

Data Governance: Why, What, Who, and How

Steve Barlow





24,000,000

I'm Not Sure We All Agree...

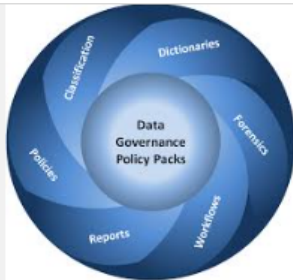
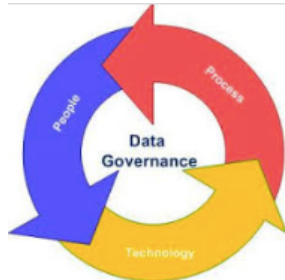
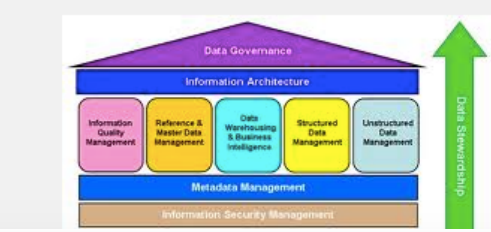
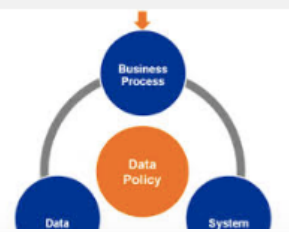
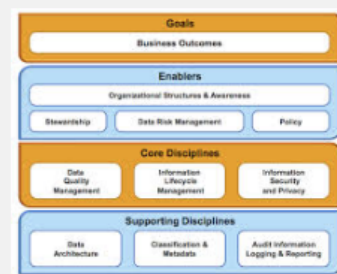
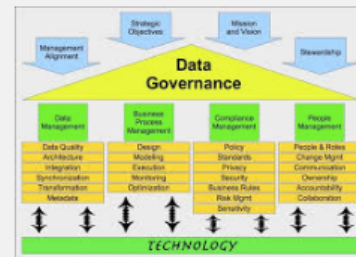
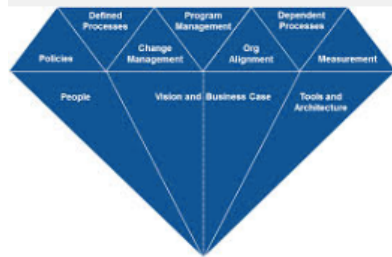
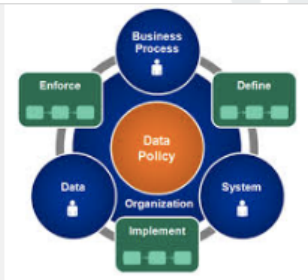
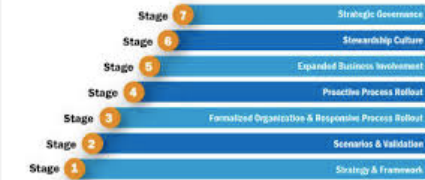
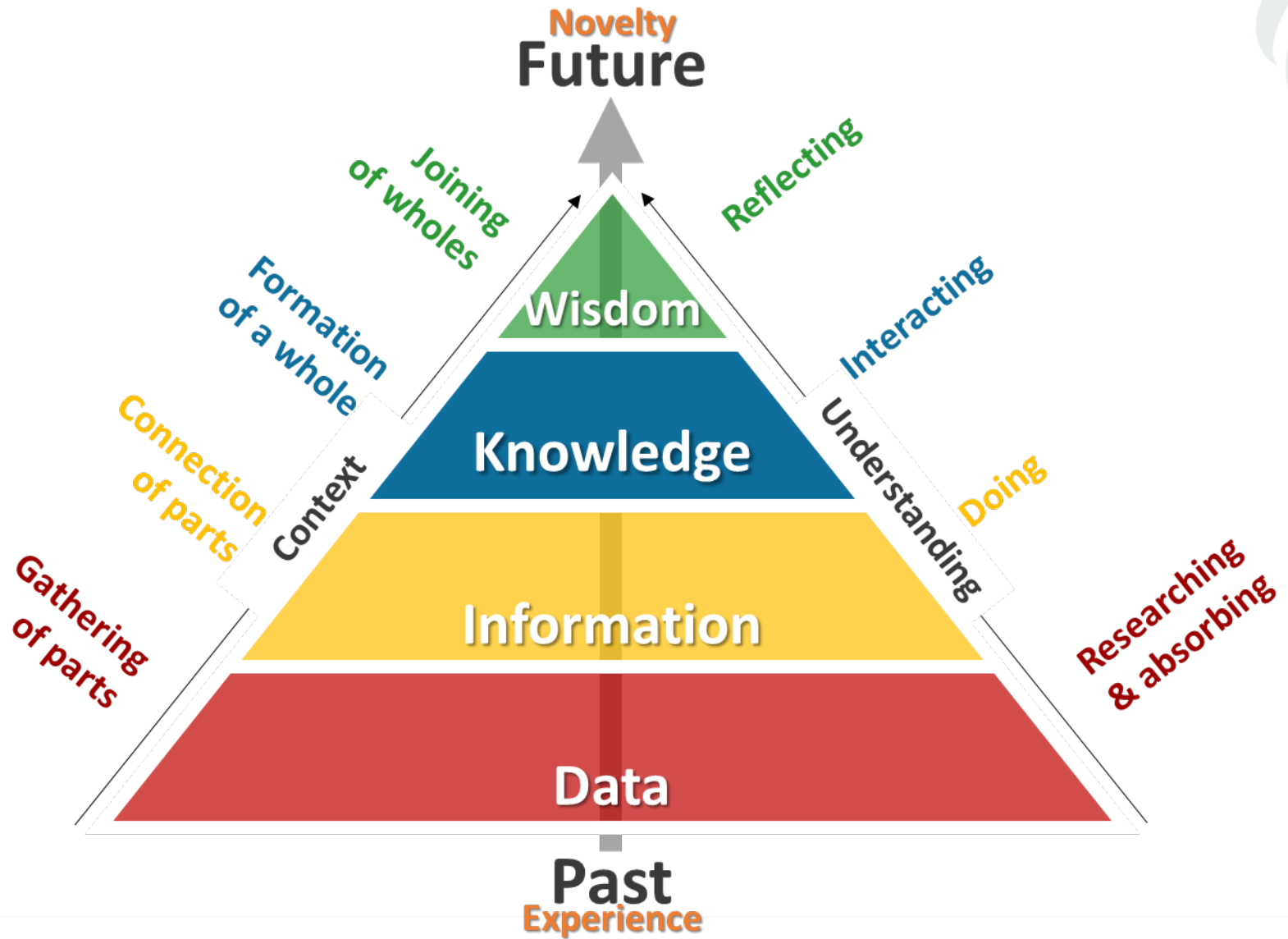
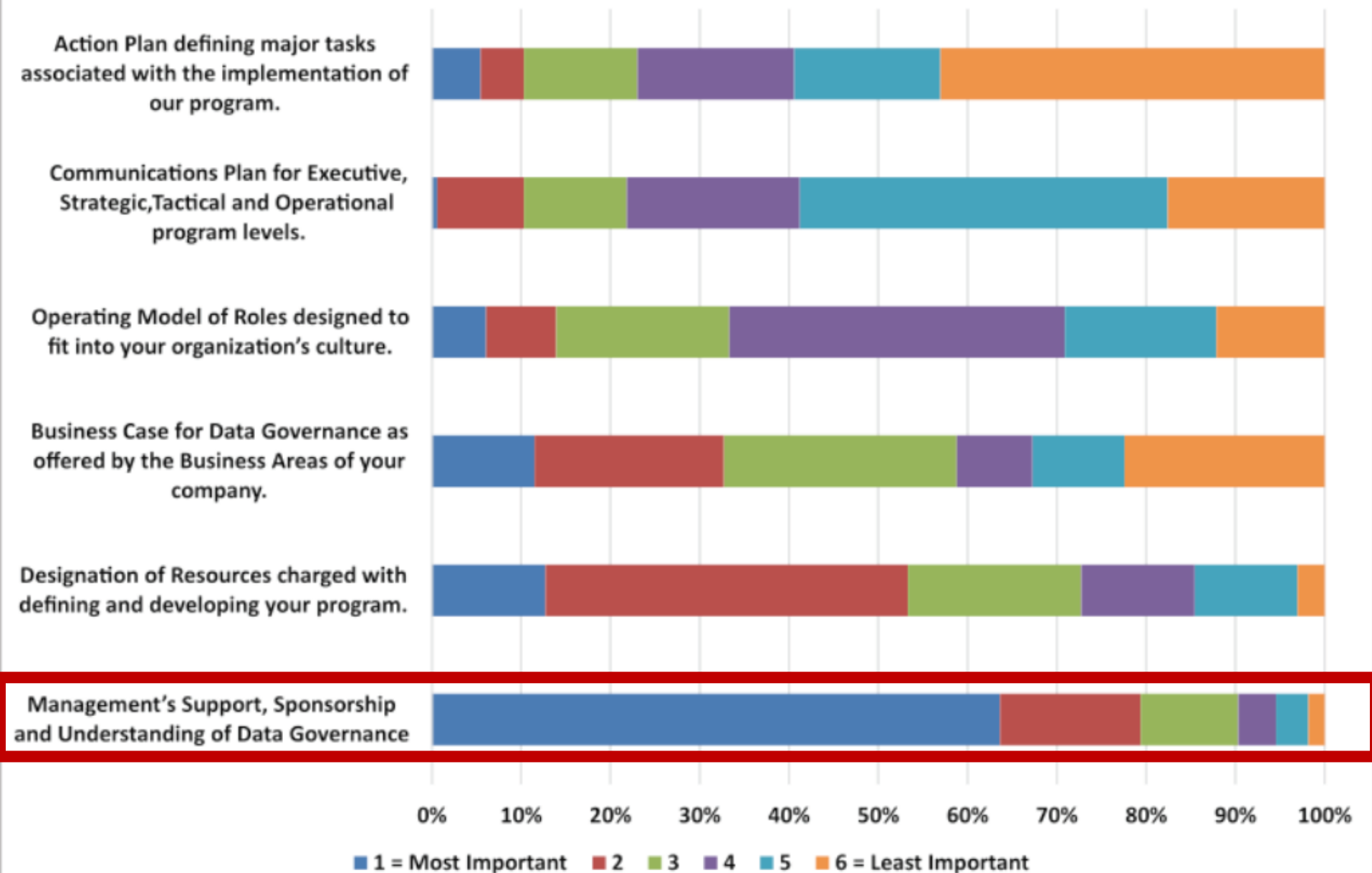


FIGURE 1: The Data Governance Maturity Model





Rank the importance of these components of starting your data governance program? (1 = Most Important, 6 = Least Important)



Does anyone in healthcare question...



the critical importance of data to enable better health at a lower cost?

that data quality matters when it comes to decision making?

that data has implicit value, just like facilities, people, products, and supplies?

