

Beyond the EHR: Mobility, Patient Engagement, eCommerce and Analytics

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Trends in Clinical Informatics: A Nursing Perspective

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What we will cover:

- Today's healthcare landscape – what is changing and why we need to change too
- Leveraging Health IT beyond the HER
- 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

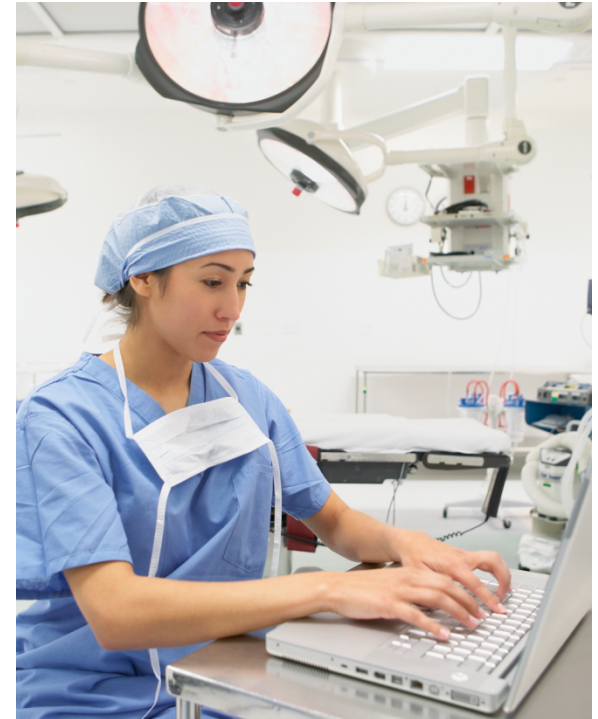
Changing demographics and lifestyles

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

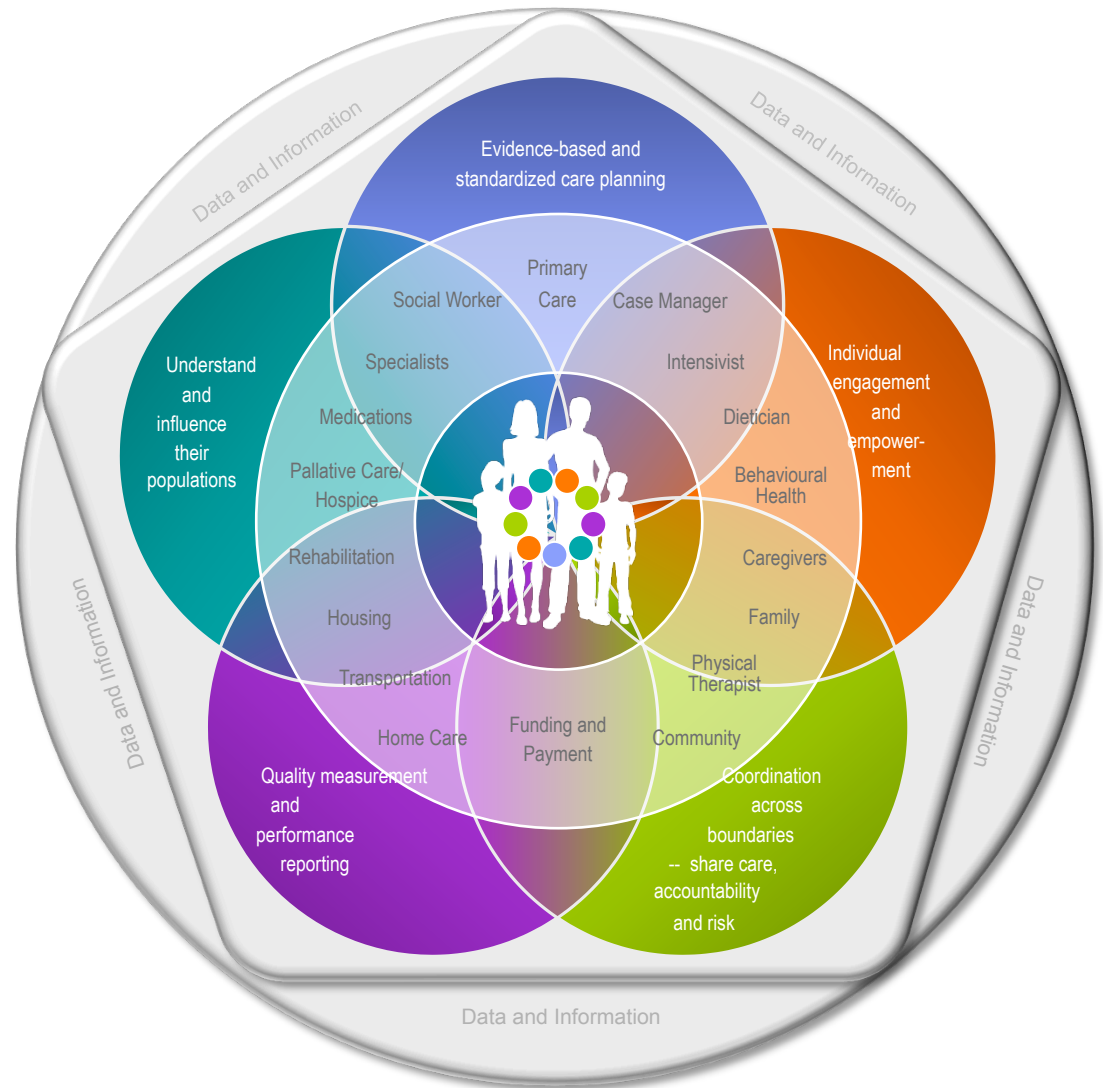
Emphasis is on **proactive care** to meet health needs

