The Importance of Data Governance in Healthcare

An Encore Point of View

By Bill Fleissner; Kamalakar Jasti; Joy Ales, MHA, BSN, RN; Randy Thomas, FHIMSS

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AN ENCORE POINT OF VIEW

The shift from fee-for-service to fee-for-value (FFV) brings into stark relief the need for reliable data that measures quality, patient safety, cost of care, margin and productivity – and not just in the acute care setting but across the continuum of care.

Many organizations are now considering or are in the process of building an enterprise data warehouse (EDW) to support the performance measurement needed in a FFV world. Absent data governance, the likelihood that an EDW will succeed is small. Organizations must be confident that the data represented in the EDW is reliable and accurate; data governance provides the structure and process to ensure the needed reliability and accuracy. Without data governance, the implemented technology may function exactly as designed – but the information emanating from the technology may be suspect.

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THE IMPORTANCE OF DATA GOVERNANCE IN HEALTHCARE

Establishing a culture of value measurement in healthcare, as in any other industry, involves developing a shared understanding of how value is defined so it can be measured, analyzed, managed and monitored. At the heart of these activities is data. From source (i.e., point of capture) to use (e.g., eMeasure) it is essential that a chain of trust is created so both the producers of the data and the consumers of the data are confident it is appropriately used and accurate for its purpose. Decisions based on old or inaccurate information can lead an organization off course. Data used at odds with the intent of its collection can also lead to erroneous decisions. The wealth of data collected across an enterprise needs to be appropriately, consistently and accurately brought together – integrated – to provide timely and reliable information. The data chain of trust from source to integration needs to be clear and well documented, at which point the resulting integrated view can then be considered the source of truth for information to support the reporting, measurement and analytics needs of an organization.

Ensuring this data chain of trust requires hands-on governance over the establishment and maintenance of data sources, definitions and uses. The same data element (e.g., patient date of birth) can be collected (i.e., entered by a person) into more than one system. Many systems have master files that define codes for data such as physician, department or discharge disposition. When each system existed unconnected to other systems and when data was not being re-purposed to support the new care delivery and reimbursement models, inconsistencies in the same data across multiple systems were not evident – nor did they matter (much). But with the rapidly evolving need to leverage data as an asset to support organizational performance in the shift to FFV, these inconsistencies need to be identified and addressed. This requires data governance.

The Data Governance Institute identifies four drivers that cause organizations to adopt a formal data governance discipline[1]:

1. The organization gets so large that traditional management is not able to address data-related cross-functional activities.
2. The organization's data systems get so complicated that traditional management is not able to address data-related cross-functional activities.
3. The organization's Data Architects, service oriented architecture teams, or other horizontally-focused groups need the support of a cross-functional program that takes an enterprise (rather than confined) view of data concerns and choices.
4. Regulation, compliance, or contractual requirements call for formal Data Governance.

Data Governance can be defined as:

… the discipline of formally organizing and methodically managing data and information assets across an organization from a business, technical, and administrative perspective for the purpose of managing data as an asset, driving information quality, and optimizing data outcomes that enhance decision making.[3]

All four situations currently apply to healthcare. Yet, data governance is a relatively new discipline in the healthcare provider space. While analytics and reporting activities have used data from different systems for many years, there has not been a driving need to ensure consistency or accuracy across the enterprise. The shift from FFS to FFV brings into stark relief the need for reliable data that measures quality, patient safety, cost of care, margin and productivity – and not just in the acute care setting but across the continuum of care.

HEALTHCARE IS IN GOOD COMPANY

Data governance is not a new subject. Searching the internet on those words produces 442,000 results.[2] Technology giants IBM, Oracle, SAP, Teradata and others offer technology-based tools designed to support the managing and monitoring process that data governance requires. Data governance practitioners use social media to collaborate, and professional certifications and advanced degrees recognize its emergence. The experiences of all industries that began their journey to a culture of performance and data governance are there for healthcare to draw upon. Healthcare can focus on implementing data governance; there is no need to reinvent.

WHAT IS DATA GOVERNANCE?

Data governance is foundational to organizing and managing data and information assets across any enterprise. Data governance provides organizations a means to integrate both clinical and business policy requirements as part of the information employed in automating the collection and reporting in conformance to those policies. Data governance returns quality information to be driven back through the organization. Data governance is planned; it is intentional. Governance operates as a team within a framework. The diagram on the next page illustrates.

