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7 Essential Practices for Data Governance in Healthcare
By Dale Sanders

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Data is now one of the most valuable assets in any organization, especially healthcare as we transition into a more analytically driven industry. Data is now the longest lasting asset in any organization, outliving facilities, devices and people.

According to the Oxford Dictionary, governance, in general, suggests the act of controlling, influencing, or regulating a person, action, or course of events. The Latin origins are found in gubernare, which means to steer or rule.

In the past few years, as the value and longevity of data were better realized, the term data governance emerged to describe the concept of managing and influencing the collection and utilization of data in an organization. The adoption and creation of accountable care organizations is motivated as much by the acquisition of more data to manage risk and understand outcomes, as it is motivated to acquire clinicians, patients, and facilities. If we accept the assertion that healthcare is a knowledge delivery industry—that is, the application of specialized skills and knowledge, along with specialized tools—it is our obligation to exploit the data assets in our environment to augment and optimize that knowledge and those skills.

HEALTHCARE DATA GOVERNANCE: SORTING THROUGH THE DETAILS

While information and data security is a long-standing body of practice and knowledge in corporations, data governance is less mature, especially in healthcare. As a result of this lower maturity, there is a tendency to operate in extremes, either too much governance or too little. Over time, as data and analytic maturity increases, the healthcare industry will find a natural equilibrium. For example, in the Healthcare Analytic Adoption Model, a robust data governance function is required in order to achieve the conditions of Level 5 maturity.

Level		Description
Level 8	Cost per Unit of Health Reimbursement & Prescriptive Analytics	Contracting for & managing health
Level 7	Cost per Capita Reimbursement & Predictive Analytics	Taking more financial risk & managing it proactively
Level 6	Cost per Case Reimbursement & Data Driven Culture	Taking financial risk and preparing your culture for the next levels of analytics
Level 5	Clinical Effectiveness & Population Management	Measuring & managing evidence based care
Level 4	Automated External Reporting	Efficient, consistent production & agility
Level 3	Automated Internal Reporting	Efficient, consistent production
Level 2	Standardized Vocabulary & Patient Registries	Relating and organizing the core data
Level 1	Data Integration – Enterprise Data Warehouse	Foundation of data and technology
Level 0	Fragmented Point Solutions	Inefficient, inconsistent versions of the truth

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A new body of knowledge can be a ripe ground for confusion and over-complication, and there are many vendors and consultants that have an inclination to benefit unfairly from this confusion and complexity in these formative stages. Below are the seven simple practices of data governance that can be used as a self-guided tour through the maze of puzzling advice.

1. Balanced, Lean Governance

The Data Governance Committee should practice a cultural philosophy that believes in governing data to the least extent necessary to achieve the greatest common good. Quite often, organizations will either over-apply data governance in their enthusiasm for the new function; or under apply data governance due to their lack of experience. The best approach is to start off with a broad vision and framework, but limited application, and expand the governance function incrementally, only as needed, and no more.

The Data Governance Committee should be a subcommittee to an existing governance structure, with the influence necessary to institute inevitably controversial changes to workflows, resolve data quality conflicts, and develop complex data acquisition strategies to support the strategic clinical and financial optimization of the organization. The Data Governance Committee should also enlist front-line employees as Data Stewards who are knowledgeable about the collection of data in the source transaction systems such as the EMR, cost accounting, scheduling, registration, and materials management systems. Data Stewards are invaluable to the mission of the Data Governance Committee. CIOs who function horizontally, across business lines, at the application and data content layers of the information technology stack (as opposed to those who operate primarily at the infrastructure layers) are a natural fit for facilitating and leading the Data Governance Committee.

When in doubt, govern less, not more. Keep it lean. Grow slowly and carefully into the need for more.

Data Governance
Govern to the least extent required for the common good

Base your committee charter on…

Enhancing data quality	Increasing data content in the EDW
Encouraging more, not less, data access	Resolving analytic priorities
Campaigning for data literacy	Establishing standards for master reference data

2. Data Quality

Overseeing and ensuring data quality is probably the single most important function of data governance. When low quality data has a negative impact on the

accuracy or timeliness of the organization's decision making, the Data Governance Committee must be capable of quickly reacting to these issues and enforcing the changes required in source data systems (not the analytic systems) and workflows that are necessary for raising data quality. Simply defined, Data Quality is equal to the Completeness of Data x Validity of Data x Timeliness of Data. The Data Governance Committee must make each of these variables in the data quality equation a leadership priority.

3. Data Access

Increasing access to data, across all members of the enterprise, including external stakeholders, members of the community, and especially patients is a critical function of the Committee. While the information security committee tends to protect data and restrict access to data, the Data Governance Committee should create a productive tension in the opposite direction. In the most effective organizations, the data governance and information security committees are combined, thus forcing the members to balance the tension internally and streamlining what can otherwise be lengthy decision making and reconciliation between the two committees.