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

Organizations are on a journey to improve value

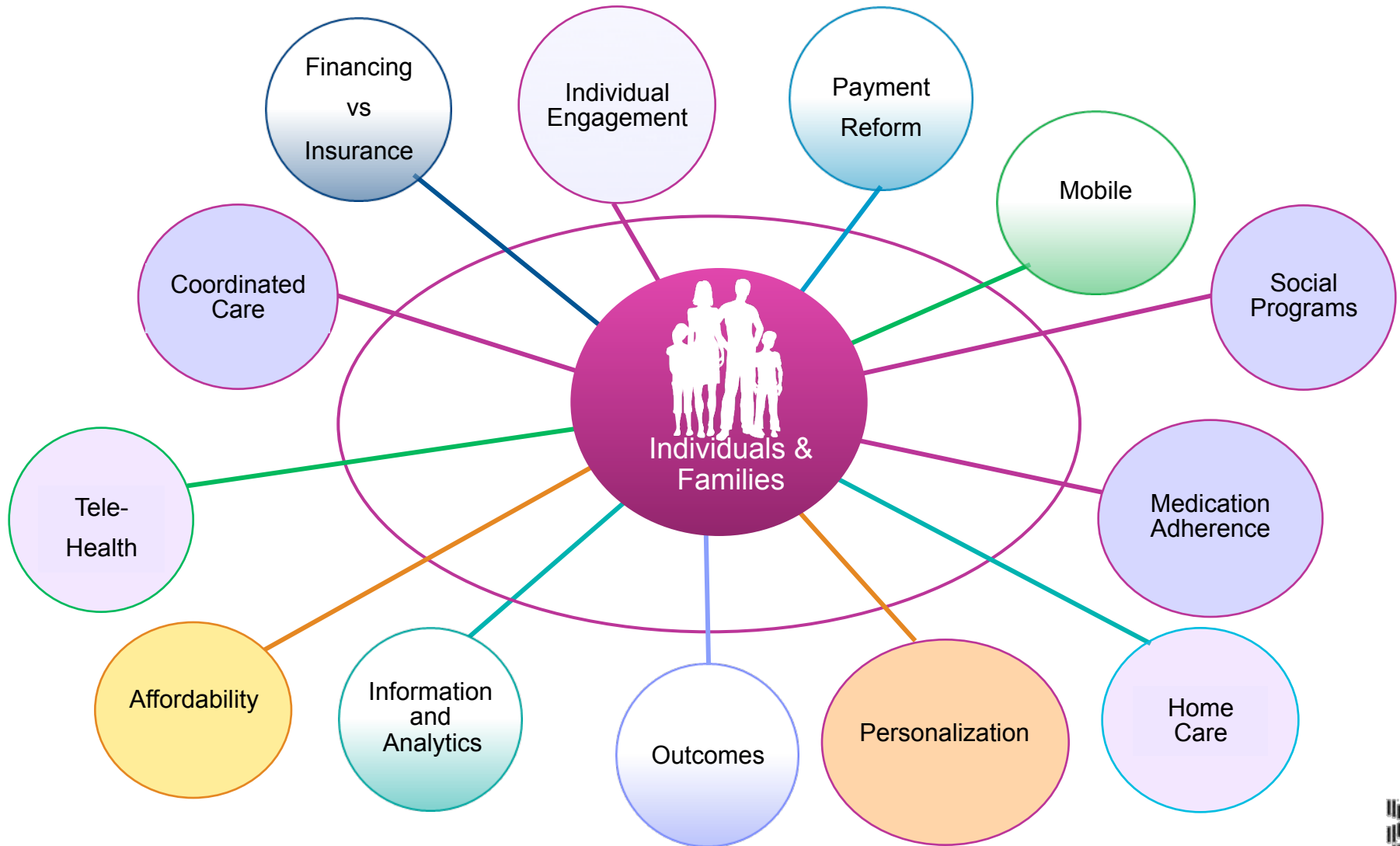
Taking steps to achieve better results, and improve customer (patient) satisfaction

