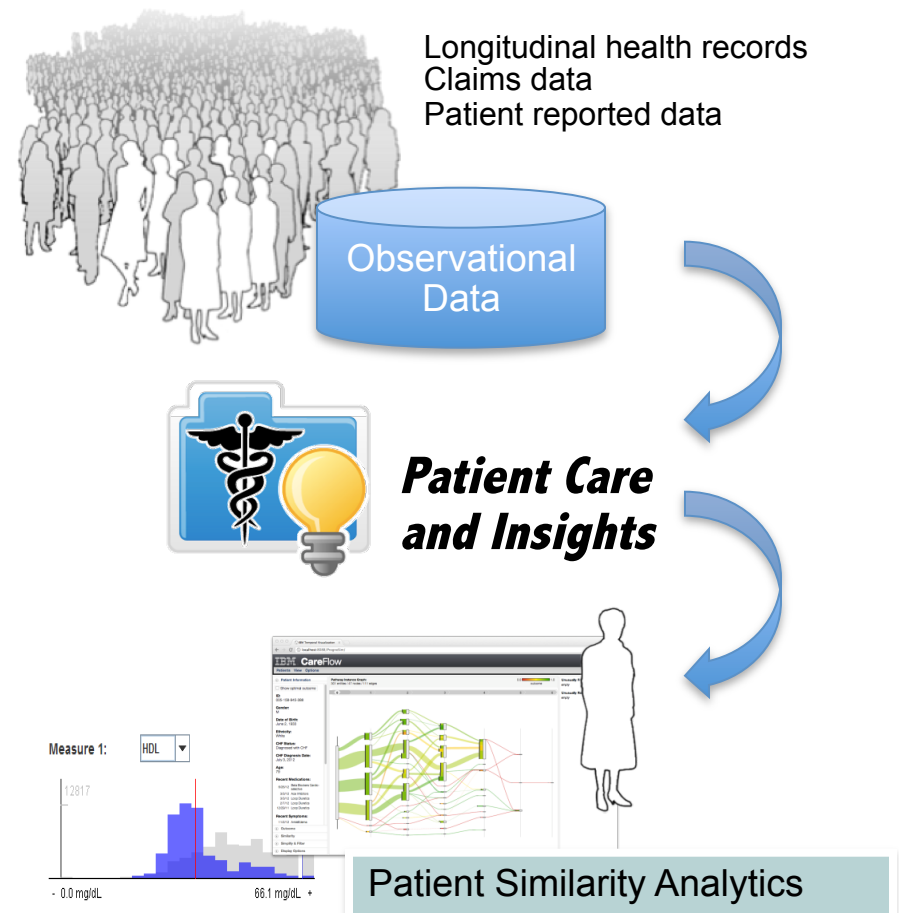
Knowledge-Driven Methods



Closing the translational knowledge gap