4. Data Literacy

It serves no purpose to increase the quality of or access to data if the intended beneficiaries of the data are not literate about the interpretation and meaningful use of data as it applies to their role in the organization. Data literacy can be increased by: (1) teaching the users how to distinguish good data from bad data in the context of their decision making environment and role in the organization; (2) data analysis tools; (3) process improvement techniques that are driven by data; (4) statistical techniques that can be applied to improve decision making when data is incomplete or scarce; and (5) the very deliberate collection and dissemination of metadata, especially that which is associated with enterprise data warehouse (EDW) content. The Data Governance Committee should champion the cause of data-driven decision-making and data transparency around quality and cost. These campaigns should include the use of slogans, spokespeople, role models and other attributes of successful causes.

5. Data Content

The Data Governance Committee should plot a multi-year strategy for data acquisition and data provisioning, seeking to constantly expand the data ecosystem that is available for analysis in the business of healthcare delivery and health management. For example, activity-based-costing data, genetic and familial data, bedside devices data, and patient reported observations and outcomes data are all critically important to the evolution of analytics in the industry. Building and acquiring the systems to collect this data is the first step in the analytic journey and can take as long as five years to complete. All of the aforementioned data sources are required to progress through the Healthcare Analytic Adoption Model.

6. Analytic Prioritization

The Data Governance Committee should play a major role in developing the strategic analytic plan for the C-level suite, and then play an active role in ensuring the requirements of that plan are implemented. Inevitably, there will be more demand for analytic services than there are resources available to meet that demand. The Data Governance Committee cannot resolve every priority, but it can balance top-down corporate priorities with bottom-up requests from the clinical and business units by advocating a resource allocation of 60/40 between centralized

About the Author

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In addition to his role at Health Catalyst, he continues to serve as the senior technology advisor and CIO for the National Health System in the Cayman Islands. Previously, he was CIO with the Northwestern University Medical Center, and regional director of Medical Informatics at Intermountain Healthcare where he served in a number of capacities, including chief architect of Intermountain's enterprise data warehouse. Dale is a founder of the Healthcare Data Warehousing Association.

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and decentralized analytic resources—that is, 60% of the organization's analytic resources should be dedicated to top-down, centrally managed priorities, while 40% of the resources should be distributed to support the tactical requirements of departments, business units, clinical service lines, and research.

7. Master Data Management

As the organization progresses in analytic maturity and utilization, the Data Governance Committee will become the steward for defining, encouraging the utilization of, and resolving conflicts in master data management. This role will cover local data standards (facility codes, department codes, etc.); as well as regional and industry standards (CPT, ICD, SNOMED, LOINC, etc.). In addition to coded data standards, the Committee will also become involved in the standard use of algorithms to bind data into analytic algorithms that should be consistently used throughout the organization, such as calculating length of stay, defining readmission criteria, defining patient cohorts, and attributing patients to providers in accountable care arrangements. ⚕

IN CLOSING

If you are struggling to understand and implement a healthcare data governance function in your organization, following these seven simple practices will help you avoid all of the major pitfalls of either under-governing or over-governing. Of utmost importance, a lean and balanced data governance function will help your healthcare organization maximize the value of your data to deliver the best possible care and provide for the highest possible health, at the lowest price.

ABOUT HEALTH CATALYST

Based in Salt Lake City, Health Catalyst delivers a proven, Late-Binding™ Data Warehouse platform and analytic applications that actually work in today's transforming healthcare environment. Health Catalyst data warehouse platforms aggregate and harness more than 3 trillion data points utilized in population health and ACO projects in support of over 22 million unique patients. Health Catalyst platform clients operate 96 hospitals and 1,095 clinics that account for over $77 billion in care delivered annually. Health Catalyst maintains a current KLAS customer satisfaction score of 90/100, received the highest vendor rating in Chilmark's 2013 Clinical Analytics Market Trends Report, and was selected as a 2013 Gartner Cool Vendor. Health Catalyst was also recognized in 2013 as one of the best places to work by both Modern Healthcare magazine and Utah Business magazine.

Health Catalyst's platform and applications are being utilized at leading health systems including Allina Health, Indiana University Health, Memorial Hospital at Gulfport, MultiCare Health System, North Memorial Health Care, Providence Health & Services, Stanford Hospital & Clinics, and Texas Children's Hospital. Health Catalyst investors include CHV Capital (an Indiana University Health Company), HB Ventures, Kaiser Permanente Ventures, Norwest Venture Partners, Partners HealthCare, Sequoia Capital, and Sorenson Capital.

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