$$\text{Value} = \frac{\text{Experience}}{\text{Cost}}$$

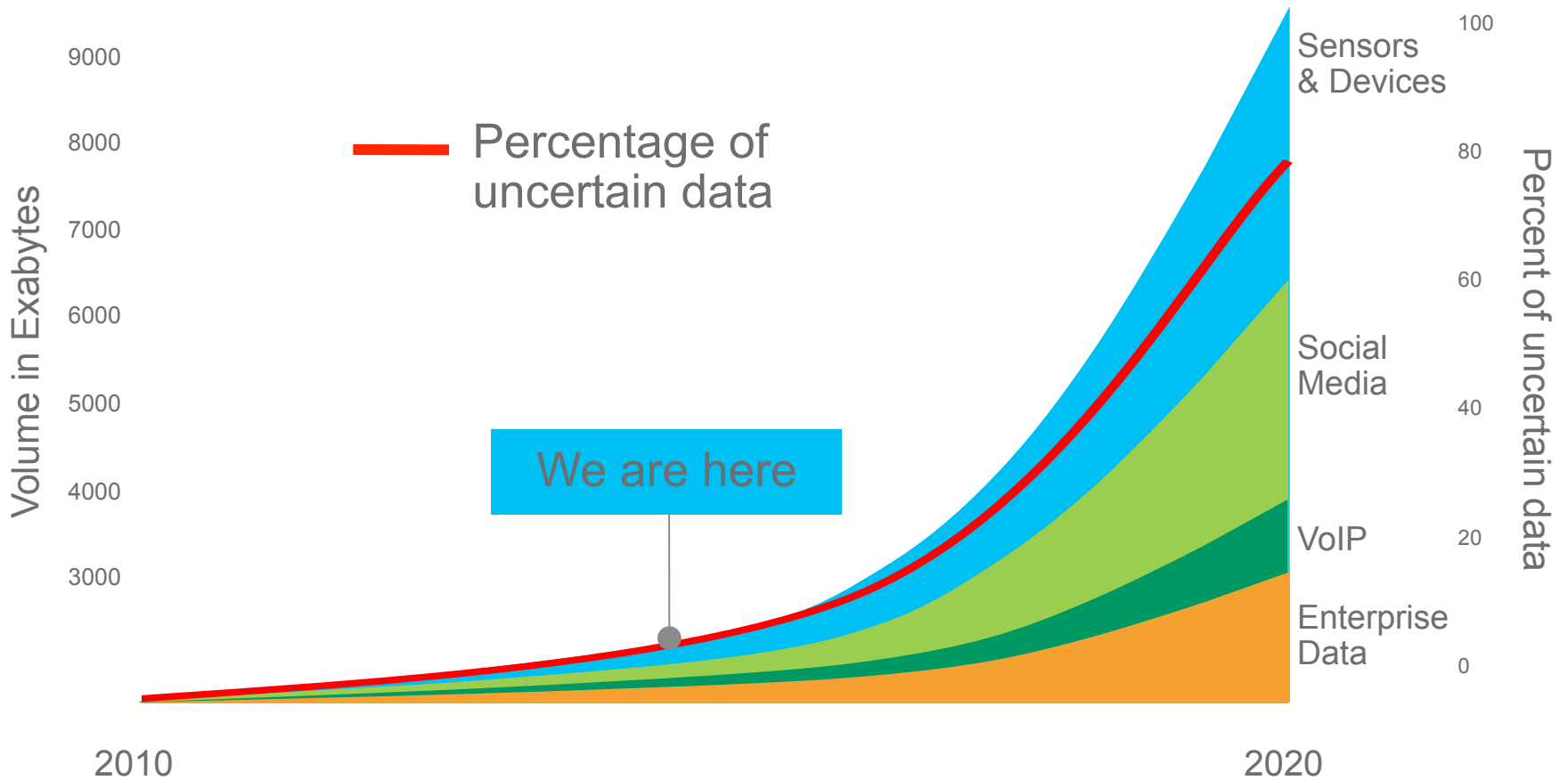
Reducing waste, reducing errors, managing risk, and improving efficiency