To insights for individual patients

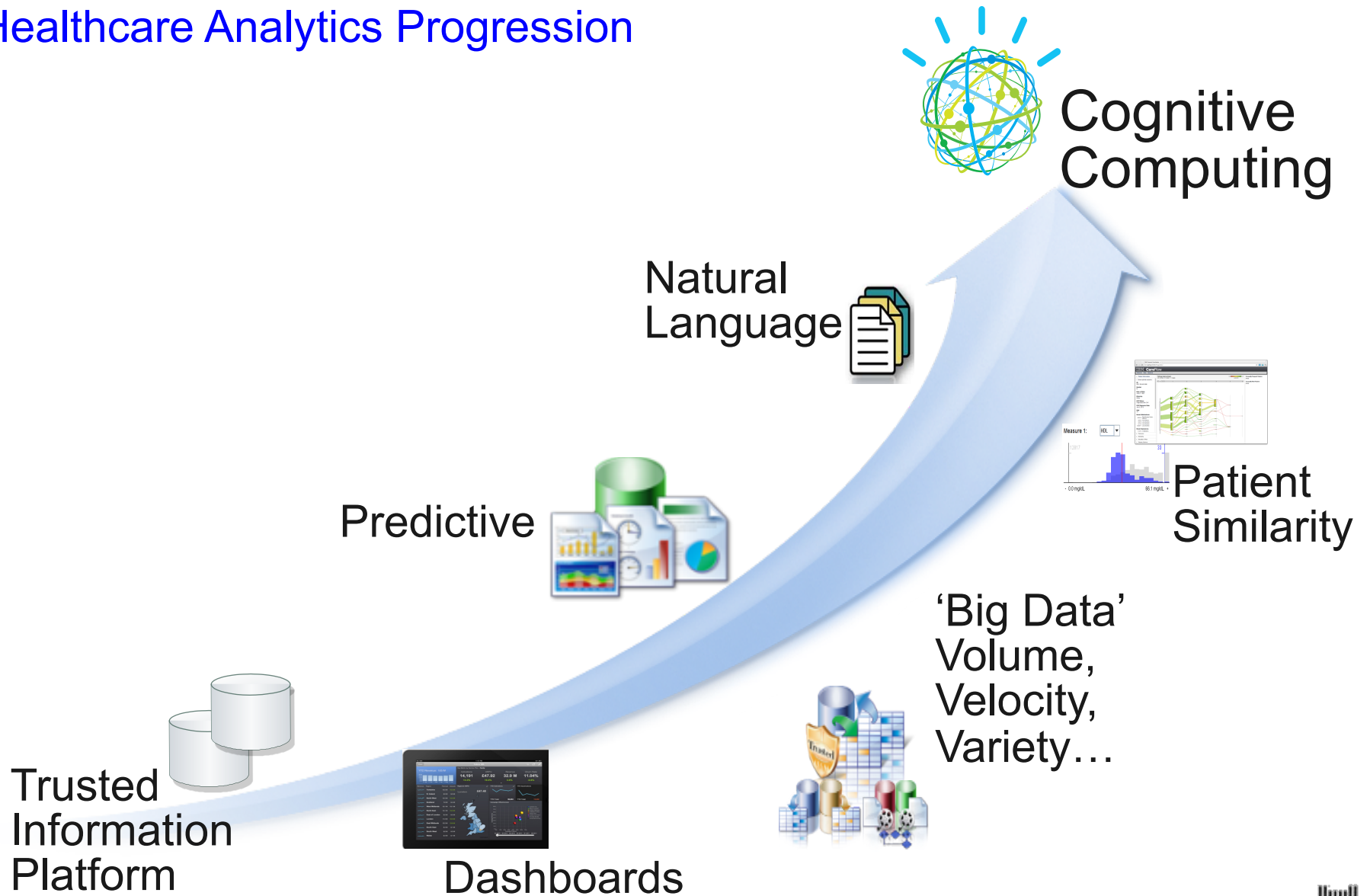
Data-Driven Methods