The Triple Aim of Data Governance

1. Ensuring Data Quality

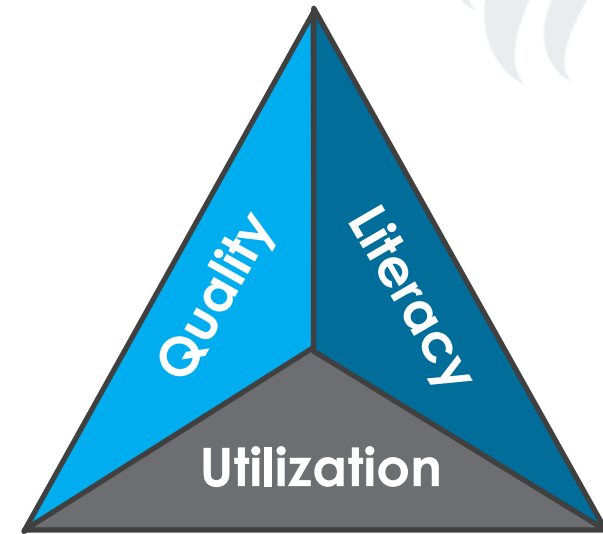
- Data Quality = Completeness x Validity

2. Building Data Literacy

- Hiring and training to become a data-driven organization

3. Maximizing Data Utilization

- Pushing the data-driven agenda to quality improvement, cost reduction, enhanced experience, and population risk reduction



<https://www.healthcatalyst.com/demystifying-healthcare-data-governance>

Activity



Select Players

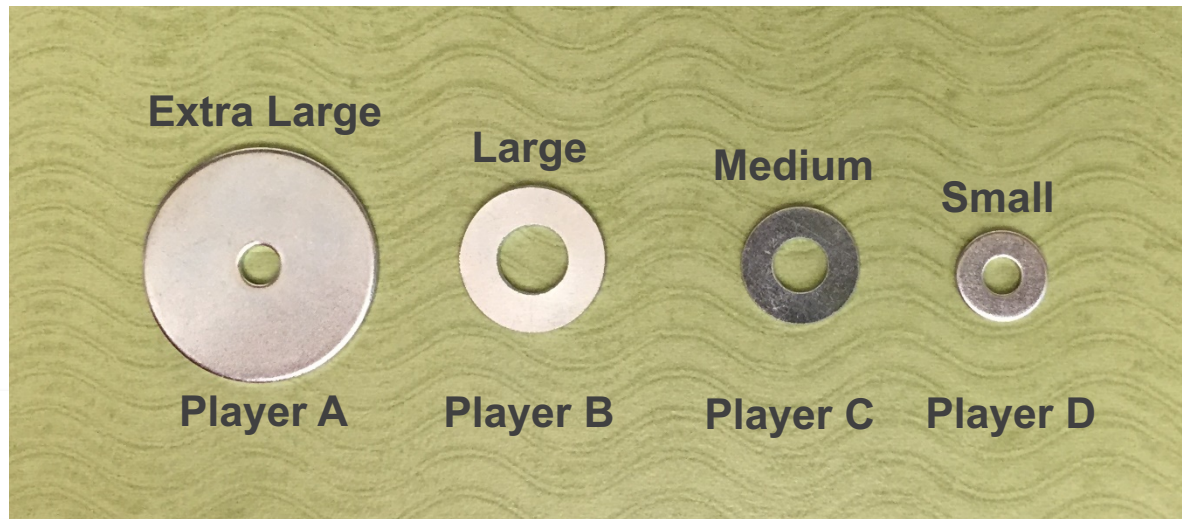
Player A - Blindfolded

Player B - Hands tied

Player C - 1 hand behind back

Player D - Wooden dowel

Materials

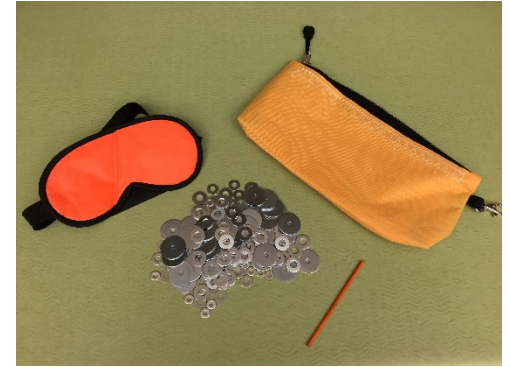


Activity



Game Set Up

- Dump washers onto table
- Blindfold player A
- Tie player B's hands
- Give wooden dowel to player D



How to win

Stack all 40 washers as quickly and neatly as possible



Learning Objectives



- Articulate the benefits of a pragmatic data governance program
- Articulate the elements of a data governance program
- Introduced to key tools and resources to begin a data governance program

Data Governance: Why and What



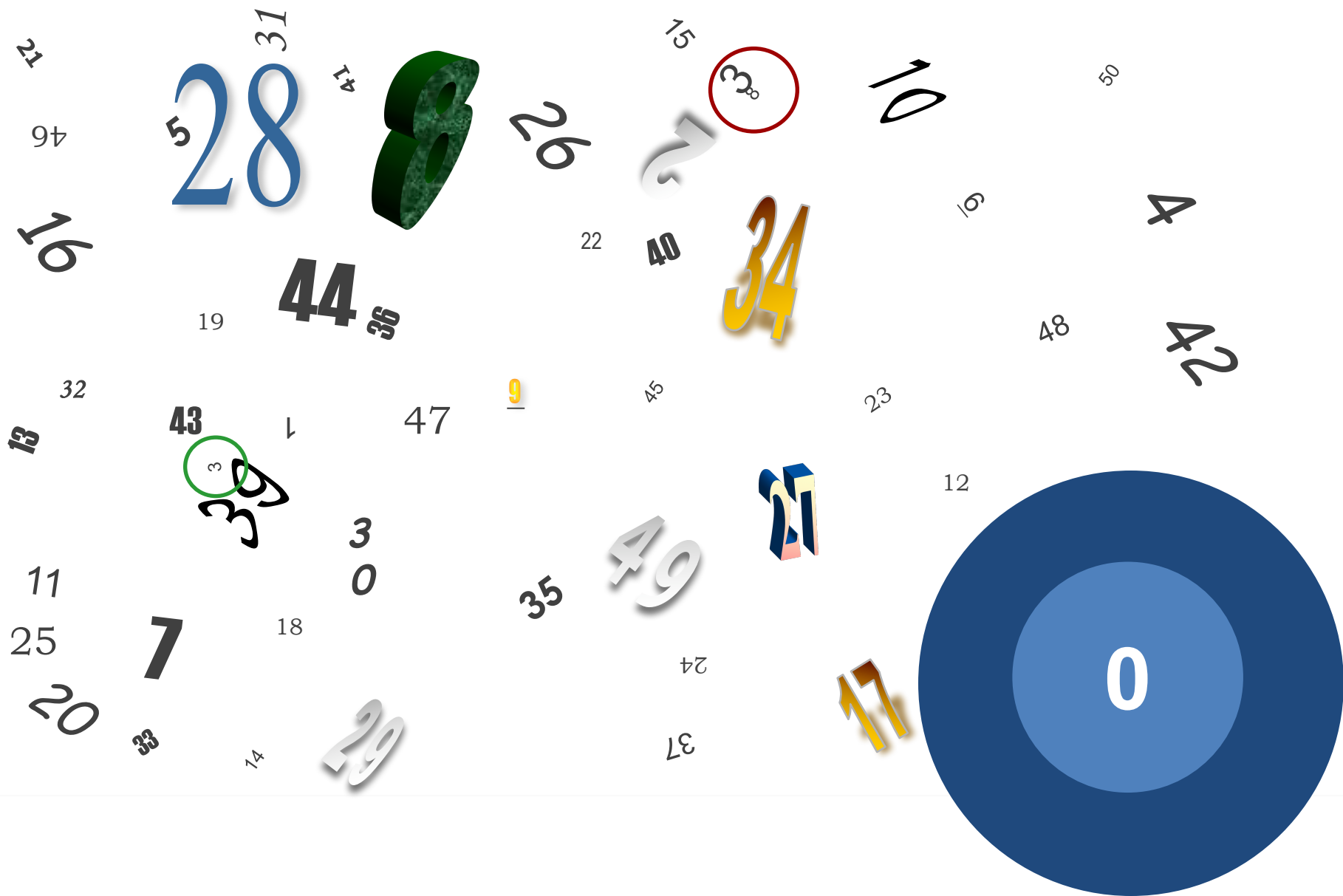
What's the Problem?



- We're data rich but information and knowledge poor!
 - We're not managing data as a valuable asset
 - No clear source of truth
 - Garbage in, garbage out

“CEOs should be spending as much of their IT budgets on getting data out of systems and using it as they do on getting data into systems.”

Ralph Kimball, an original architect of data warehousing



Round 2



Find as many numbers sequentially, from 1 to 50, in 20 seconds.

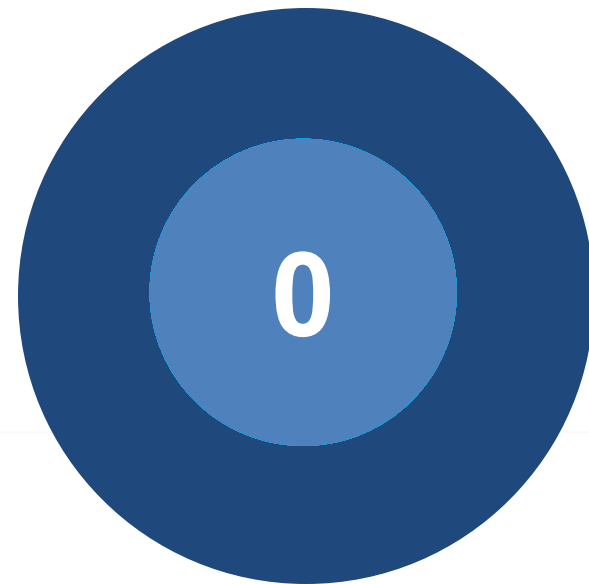
On your mark...

Get set...

GO!

25 1 17 29 5 21 41 35 7 45 53 33 37 15 49 43 9 23 31 13 3 19 27 39 47

14 50 22 4 36 32 8 28 12 24 42 18 30 2 26 40 38 16 46 20 6 34 48 10 44



Round 3

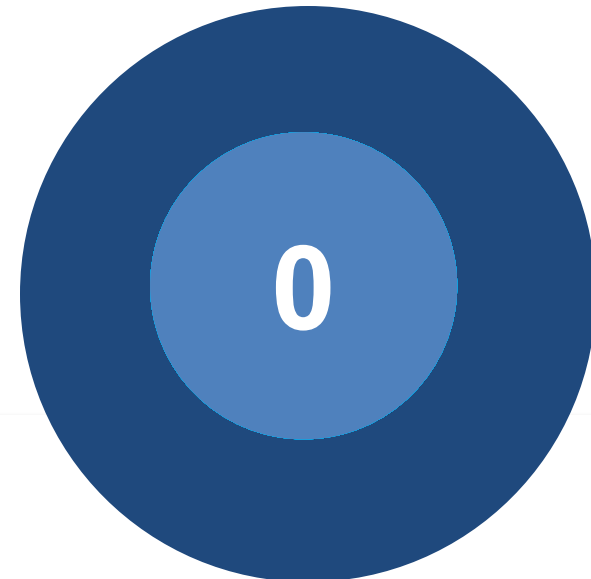


Find as many numbers sequentially, from 1 to 50, in 20 seconds.