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

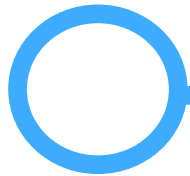


Healthcare Solution Focus for IT



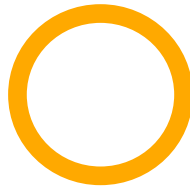
OPTIMIZE

Health System Performance & Optimization



ANALYZE

Population Health Insights & Care Management



ENGAGE

Individual Insights & Engagement



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



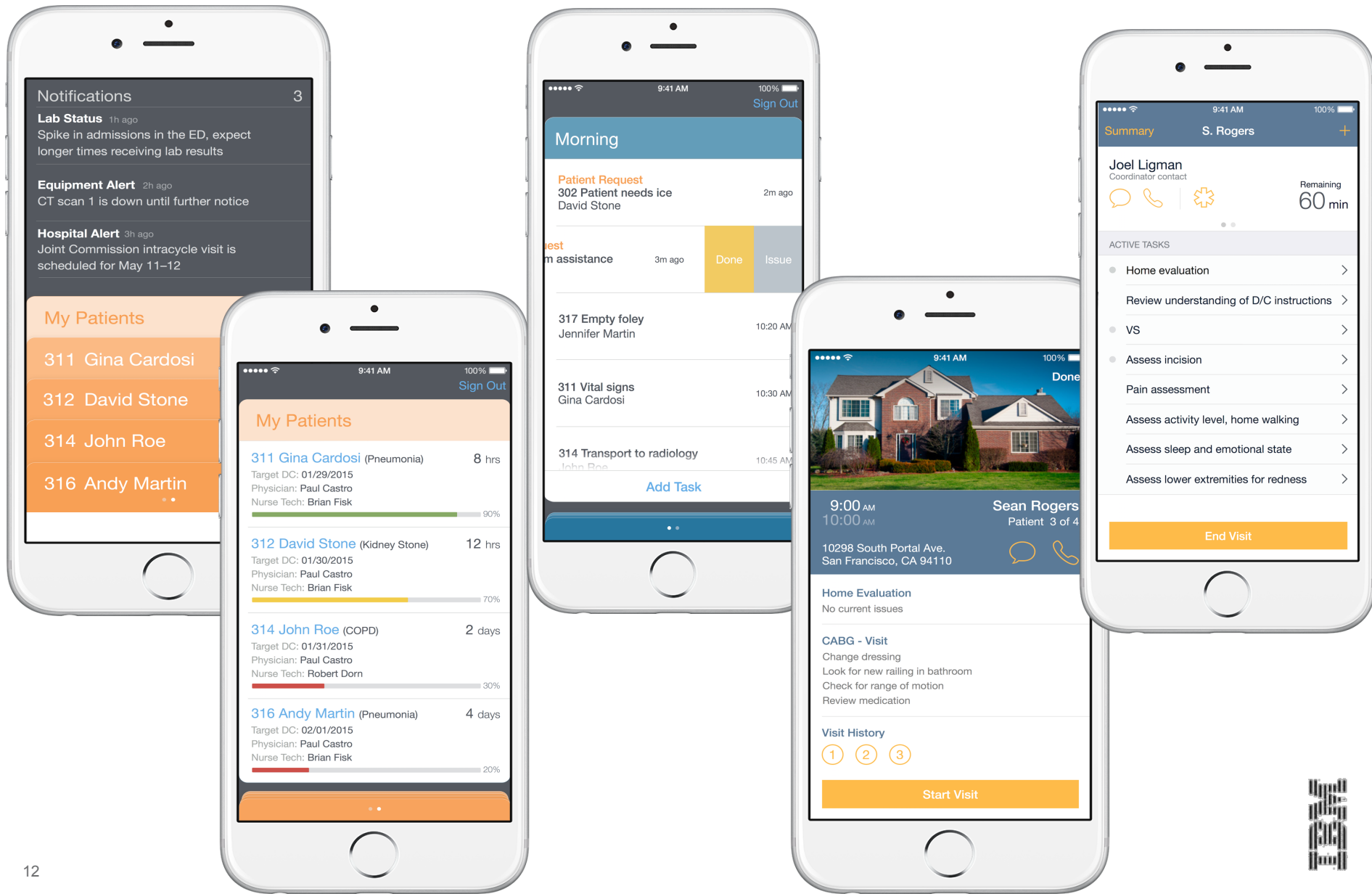
Develop new engagement techniques and health strategies with patients and consumers



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”**



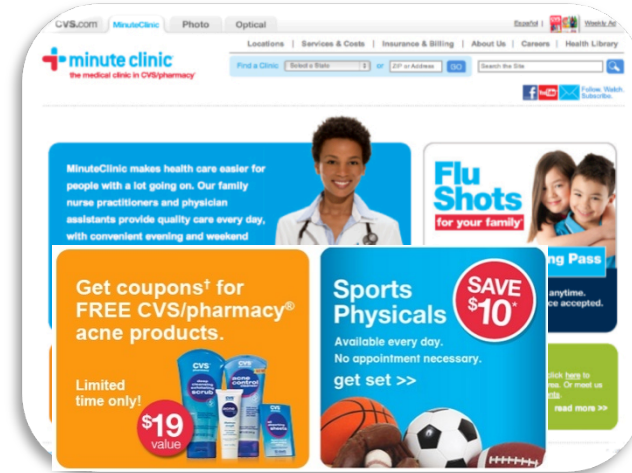
“Empower me”