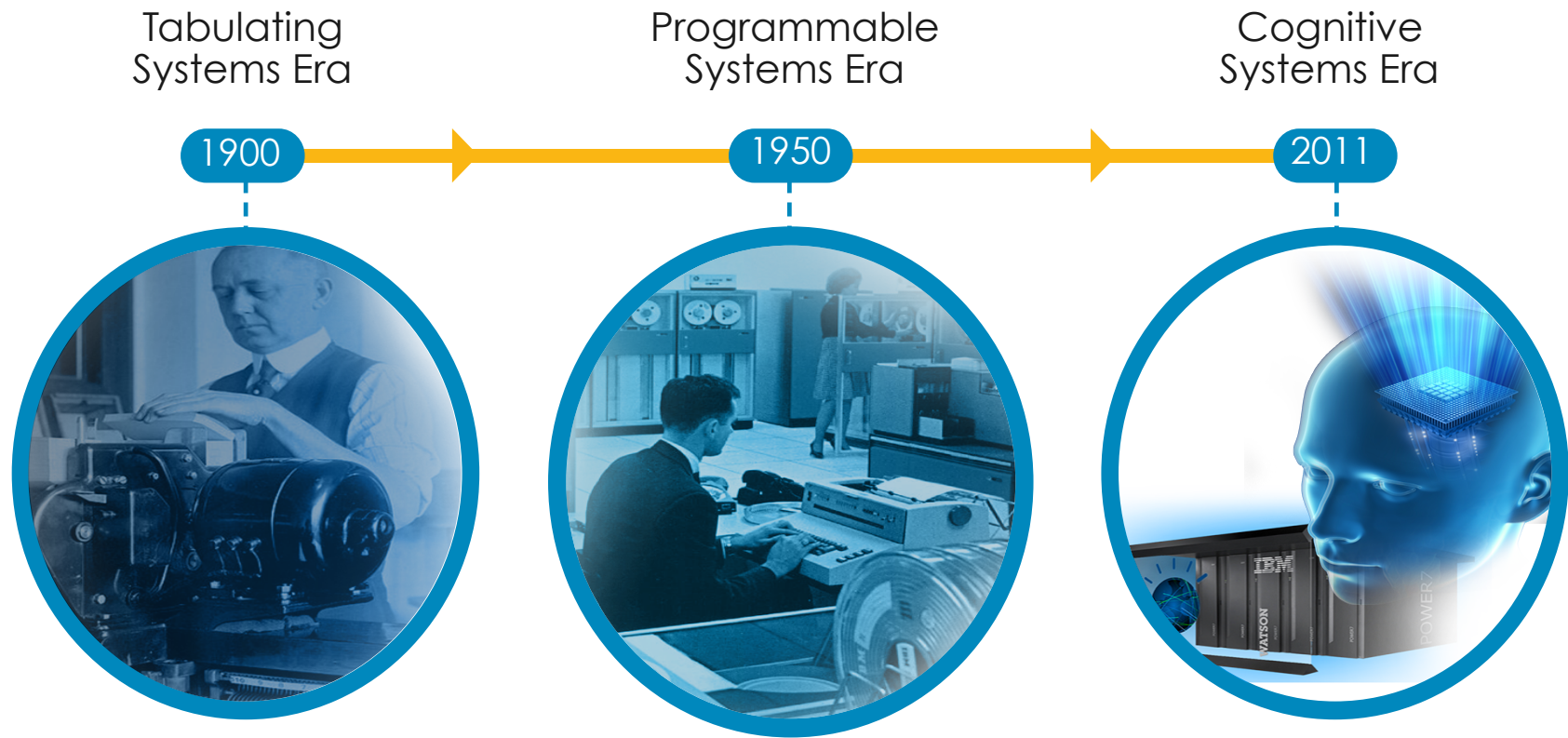
Enabling Personalized Insights from institutional data



