

# Rhode Island Quality Institute

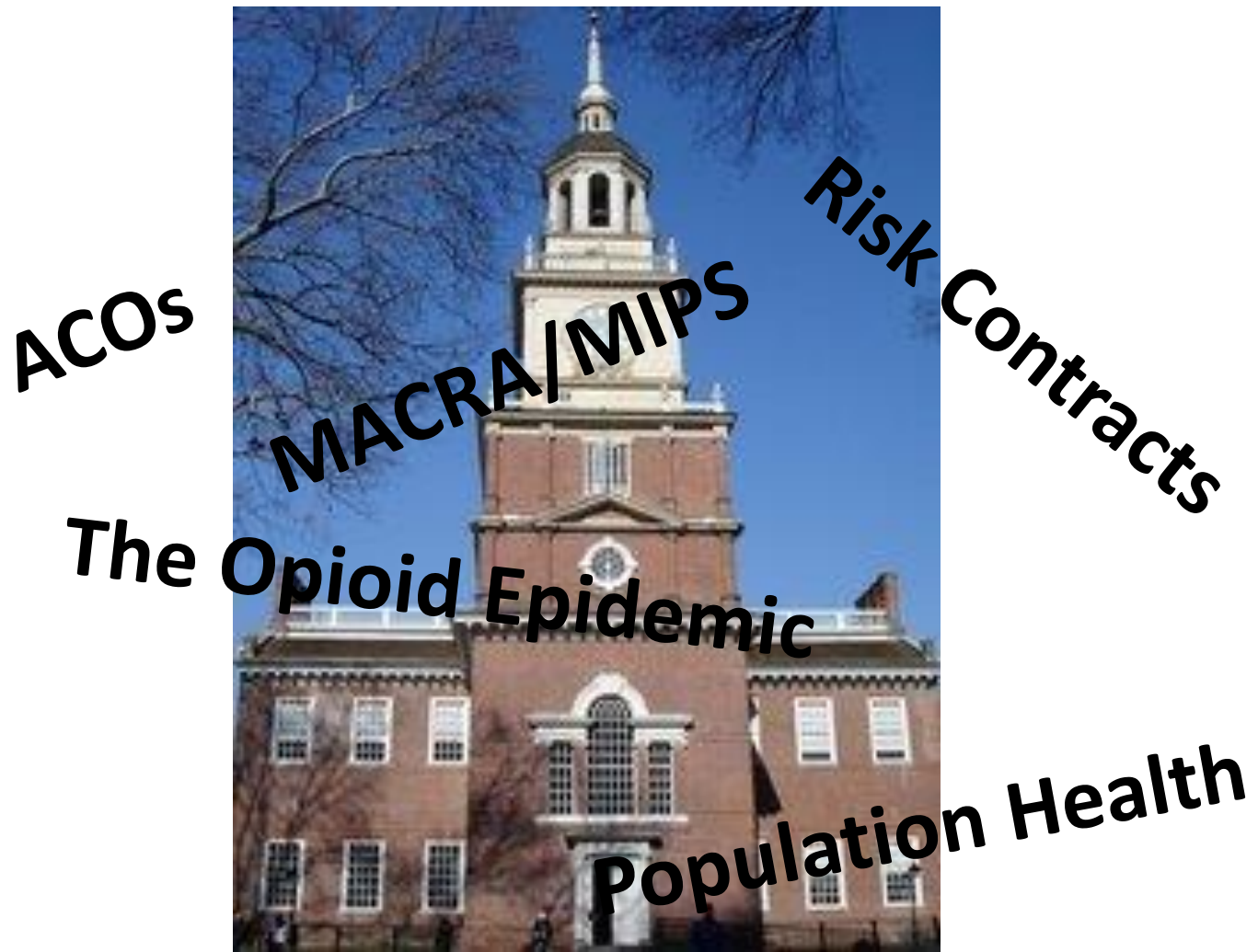


*Data, Quality & HIT  
Workforce Development*

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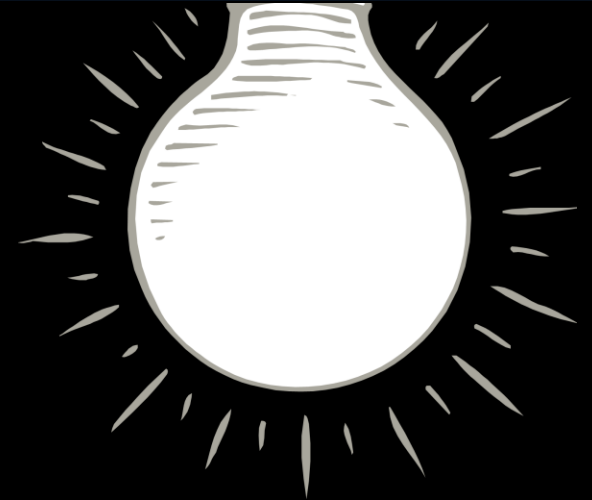


# You Say You Want A Revolution....



**We are in the midst of a transformative time, but it is messy**

## HealthCare Needs Actionable Information, Leading to Insight



*"The price of light is less than the cost of darkness."*  
- Arthur C. Nielsen



# Defining Analytics

**Analytics leverage data  
in a particular functional process (or application)  
to enable context-specific insight that is actionable.<sup>1</sup>**

Especially valuable in areas rich with recorded information, analytics relies on the simultaneous application of statistics, computer programming and operations research to quantify performance. Analytics often favors data visualization to communicate insight. Firms may commonly apply analytics to business data, to describe, predict, and improve business performance.<sup>2</sup>