Innovate to deliver quality, convenience and total experience

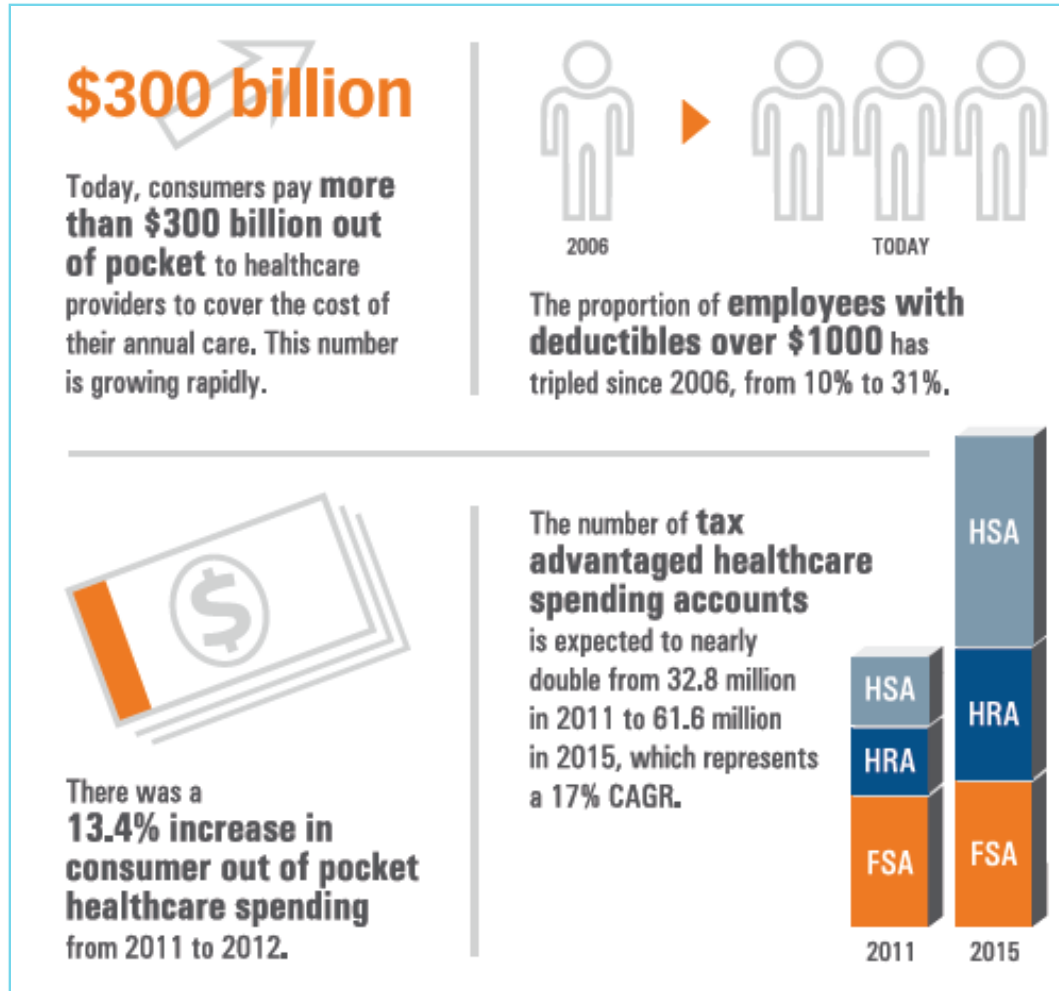
- **Give me the information I need**
- **Connect me with relevant communities**
- **Simplify control and access**
- **Enable action and convenience**



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

Health Plan Engagement
Made with IBM

Jane Smith
0/15/2015

MY HEALTHY LIFE

Community My Progress

2,000 pts Goal

20 pts Progress

1080 POINTS NEEDED TO GET 20% OFF YOUR PREMIUMS

CONNECT A DEVICE ADJUST YOUR SETTINGS

MY HEALTHCARE NETWORK

PRIMARY CARE Dr. David B. Jones

DENTAL Dr. Thomas Jones

OPHTHALMOLOGIST Dr. John Jones

OB-GYN Dr. Sarah Jones

IN MY AREA

Doctors Urgent Care

Map

NEW JERSEY

NEW YORK

PHILADELPHIA

NEW JERSEY

PAWLA

full screen

Map Data Terms of Use

INBOX 2

ALERTS 1
Time For Your Annual Wellness Visit

ID CARDS VIEW OTHER CARDS

ID# Y5C993000999	EMER ROOM	\$75.00
Suffix 00	URGENT CARE	\$60.00
Group# 275250000	OFFICE VISIT	\$20.00
Plan PPO	R50N00358	
	PHN AA GROUP K00A	

CURRENT CLAIMS 2
Title of Claim One
VIEW CLAIM DETAIL

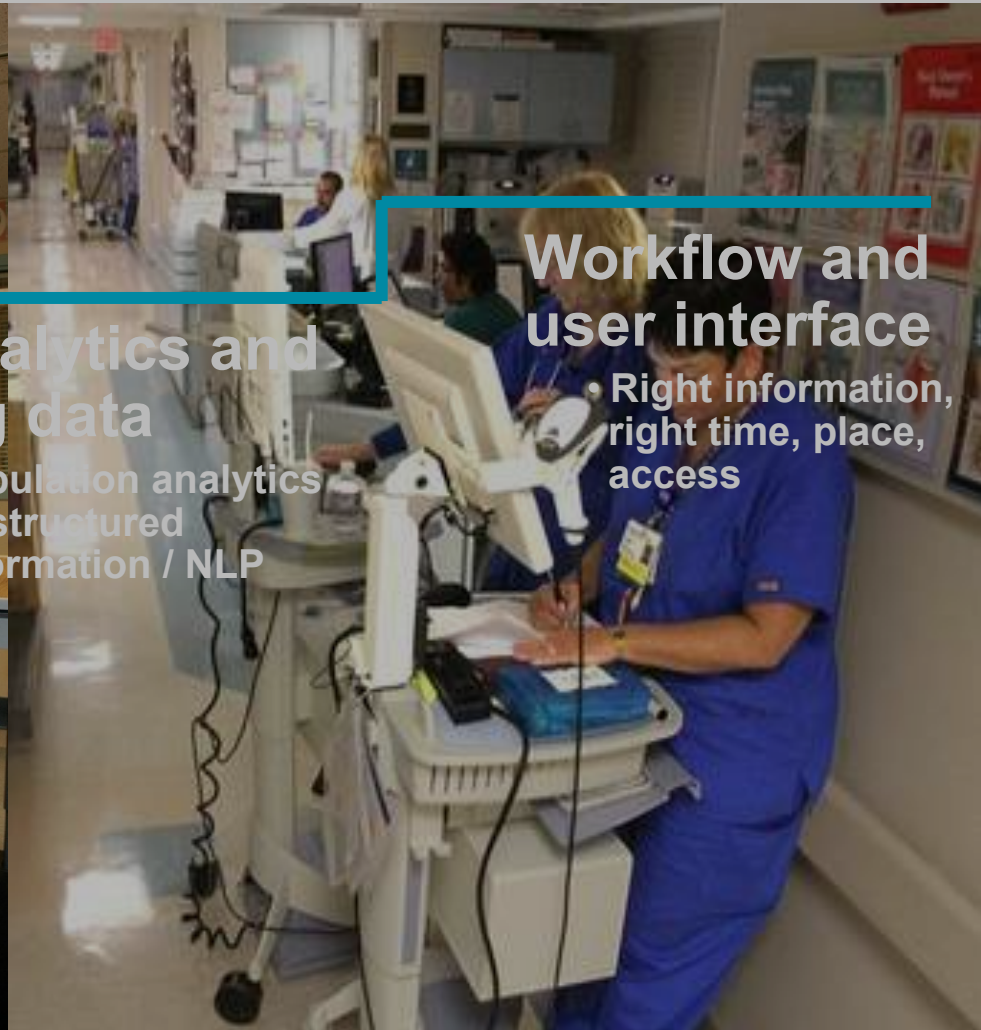
Rx CENTER
Your Prescription Ready At Walmart