On your mark...

Get set...

GO!



Says Oxford Dictionary



Data:

The quantities, characters, or symbols on which operations are performed by a computer, being stored and transmitted in the form of electrical signals and recorded on magnetic, optical, or mechanical recording media.

Govern:

Control, influence, or regulate (a person, action, or course of events)

Says Oxford Dictionary



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Control, influence, or regulate (a person, action, or course of events)

Data Governance Institute's Definition



“Data Governance is a **system of decision rights and accountabilities** for information-related processes....”

Data governance for the sake of data governance?

Health Catalyst's Definition



The **people, processes, & technology** orchestrated to **maximize the value of data** to the organization.



The Triple Aim of Data Governance

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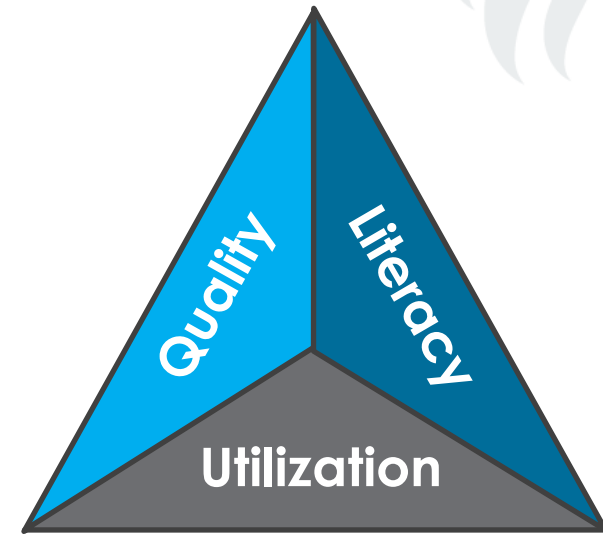
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3. Maximizing Data Utilization

- Pushing the data-driven agenda to quality improvement, cost reduction, enhanced experience, and population risk reduction



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The Triple Aim of Data Governance

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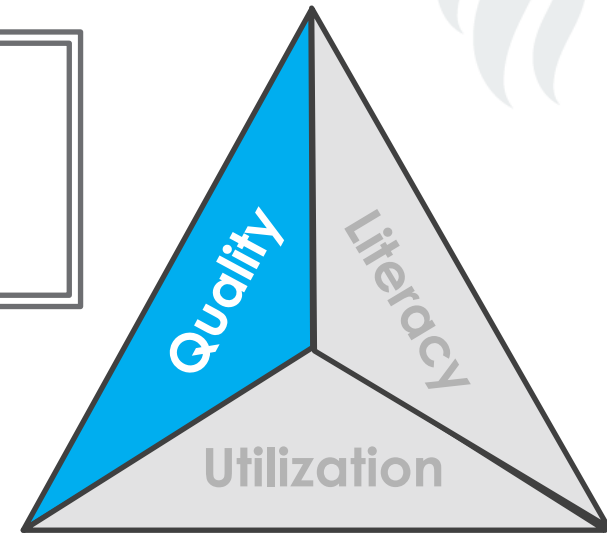
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Principles of Data Quality



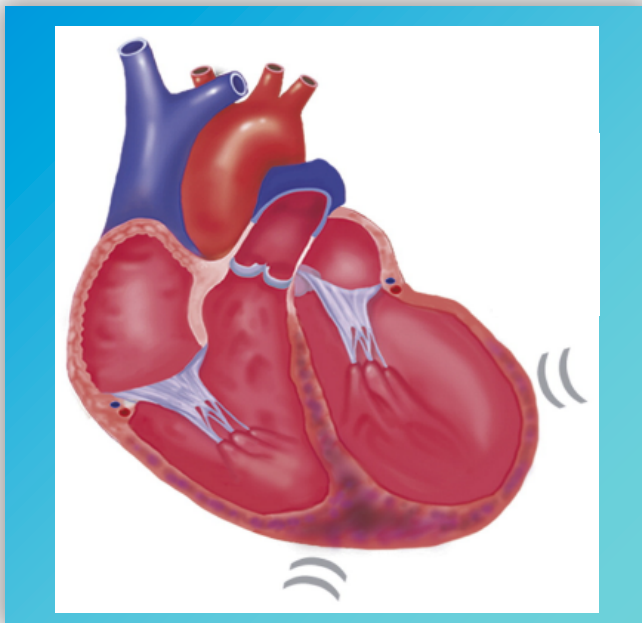
- Clean data as close to its birth place as possible
- Quality is co-owned by technical and business
 - Data stewardship must be clear and owned by business
- Don't let perfect get in the way of good enough
- Its OK to have multiple definitions



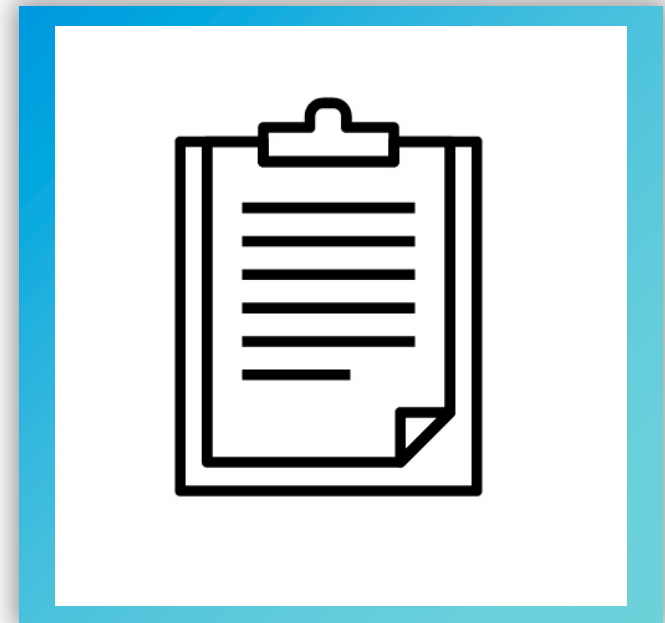
Once Upon a Time...



Left Ventricular
Ejection Fraction



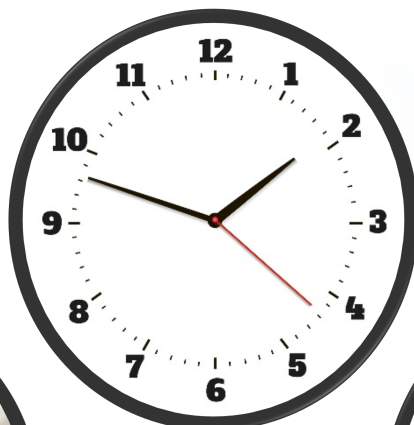
Hypertension
documentation



Balance Quality, Literacy, and Utilization with Privacy and Security



Overlapping
Security and
Governance
Leadership



Time-Bound
Access



Emphasis on
Data Value



Audited Access



Security AND Governance



Information Security Committee

Constantly pulling for greater data **protection**

Data Governance Committee

Constantly pulling for broader data **access**



The Triple Aim of Data Governance

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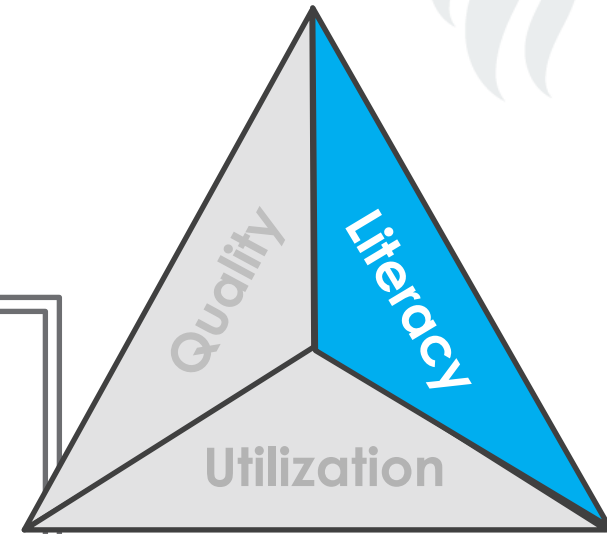
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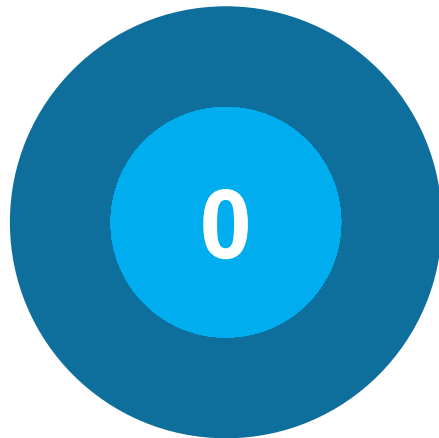
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Agile Round 1 – The Waterfall