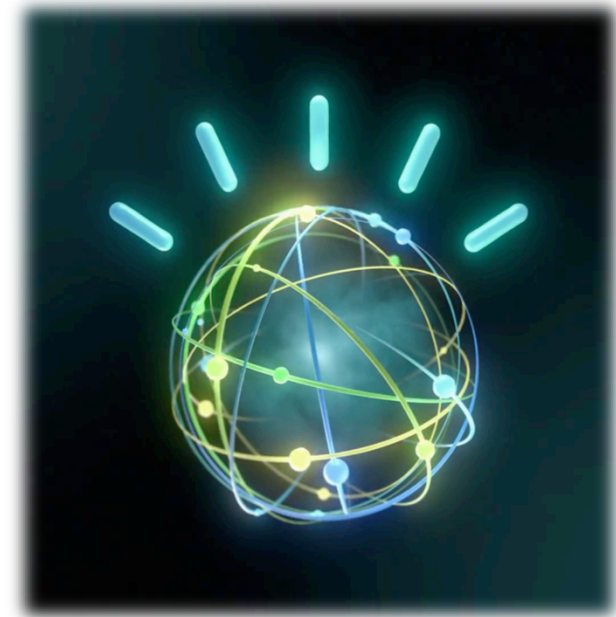
Healthcare Analytics Progression



Watson is ushering in a new era of computing



Cognitive Systems Era



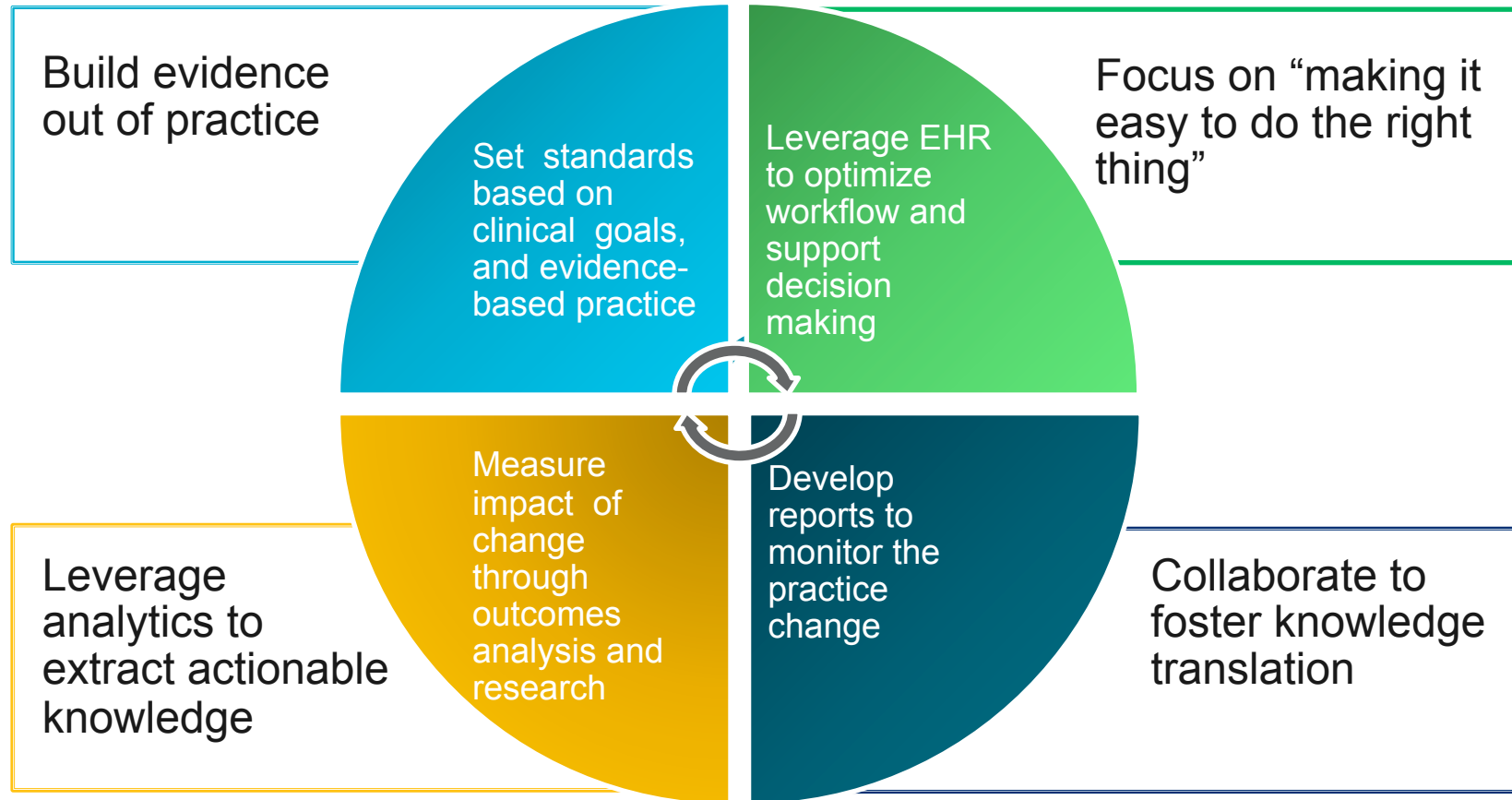
Learn and Reason

Interact Naturally



Discover and Decide

The Learning Healthcare System



15th Annual Healthcare Summit
Disruptive Forces in Healthcare
Jun 22-23, 2015, Kelowna, BC



Thanks!

Judy Murphy

 murphyja@us.ibm.com

 [@JudyMurphyHIT](https://twitter.com/JudyMurphyHIT)