End-to-End integration

- Data access
- Integrated patient data



Analytics and big data

- Population analytics
- Unstructured Information / NLP

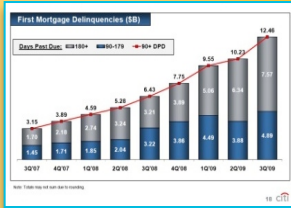
Workflow and user interface

- Right information, right time, place, access



The Healthcare Analytics Journey

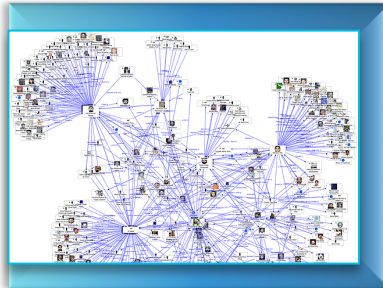
Basic Reporting



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

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

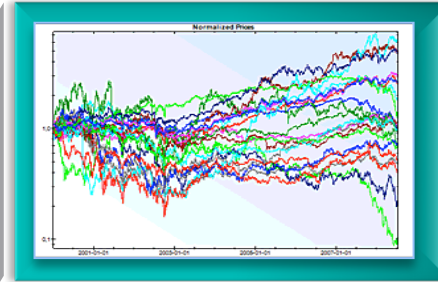
Foundational Analytics



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

- 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?

- 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?

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

Retrospective Reporting

Enterprise - Wide Data Insights

Proactive Interventions and Improved Outcomes

Dynamic Learning for Optimal Care Guidance



Analytics strategy must span both knowledge & data-driven methods

From population averages ...