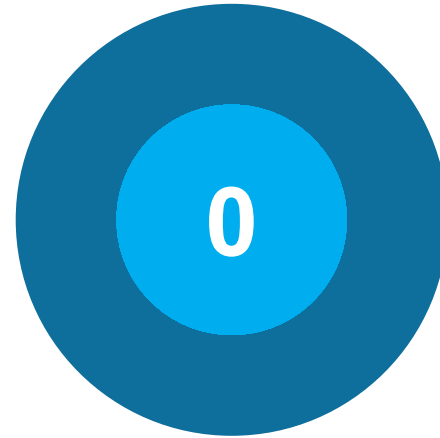
1 minute to describe

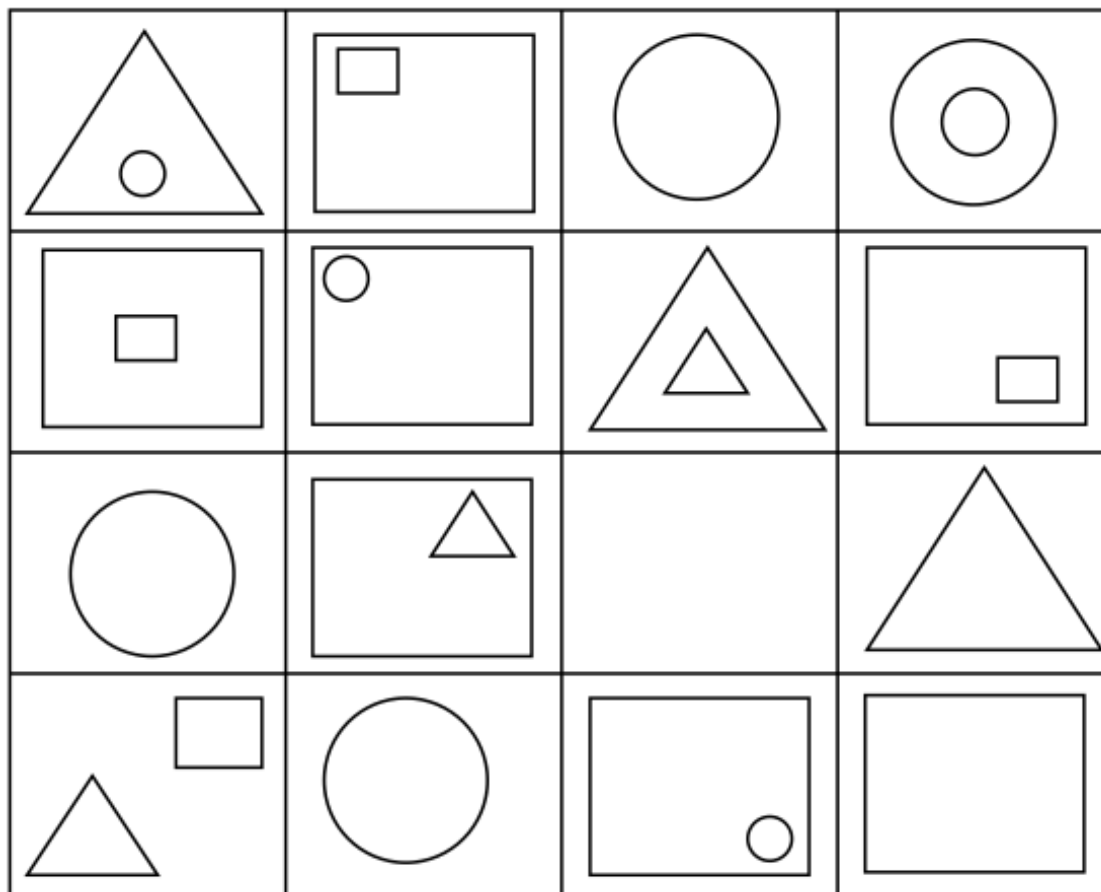
- Only the clinician can talk
- The Architect cannot look at the drawing (no mind reading)
- The Architect can't start drawing



1 minute to draw

- Only the clinician can talk
- The Clinician can only watch – no talking



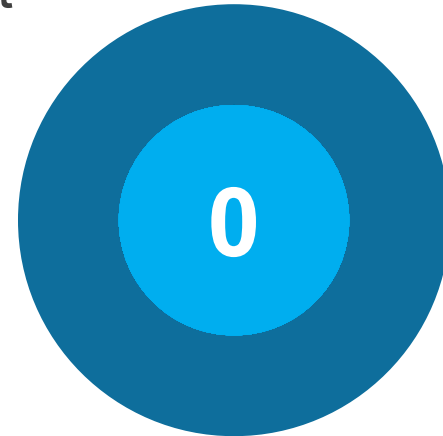
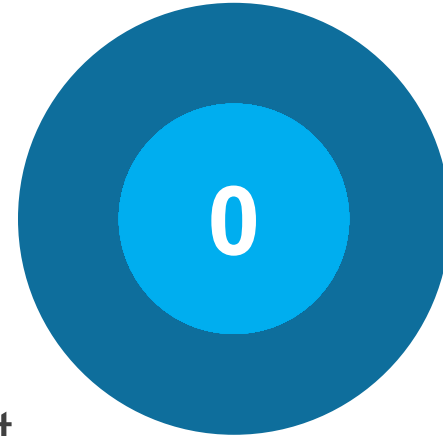


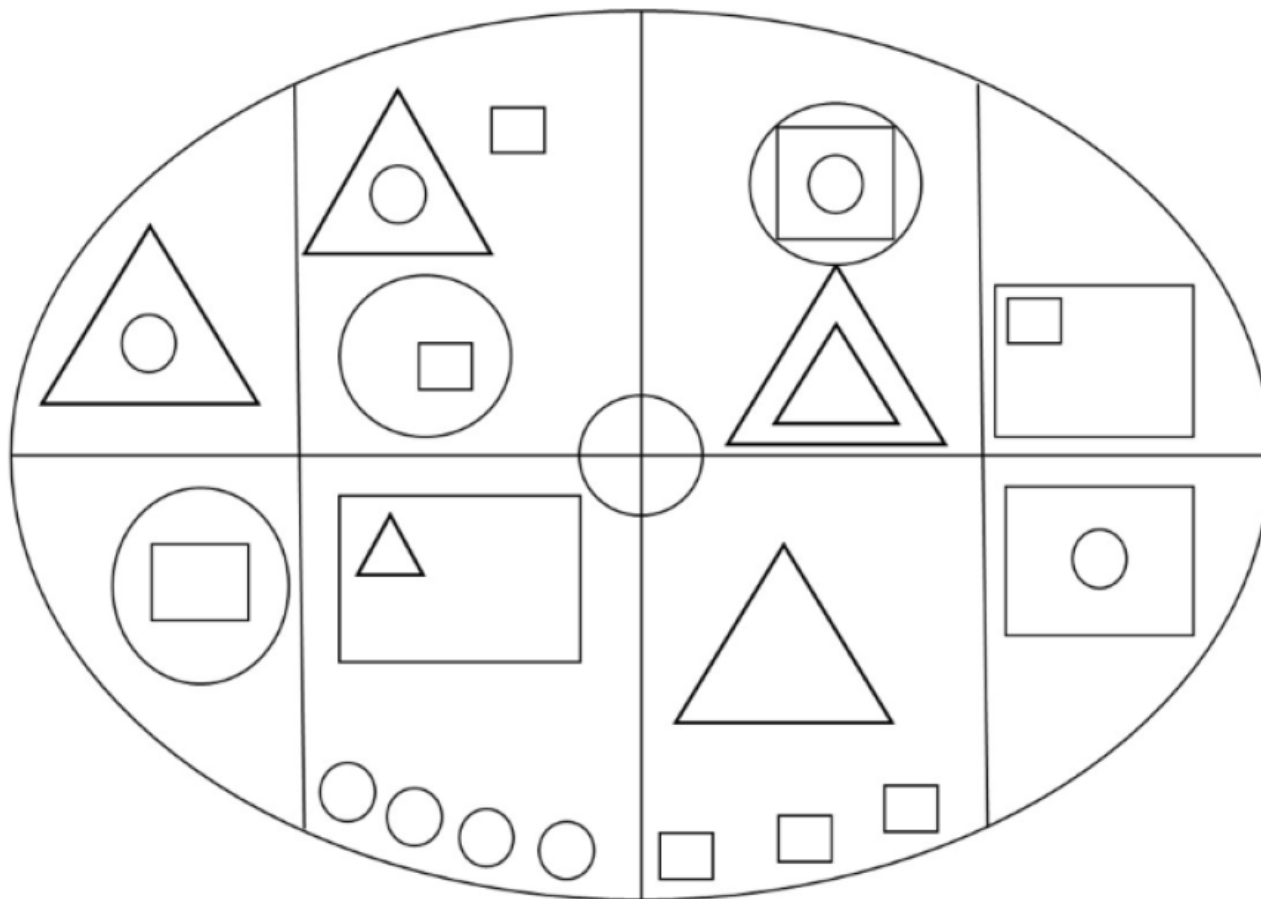
Agile Round 2 – Interactive



2 minutes to describe and draw interactively

- The Architect still cannot look at the drawing
(still no mind reading capabilities)
- You can interact as much as you want
- You can erase and redraw



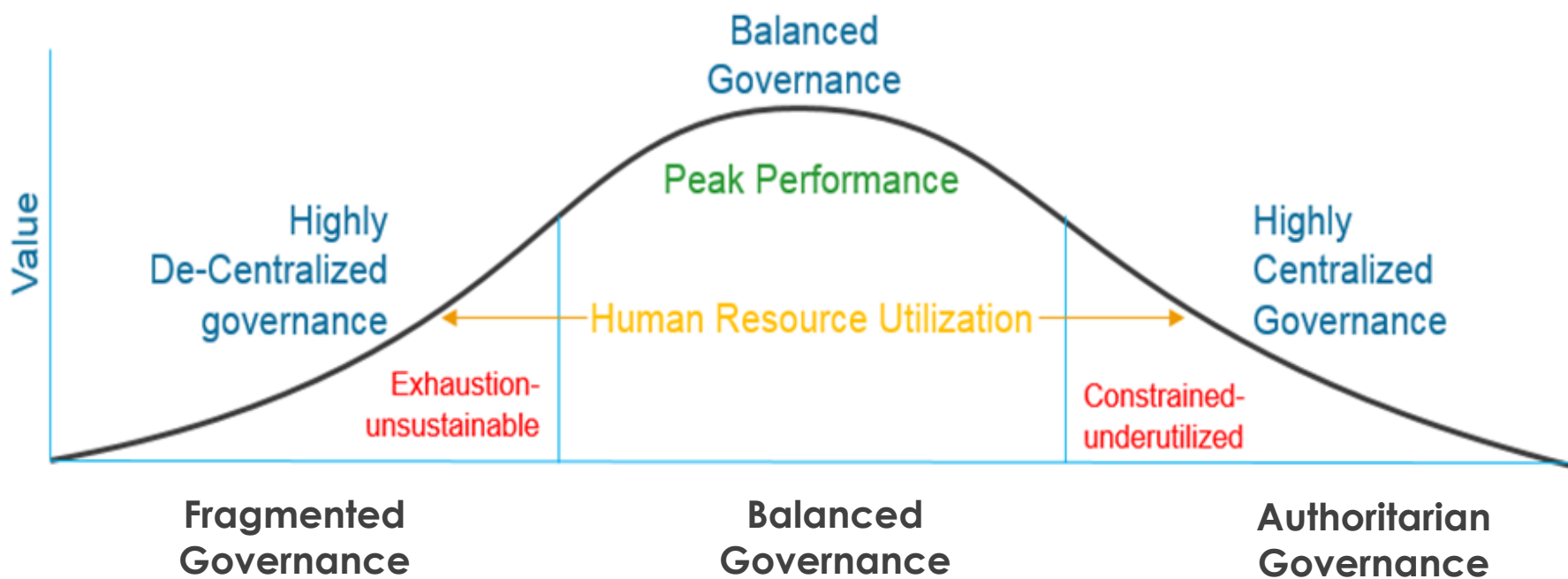


Principles of Data Literacy



- Increase number and sophistication of **knowledge workers**
- Establish a robust education and training program for knowledge workers and work group leaders
- Establish a culture of data-driven decisions
 - Ask, “What does the data say?”
- Make data visible

Good data governance promotes a culture of data literacy and data-driven decision making.

