IBM Watson

Consumerization of Healthcare

2015 Dartmouth Device Development Symposium

IBM

What is consumerization of healthcare?

Empowering patients to interact with providers and payers the same way they interact with their retail services, personal devices, and social networks
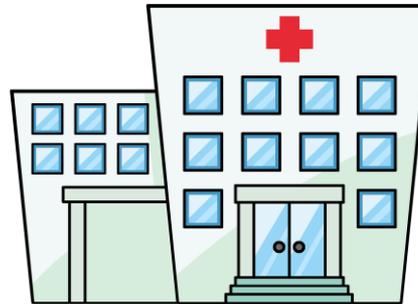
What about the healthcare provider's

Patient expectations
- On-demand care
- High quality, low cost care
- Connected data and devices
- Transparency and feedback

Regulatory requirements
- Government agencies
- Insurance companies
- Payer organizations
- Research institutions

IT infrastructure investments
- EHRs and patient portals
- Virtual medicine platforms
- Applications and devices
- Data analytics tools

Operational priorities
- Clinical programs
- Legal and compliance
- Buildings and facilities
- Strategic partnerships

The net result? An abundance of data that needs to be connected.

What is cognitive computing?

A machine learning model that mimics human thought processes to rapidly obtain content knowledge, learn relationships, and deliver insights for targeted use cases

Structured and Unstructured Data

- Clinical (e.g., EHR)
- Financial
- Operational
- Behavioral
- Social media
- Publicly available

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Machine Learning and Insights

- Natural language
  - o Q&A
  - o Relationships
- Speech
- Vision
- Data insights

Data connection without cognition is fallacy.

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What is IBM Watson?

A scalable machine learning entity that can be trained and adapted to rapidly provide expertise and insights across a variety of complex industries and use cases.
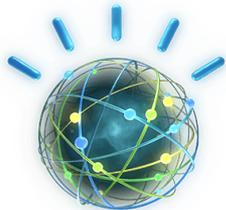
- **1997: Use case: Chess**
  IBM's Deep Blue defeats chess world champion, Garry Kasparov

- **2011: Use case: General trivia**
  IBM Watson defeats Ken Jennings and Brad Rutter to win Jeopardy

- **Since then: 7000+ use cases**
  Watson for health, finance, retail, cooking, entertainment, automotive, and other industries

What is the IBM Watson Ecosystem?

A network of partners across 17 industries and 75 countries who are using Watson to scale, enhance, and accelerate their market presences

Watson Application Program Interfaces (APIs)

Functional Capabilities	Development Stage	Provided Support
• Language • Speech • Vision • Data Insights	• Ready to go, out-of-the-box • Beta • Experimental	• Technical documents and specifications • Sample use cases • Demos and test-drives

Powered by
IBM Watson™

IBM Watson's healthcare-related partnerships in development:
- Health IT startups
- Hospitals and health systems
- Independent software vendors
- Population health organizations
- Pharmaceutical and medical device companies