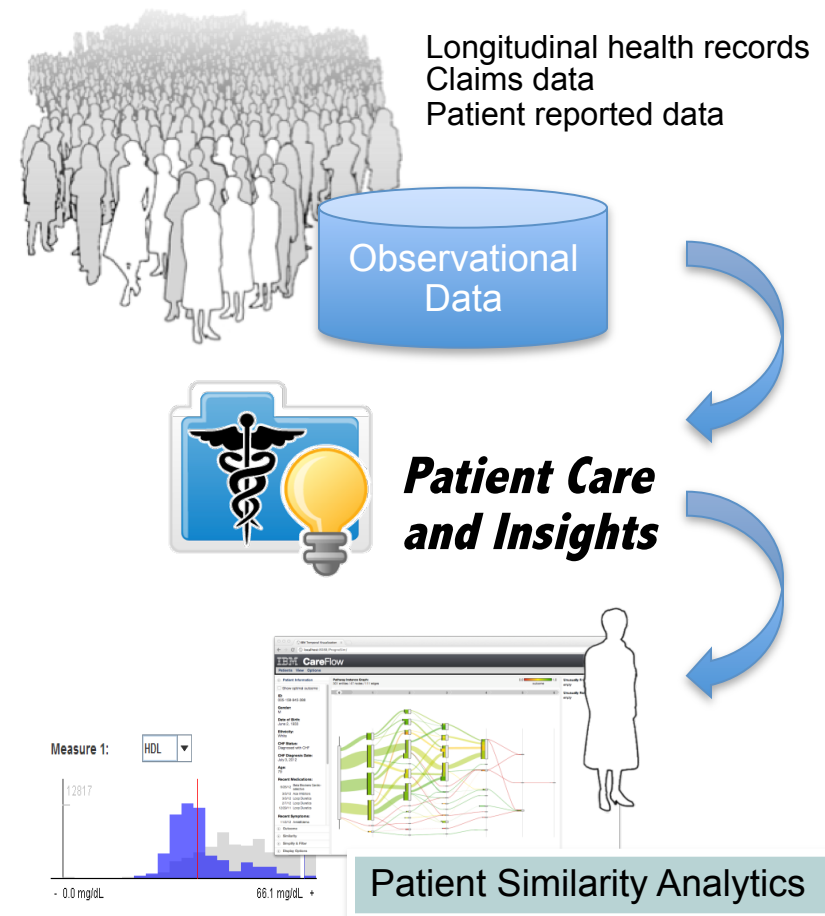
Knowledge-Driven Methods



Closing the translational knowledge gap

To insights for individual patients

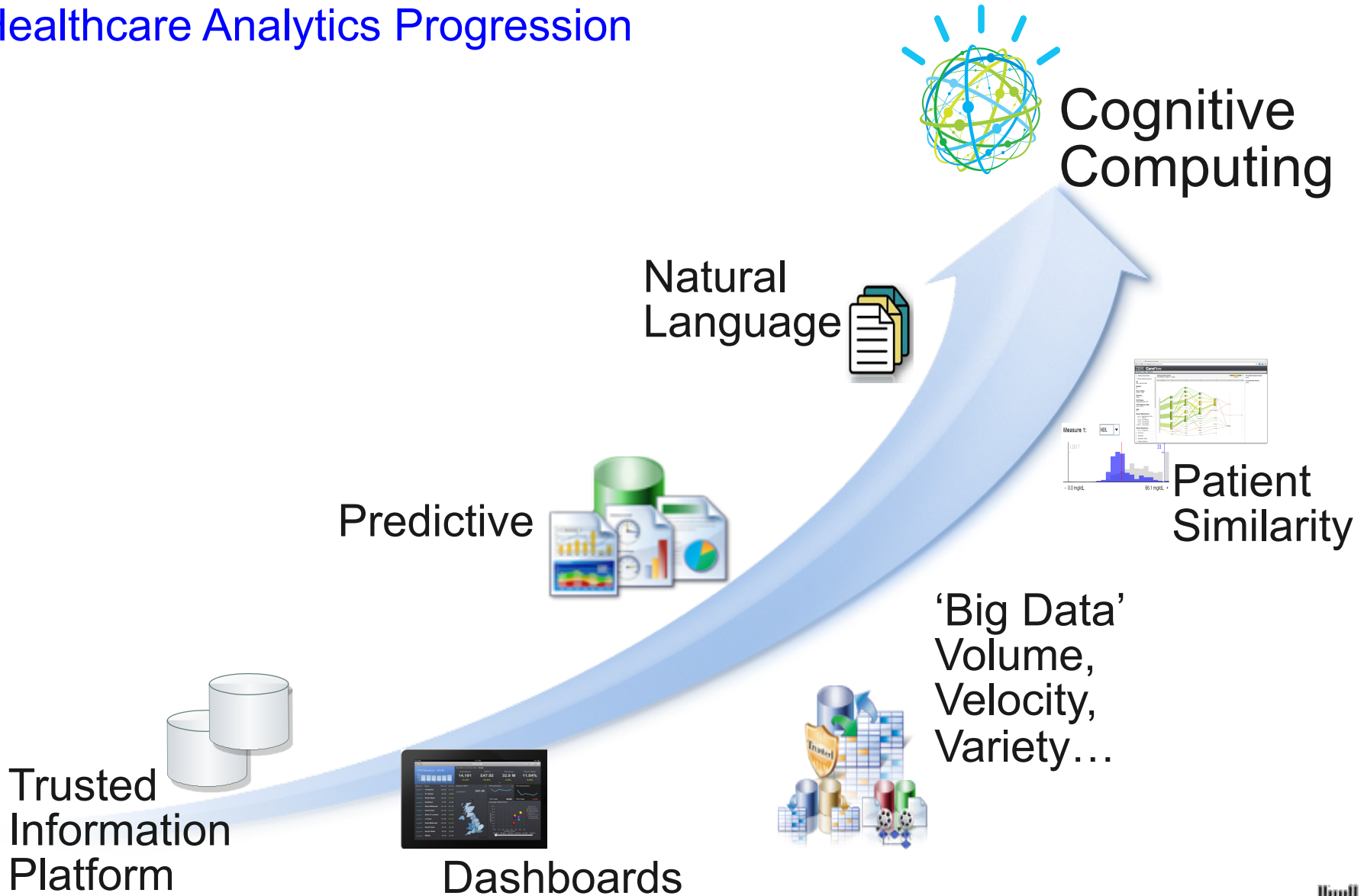
Data-Driven Methods



Enabling Personalized Insights from institutional data



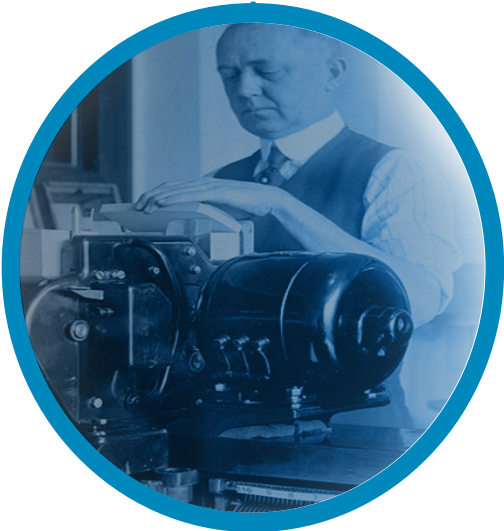
Healthcare Analytics Progression



Watson is ushering in a new era of computing