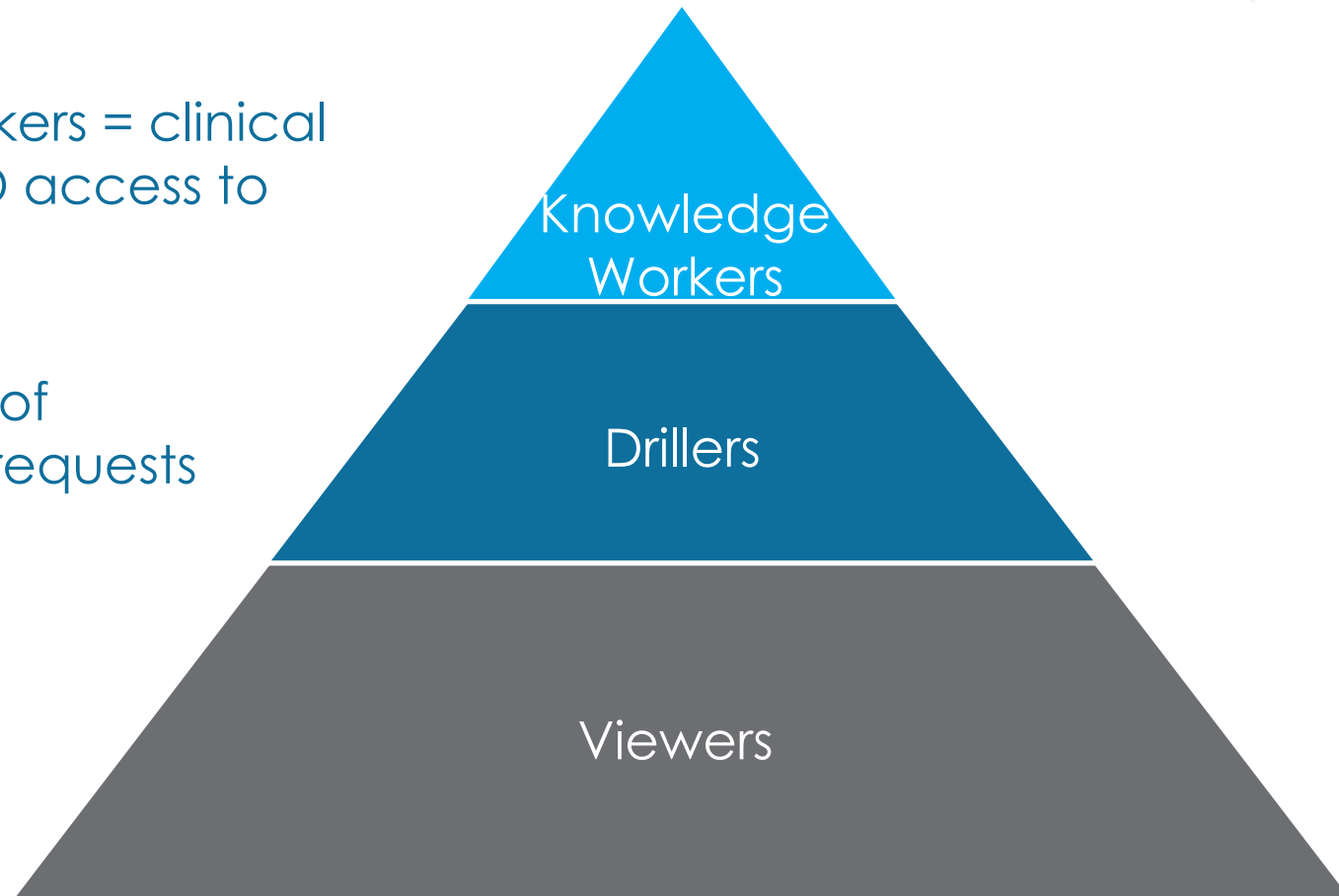


Focus on the Triple Aim of Data Governance

Data Literacy

Typical Current State

- Knowledge workers = clinical knowledge AND access to tools and data
- Large backlogs of analytic/report requests



User Distribution

Data Literacy

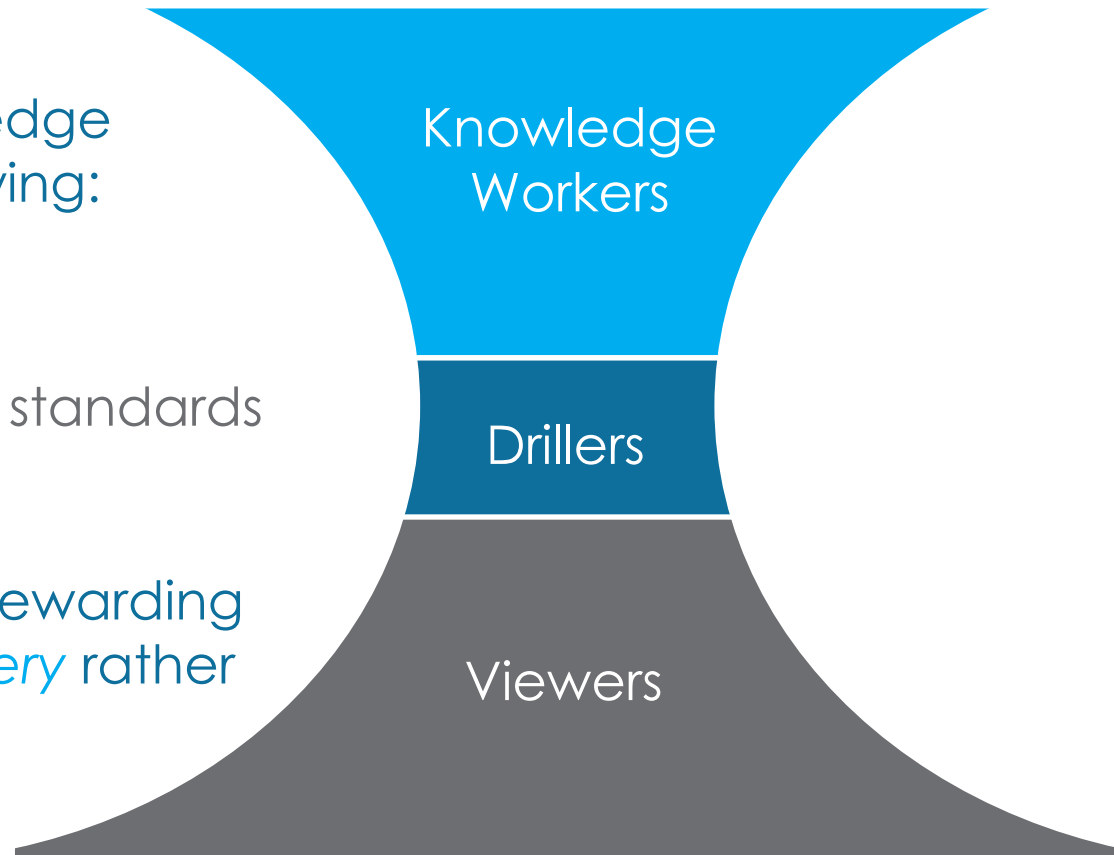
Desired Future State



Increase number of knowledge workers by doing the following:

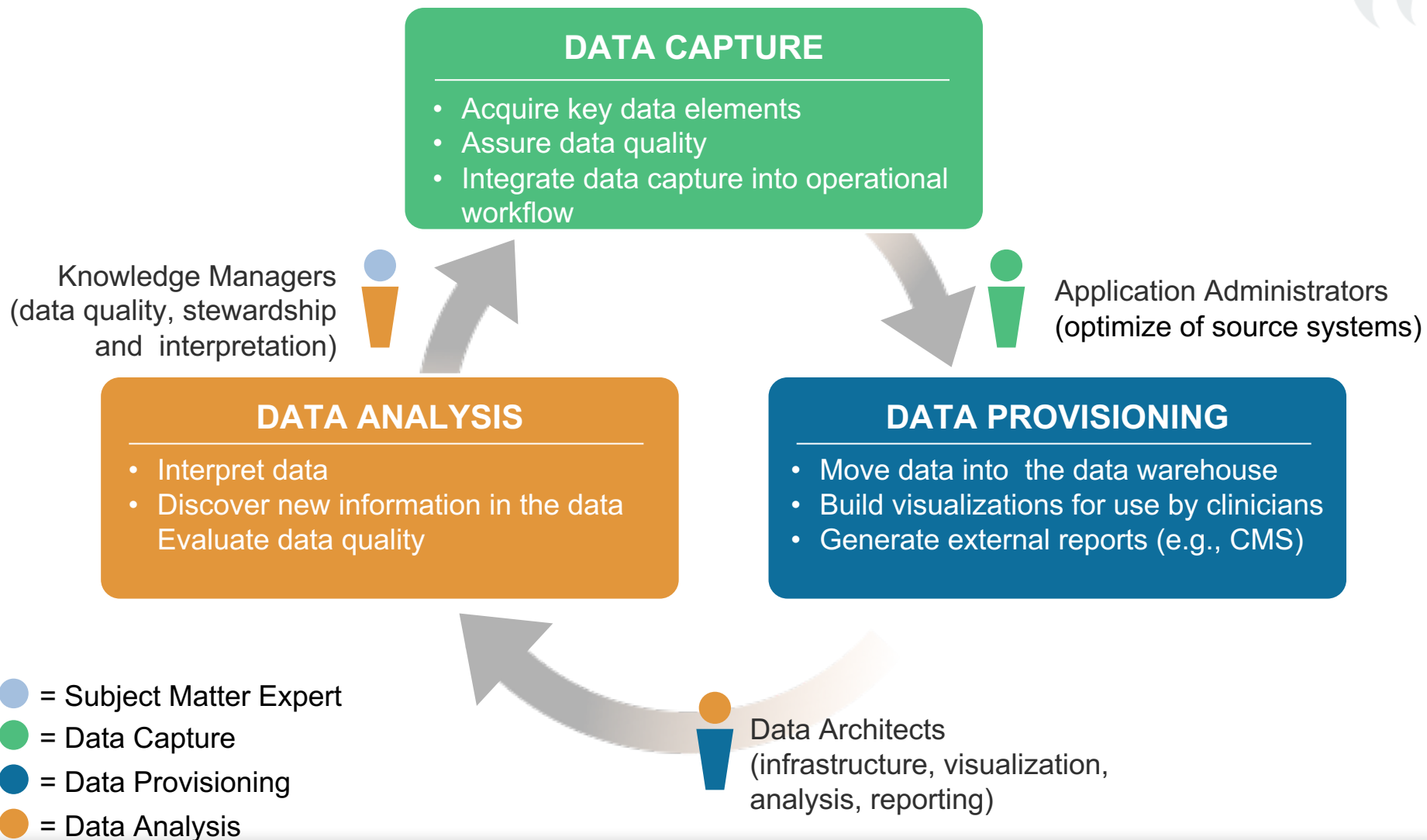
- Expand data access
- Simplify data structures
- Continue use of naming standards
- Provide better tools

Promote shift in culture by rewarding *process knowledge discovery* rather than punishing outliers



Desired User Distribution

Key Functions to Consider...