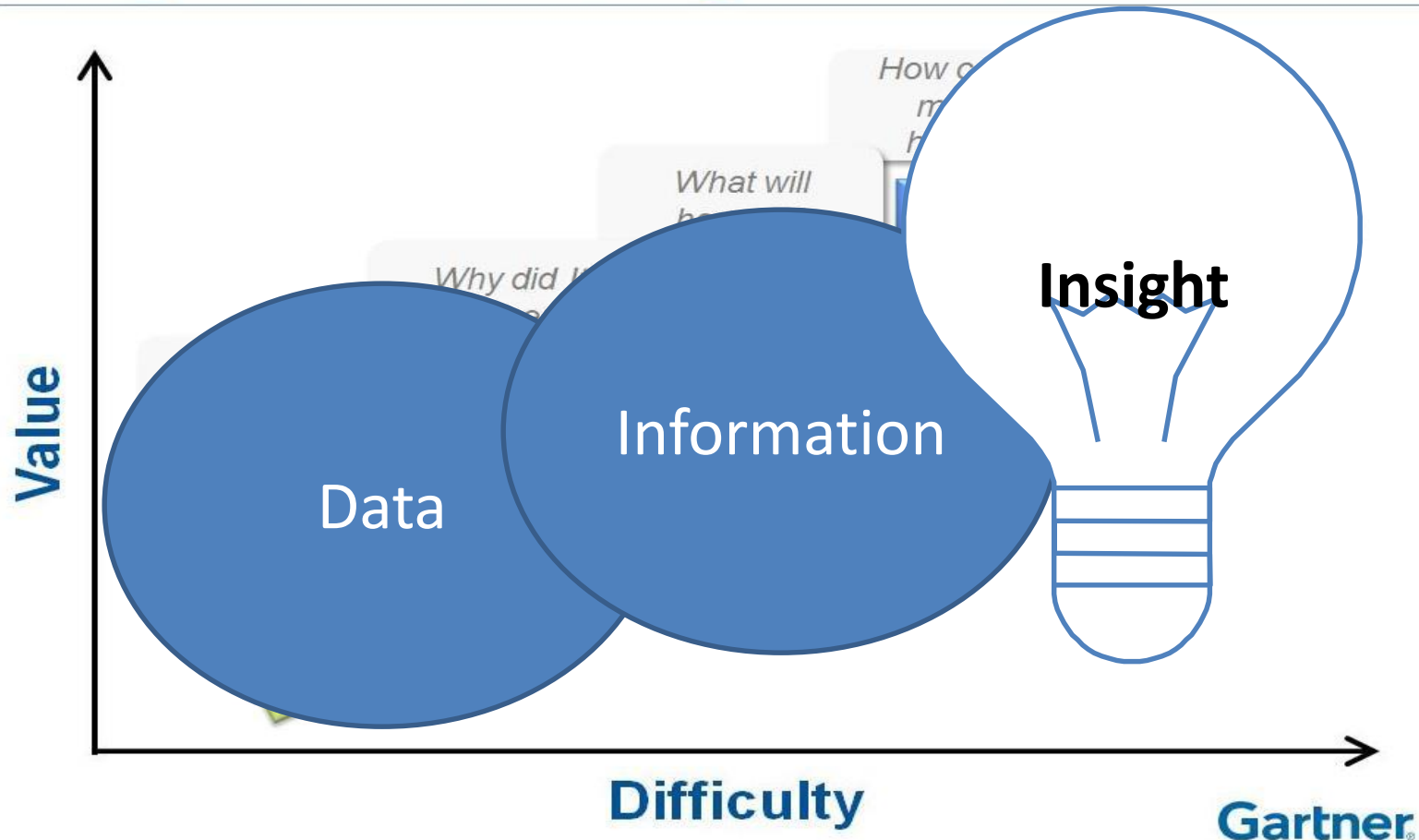
1. Kirk, Jeremy. "Analytics' buzzword needs careful definition." *InfoWorld*. 2/7/2006. Web. Accessed 4/24/14. <http://www.infoworld.com/t/data-management/analytics-buzzword-needs-careful-definition-567>

2. *Wikipedia*. Web. Accessed 4/24/2014. <http://en.wikipedia.org/wiki/Analytics>.



# Gartner's Analytics Maturity Model

## Analytics Are No Longer a Nice to Have



# Foundations Needed for Advanced Analytics

Processes	Skills	Job Titles
Acquire and Architect Data Data Profiling Data Governance	Data Architecture Entity Relationship Diagrams Data Profiling Meta-data Documentation ETL Job Documentation Proactive, creative problem solver Judgement on scoping and sizing problems	Data Engineer
Transform and Summarize Data	Version Control SQL In-line Documentation Basic Stats	Data Analyst
Analyze and Interpret Data	Subject Matter Expertise Advanced Statistics Machine Learning Predictive Modeling Exquisite Communication Understand the business question Understand the unasked questions	Senior Analyst Data Scientist
Present Results	Visual Design Communication Subject Matter Exposure	Visual Designer



# Questions We Must Be Able to Answer

- ❖ What are we trying to accomplish? Are we measuring the right things?
- ❖ How will we know if a change is an improvement?
- ❖ How will we know if we broke something with our changes?
- ❖ What data do we need to answer these questions?
- ❖ How will we know if our data is accurate?
- ❖ How will we turn our data into information that is actionable?
- ❖ How will we share our data in a way that is understandable?
- ❖ How will we decide how to use our data to motivate or incentivize behavior change in my practice?
- ❖ How are we making the lives of our patients better?
- ❖ How are we making the practice of medicine better for providers?