Tabulating Systems Era

1900



Programmable Systems Era

1950

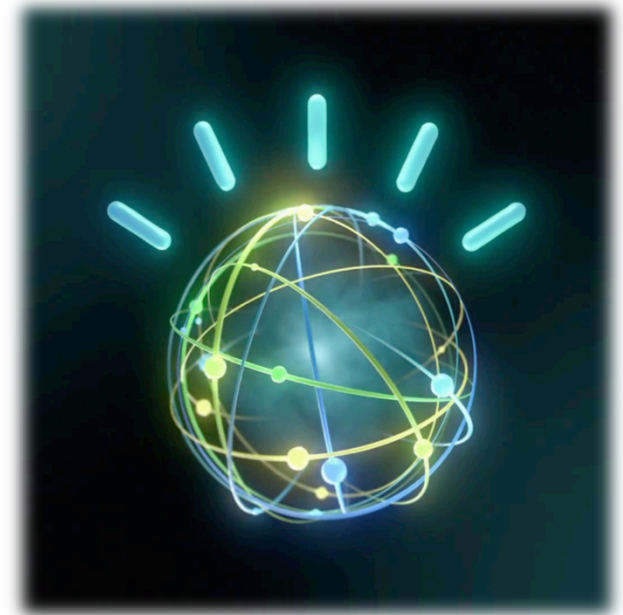


Cognitive Systems Era

2011



Cognitive Systems Era



Learn and Reason

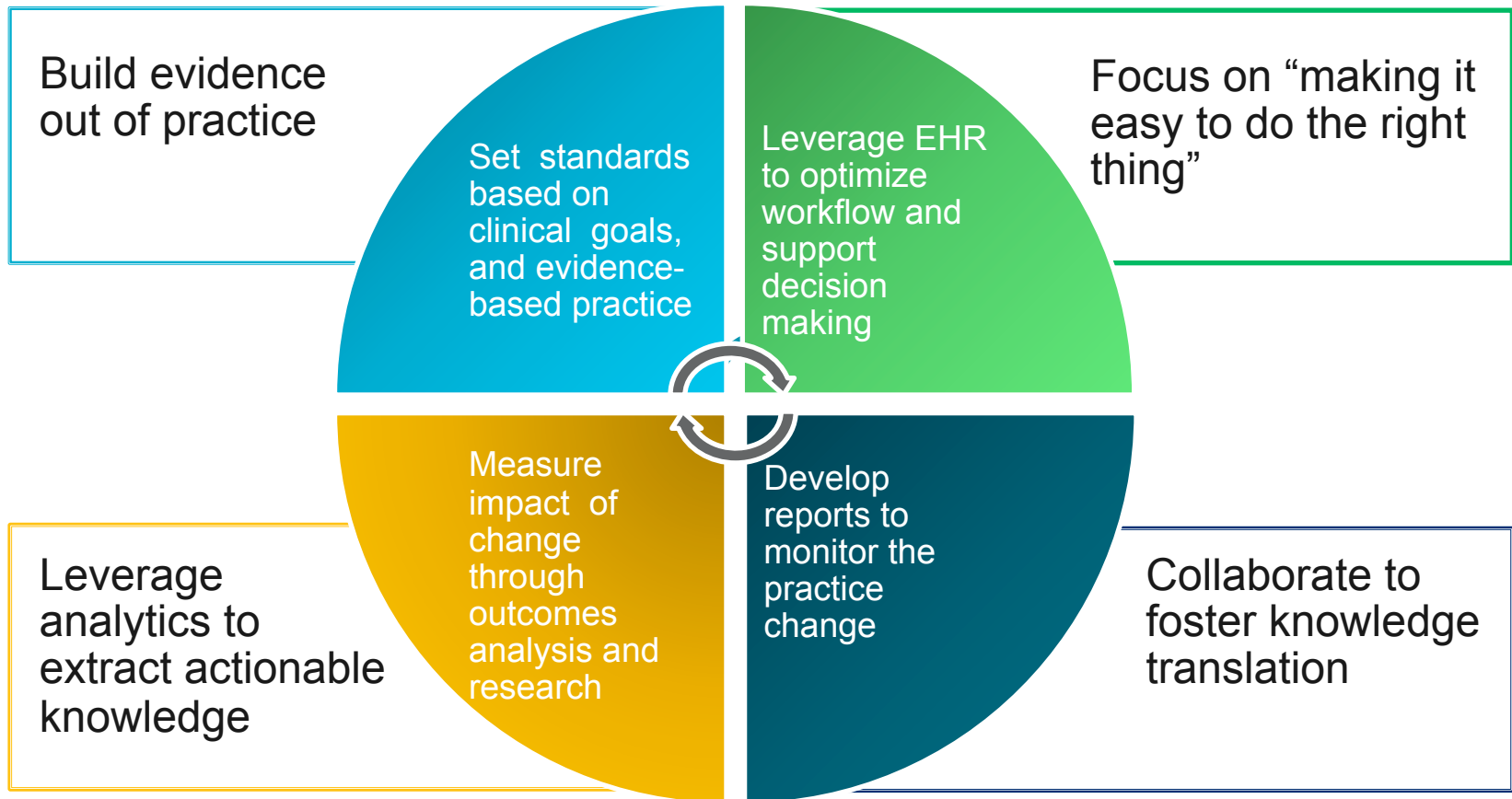
Interact Naturally



Discover and Decide



The Learning Healthcare System



Thanks!

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