Data: A Corporate Asset



Corporate Governance

Finance Committee

Human Resources

Facilities Committee

Marketing

Data Governance Committee

Asset

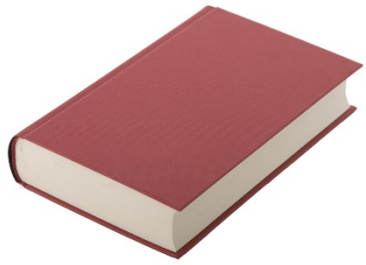
\$\$\$

People

Brick & mortar

Brand

Data



Once Upon a Time...



Primary Care Physicians want data

- “Where’s the data?”

“We need more Kates”

- Data mature organizations have 10s or 100s (depending on size of organization)



“I told you I wasn’t a hunter gather. I’m an analyst!”

The Triple Aim of Data Governance

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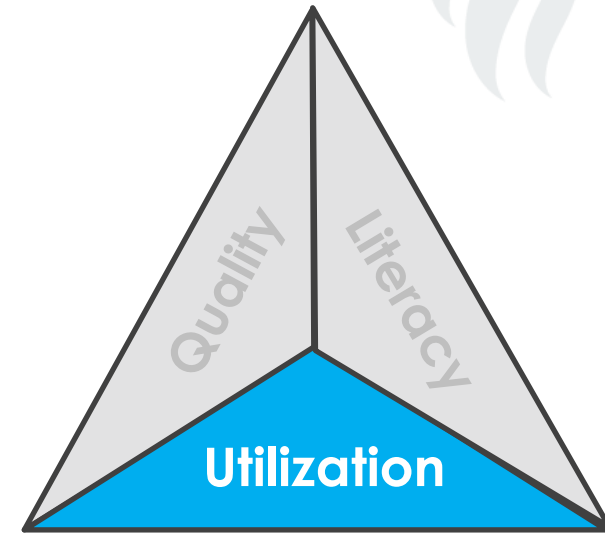
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<https://www.healthcatalyst.com/demystifying-healthcare-data-governance>

Principles of Data Utilization



- Treat data utilization as a “small business”
- Error on the side of MORE access
- One tool will NOT rule them all
 - Ad hoc, canned reports, analytical apps (e.g., dashboards)
- Form an Analytics User Group



Keys to Analytic Success

The Data Governance function should be a driving force in all three...

Mindset

Building a “data driven” culture

Skillset

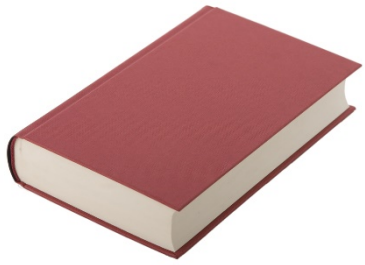
Actively growing data literacy among employees

Toolset

Choose the right tool(s) to support analytics and data governance

Democratize the Data...

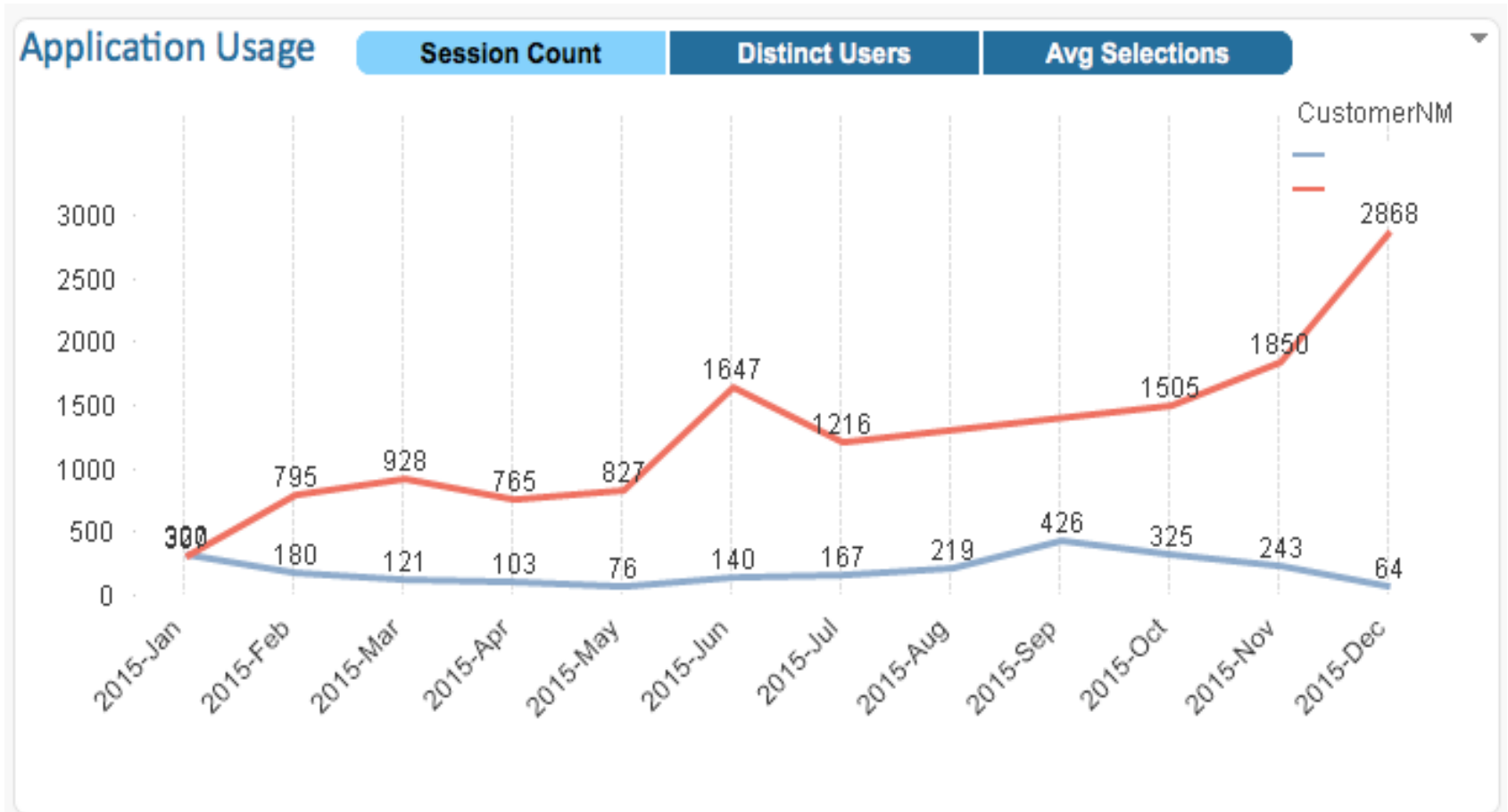




Once Upon a Time...



“Treat analytics like a small business”



Question



How would you rate data governance effectiveness in your organization?

- ☐ 5 – Very effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1 - Ineffective

Data Governance More about the What/Why



Healthcare Analytics Adoption Model

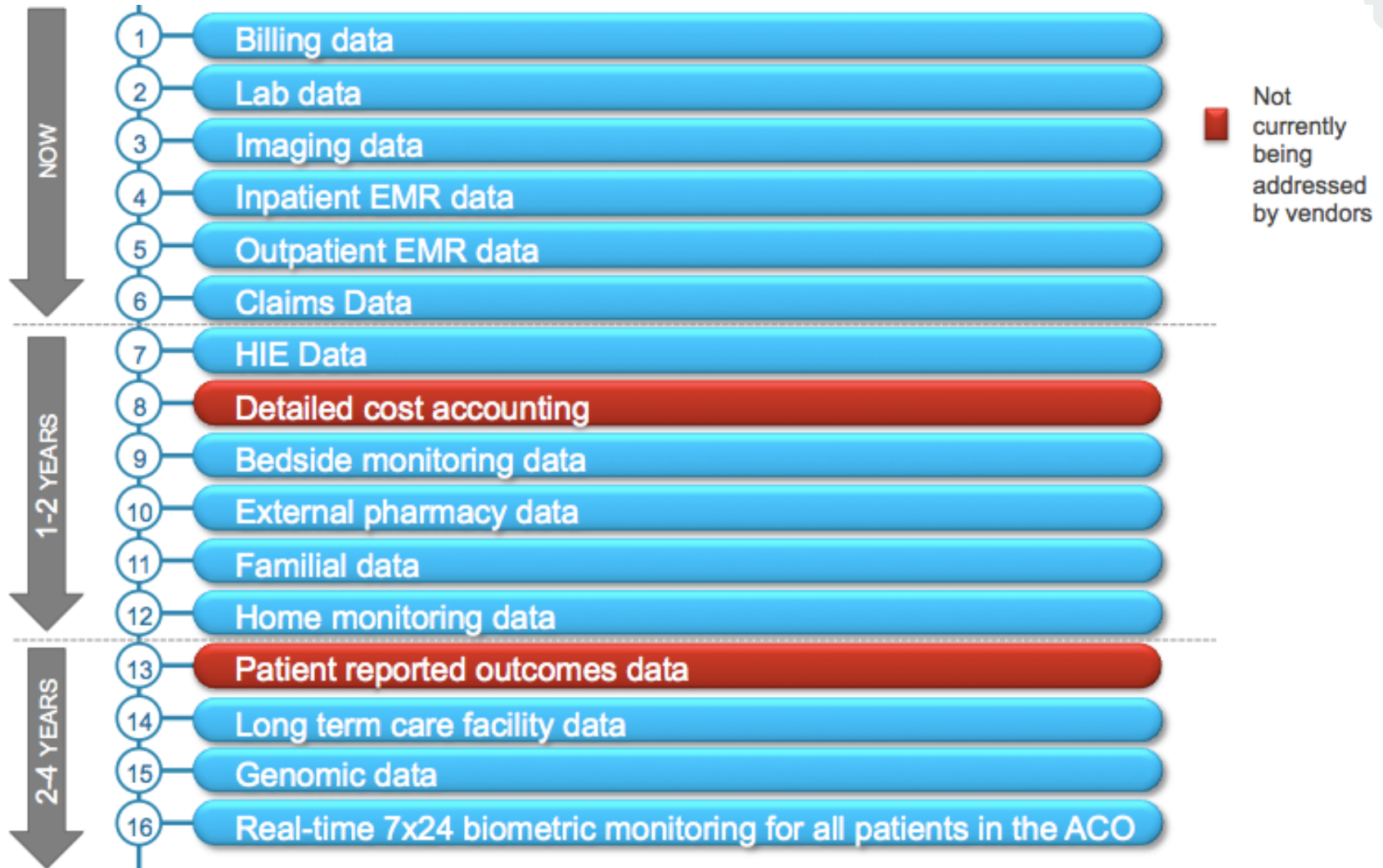
© Sanders, Protti, Burton, 2013



Level 8	Personalized Medicine & Prescriptive Analytics	Tailoring patient care based on population outcomes and genomic data. Fee-for-quality rewards health maintenance.
Level 7	Clinical Risk Intervention & Predictive Analytics	Organizational processes for intervention are supported with predictive risk models. Fee-for-quality includes fixed per capita payment.
Level 6	Population Health Management & Suggestive Analytics	Tailoring patient care based on population metrics. Fee-for-quality includes bundled per case payment.
Level 5	Waste & Care Variability Reduction	Reducing variability in care processes. Focusing on internal optimization and waste reduction.
Level 4	Automated External Reporting	Efficient, consistent production of reports & adaptability to changing requirements.
Level 3	Automated Internal Reporting	Efficient, consistent production of reports & widespread availability in the organization.
Level 2	Standardized Vocabulary & Patient Registries	Relating and organizing the core data content.
Level 1	Enterprise Data Warehouse	Collecting and integrating the core data content.
Level 0	Fragmented Point Solutions	Inefficient, inconsistent versions of the truth. Cumbersome internal and external reporting.



What Data Are We Governing?



Tactical Data Governance: Who?



Business Owners Are the Primary Data Stewards



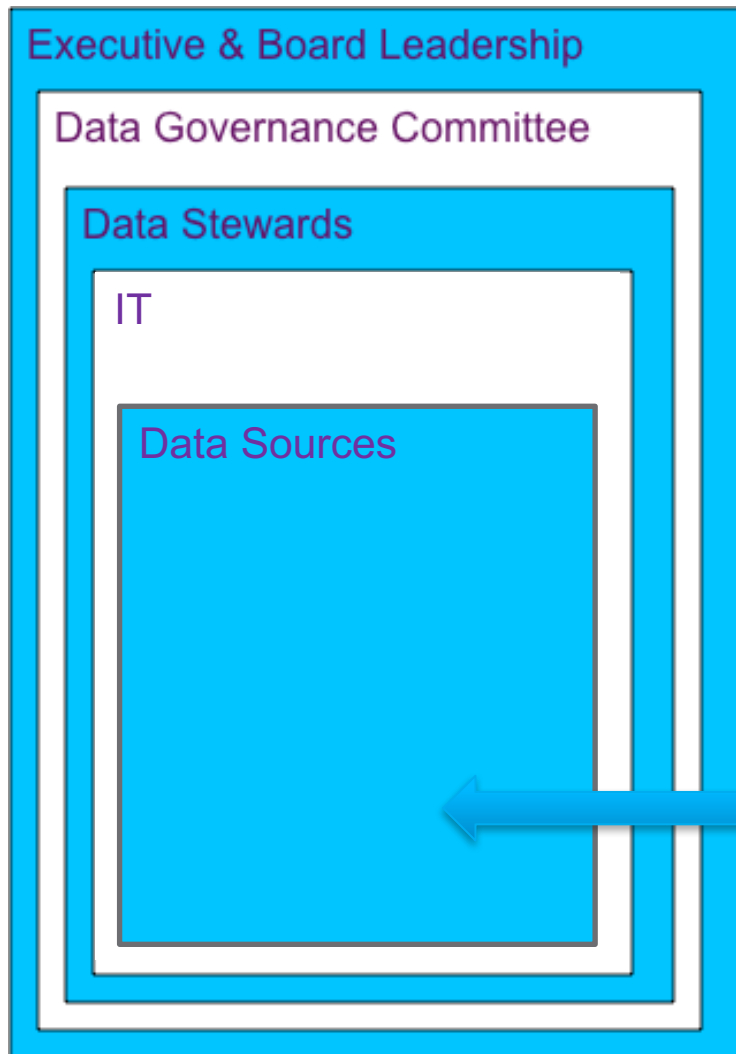
Reinforce the (global) data-governance principles.

Enable a two-way communication for data governance practices:

- Receive and promote best practices from the Data Governance Committee (DGC) and data-steward community to the front lines.
- Refine these and other practices and report enhancements, innovations, and pitfalls back up to the DGC and data-steward community.

“Those who know the data best should help govern.”

The Data Governance Layers



Happy Data
Analyst



Who is the Data Governance Committee?



QI/Analytics Leader ➤ Representing the analytics customers

IT Leader ➤ The systems and data technologist

Medical and Ops Leader ➤ The clinical data owners

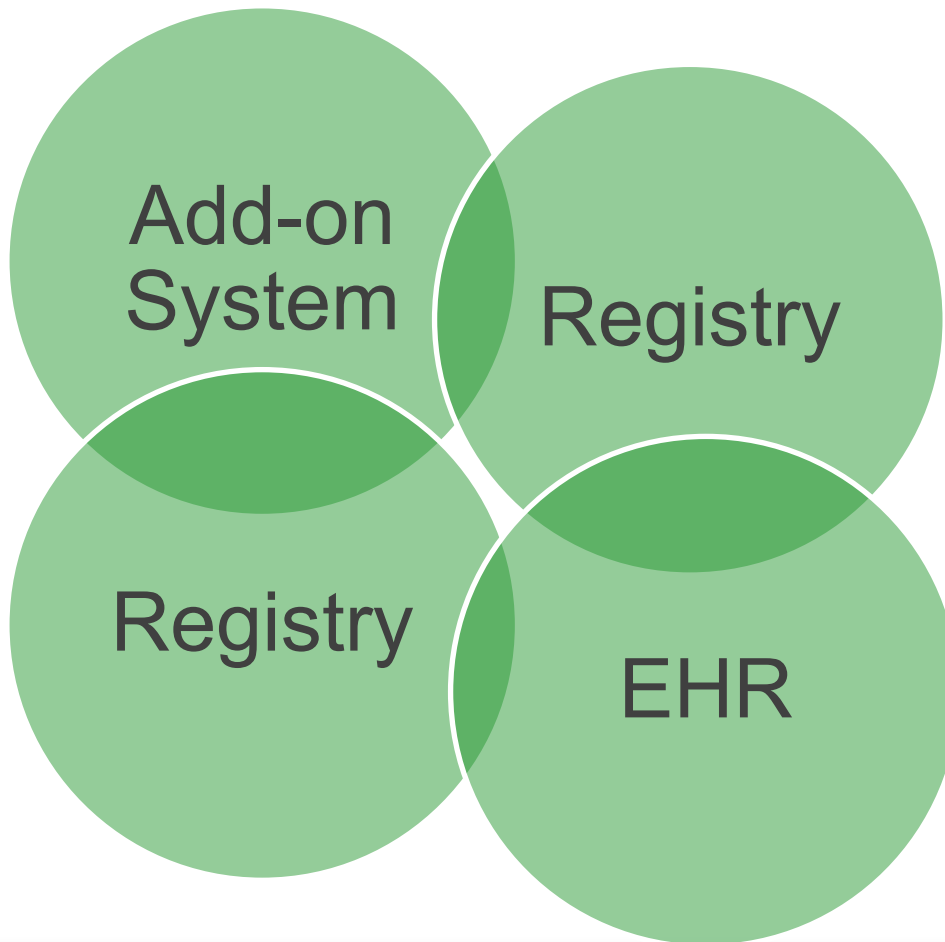
Finance Leader ➤ The financial, revenue and expense data owner

EHR/Health IT Leader ➤ The clinical data technologist



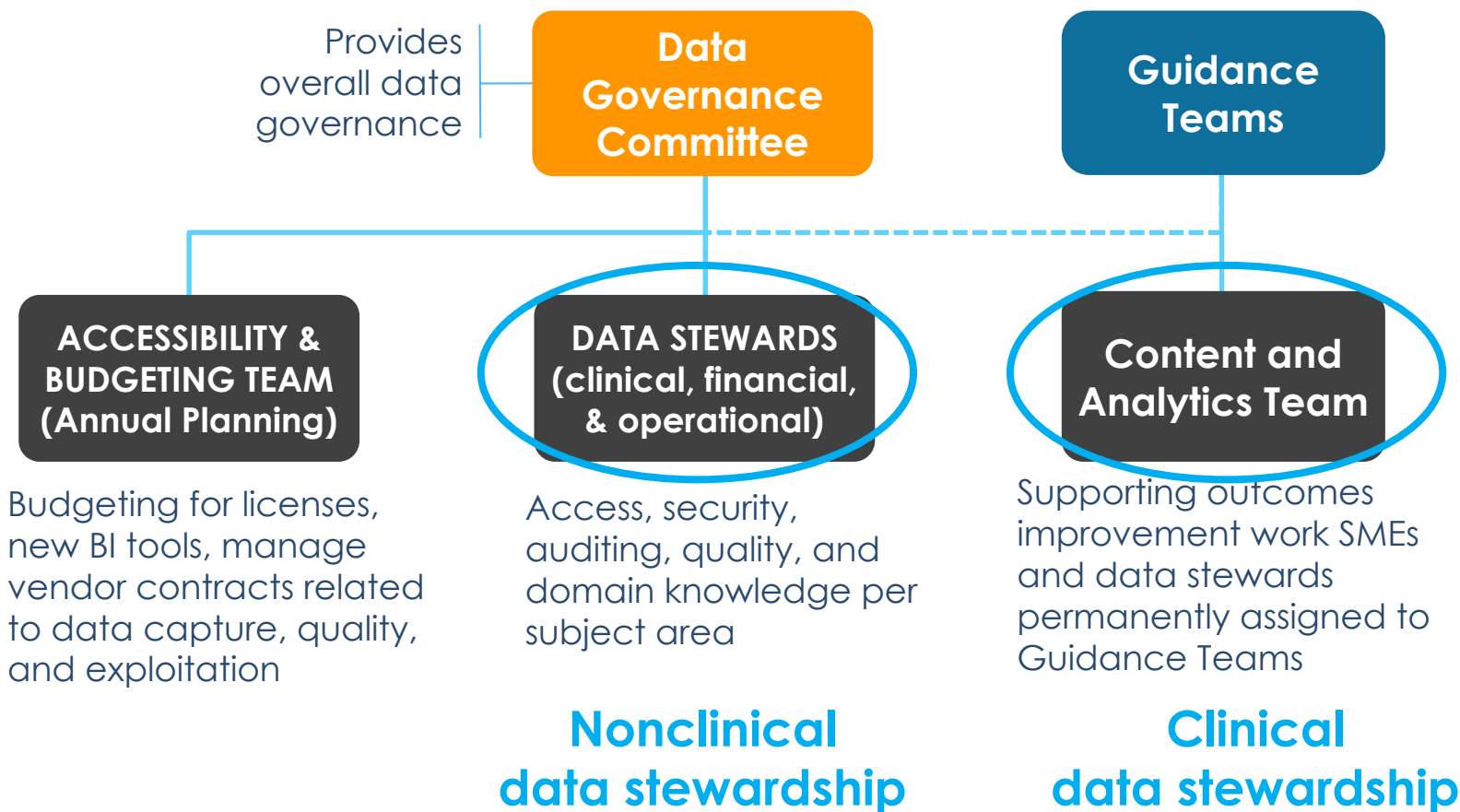
Establish These Principles, Early

In principle, how are you going to minimize the reporting and analytic overlap?



Avoid turf battles
and leverage the
strengths of each
system

Data Governance in the Organization



Tactical Data Governance: How?



Principles of Data Governance



- Quality, literacy, and utilization AND privacy and security
- Data are a corporate asset
- Business owners are the primary data stewards
- Govern data to the least extent necessary
- Govern no data until it is time
- Data governance should be consistent, but not fanatical



Keys to Analytic Success

The Data Governance function should be a driving force in all three...

Mindset

Building a “data driven” culture

Skillset

Actively growing data literacy among employees

Toolset

Choose the right tool(s) to support analytics and data governance

Data Governance Should Be Consistent, but Not Fanatical



Govern As Little and As Late As Responsible



Some Criteria:

- Are the data elements **pervasive** and **persistent**?
- Is their standardization and consistency **urgent**?
- Is the local organization **ready to support** governance here?

“Govern no data until it is time.”

- Dale Sanders, Senior Vice President, Health Catalyst

Data Governance Cultures



The screenshot shows a video player interface. On the left is a green sidebar with a table of contents. The main area displays a presentation slide with a man's face in the background. The slide title is 'CULTURES IN DATA GOVERNANCE'. Below the title is a list of three bullet points: 'Authoritarian', 'Tribal', and 'Democratic'. The video player has a progress bar at the bottom.

Population Health Management

- ▶ The Future of Healthcare Analytics: Return on Engagement
- ▶ 3 Fundamental Elements of a Data Driven Culture
- ▶ Data Governance for High Functioning Health Centers
- ▶ How To Get Started With Data Governance
- ▶ Right-Sizing Data Governance
- ▶ Barriers to Effective Data Governance
- ▶ Balancing Data Access with Privacy and Security

THOUGHT LEADERSHIP: SCOTT BARLOW >

CULTURES IN DATA GOVERNANCE

- Authoritarian
- Tribal
- Democratic

Qualities of Fragmented Governance



Not enough data governance

- Completely decentralized, uncoordinated data analysis resources
- Inconsistent analytic results
- Poor data quality
- No mechanism to address data quality problems
- Inability to respond to new use cases and requirements

Qualities of Authoritarian Governance



Too much data governance

- Unhappy data analysts... and their customers
- Everything takes too long
 - Loading new data
 - Making changes to data models to support new use cases
 - Getting access to data
 - Resolving data quality problems
 - Developing new reports and analyses



Qualities of Democratic Governance



Centralized decision making

- Elected or appointed, centralized representatives
- Majority rules

Decentralized decision making

- Direct voting and participation, locally
- Everyone is expected to participate in developing shared values, rules, and laws; then abide by them and act accordingly

Question



What best describes the current state of affairs for data governance in your organization?

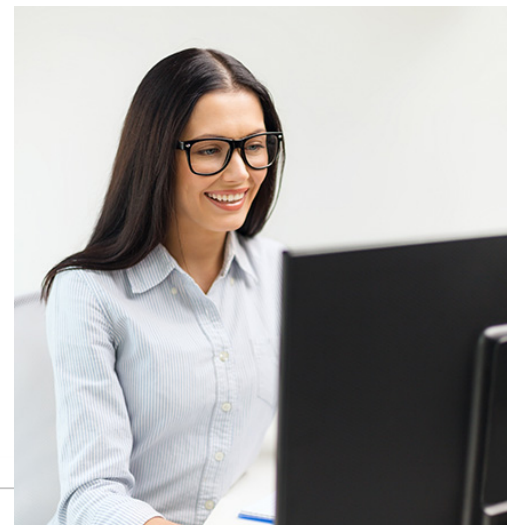
- ☐ Authoritarian
- ☐ Democratic
- ☐ Fragmented

What Does It Look Like?



“Goldilocks” (just-right) data governance

- Pragmatic processes to resolve data quality issues exist that involve all stakeholders in the data chain.
- Mechanisms are in place to develop approaches to new data use cases.
- Sensitive data are protected but unconstrained exploration of the EDW is encouraged and supported.
- Regular successes from leveraging the data are achieved.
- A data-driven culture evolves in the organization and becomes the standard for decision making.



Common Pitfalls



Wandering: Lacking direction and experience

- “We know we need data governance, but we don’t know how to go about it.”

Technical Overkill: An overly passionate and inexperienced IT person leads the committee

- Can’t see the forest for the trees.
- Encourages micromanagement; for example, she may ask executives on the Data Governance Committee (DGC) to define naming conventions and data types for a database column and other details protection.

Common Pitfalls Continued



Politics: Members of the DGC are passive aggressive, narrowly motivated, data poseurs

- They pretend to be data driven but make it difficult to access data appropriately.
- They get territorial about “their” data.
- Their attitude may be “that person isn’t smart enough to use my data properly.”

Red Tape: Committee members are not governors of the data, they are bureaucrats

- They impose red-tape processes for accessing data.
- They confuse data governance with data protection.

Poll Question



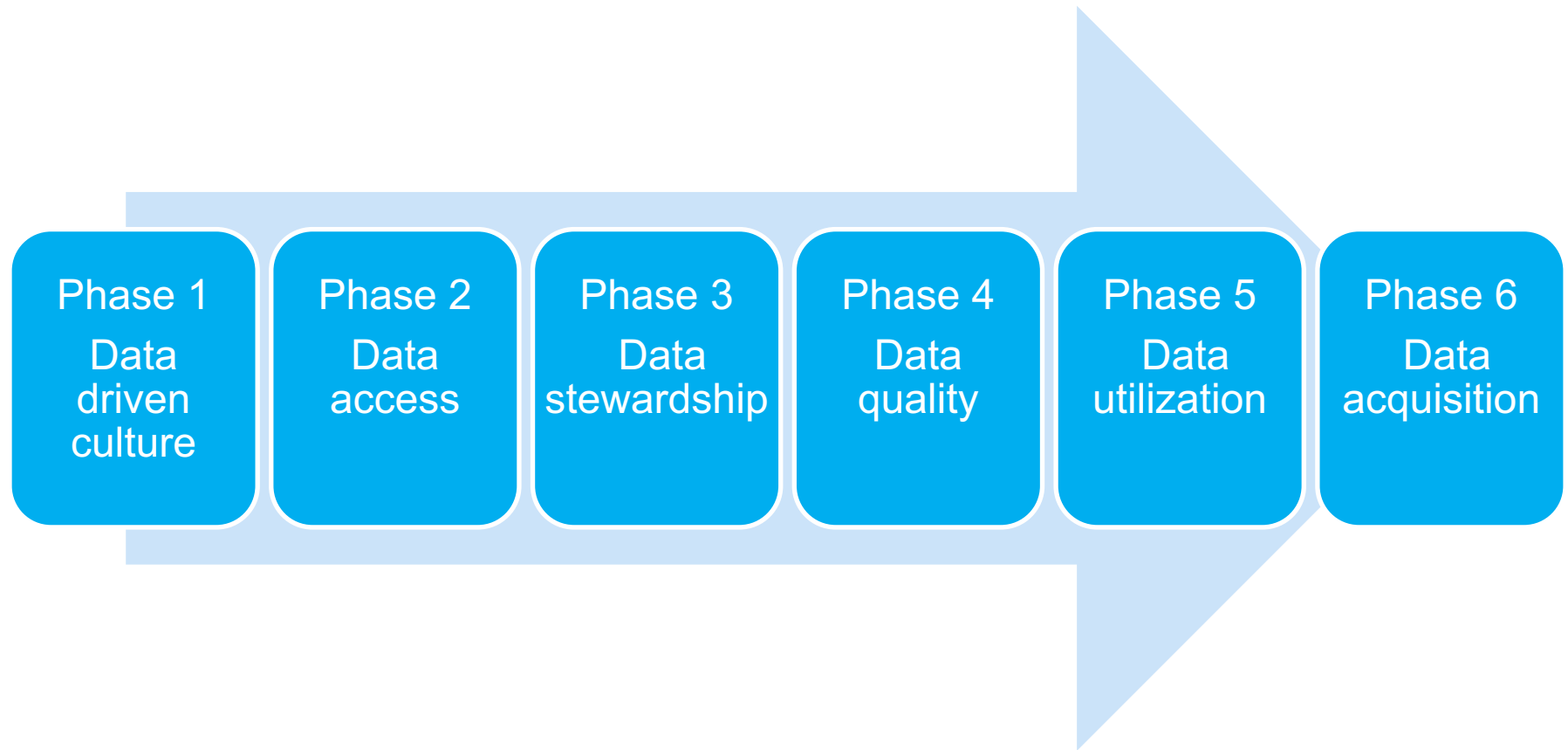
Your organization's biggest risks to the success of the Data Governance Committee?

- ☐ Wandering
- ☐ Technical Overkill
- ☐ Politics
- ☐ Red Tape
- ☐ Other



Okay. Now, *how do we get started?*

Phases of Data Governance



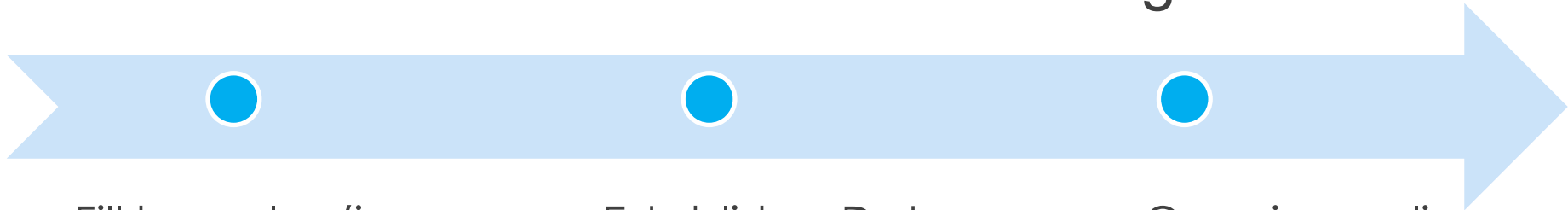
Data Governance Roadmap



Short Term

Mid Term

Long Term



- Fill key roles (i.e. Data Stewards)
 - Select a family of measures, program, or KPIs to build governance processes
 - Define data strategy, standards and processes
- Establish a Data Quality Response plan
 - Establish a prioritization system for data and information requests
 - Align work groups with leadership accountability
- Ongoing policy implementation
 - Validation
 - Proactive quality audits
 - Data Steward audit reports
 - Time bound access

Takeaways





A Few Lessons Learned...

- Establish a common language
- Clearly define boundaries
- Don't try to “boil the ocean” – Focus on the core data elements
- Democratize Data Quality – within guardrails
- Don't wait for data to be perfect to expose
- Robust data governance and operations governance overlap
- Be patient. This is a marathon, not a sprint



In Conclusion

Practice democratic data governance

- Find the balance between central and decentralized governance
- Federal vs. States' rights is a good metaphor

The Triple Aim of Data Governance

- Data Quality, Data Literacy, and Data Utilization

Analytics gives data governance something to govern

- Start within your current scope of influence and data, then grow from there