① **Data Governance considers what the business requires**
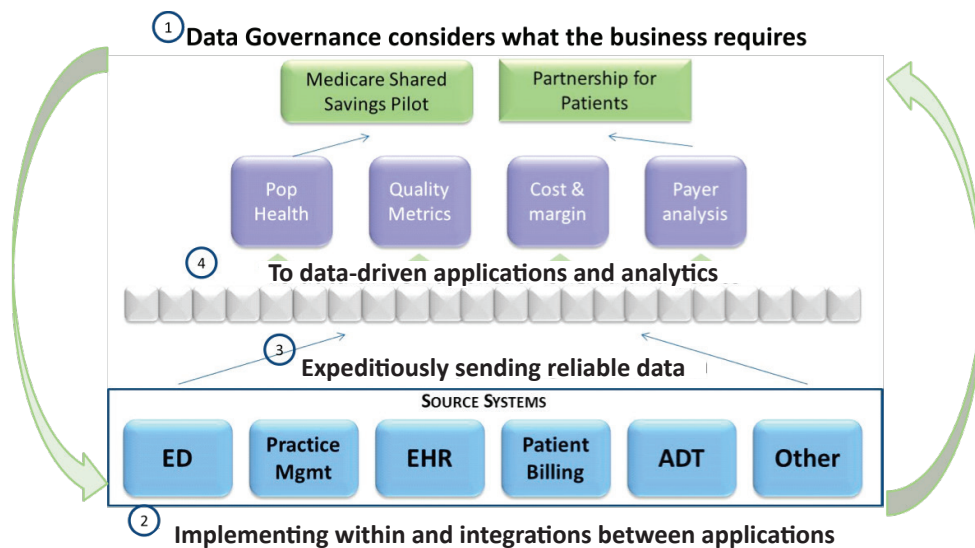

Figure 1. Data Governance operates as a team within a framework.

1. Governance leaders work with owners of operations data and workflows, and information technology. This Governance team considers what is being required of the business and its data to fulfill its obligations. Governance identifies and defines the changes which must occur and examines the impact the changes will have in the broader scheme of reported measures and performance analytics. Governance decides which changes occur and when they occur to ensure a coordinated implementation.

2. Owners of operations data and workflows work with those who support the information technology defining, teaching and implementing changes to workflows, source data applications and system integrations in order to consistently and accurately collect and propagate the required data.

3. Those who support the information technology design and adjust the data flows targeting reporting and performance management data marts and an enterprise data warehouse according to the organization's information architecture.

4. Owners of core business workflows use the data-driven applications to manage patient health, quality and cost outcomes, as planned.

WHY DATA GOVERNANCE IN HEALTHCARE – BENDING THE CURVE

As healthcare reform is the catalyst, data governance is an essential accelerant. The degree to which healthcare is required to integrate (accountable healthcare) can only be sustained in an environment that embraces formal data governance. Within care provider systems, integration is required to consistently identify a patient to enable quality measurement, clinical decision support, performance

Figure 2. The integration of analytics into value-based payment.

measurement and analysis. Between care provider systems comprising the continuum of care, integration is required to recognize the same patient and collaborate to improve the health of a patient population. And across providers and payers integration is required to forge new models of payment based on accountability and value.

Data governance in healthcare includes stakeholders within and across the continuum of care, and it creates reusable data through it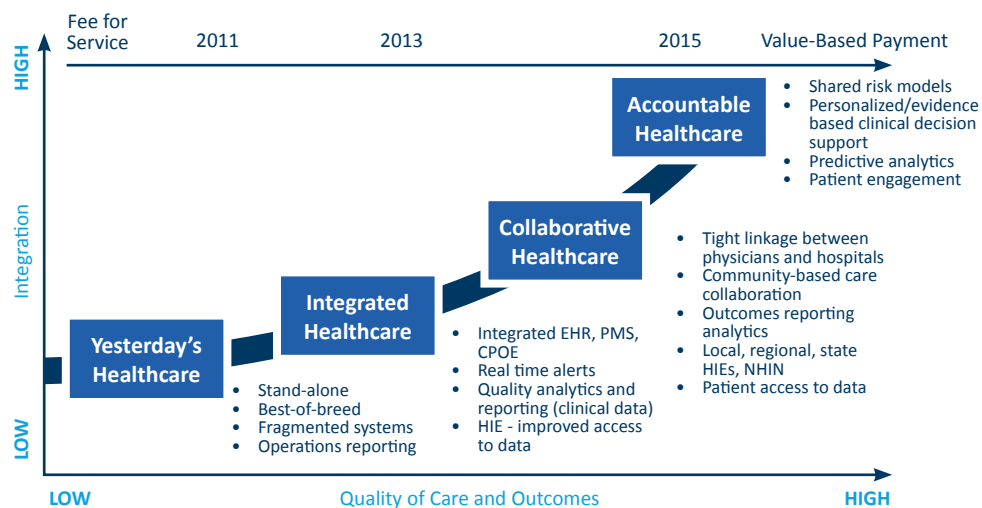s formal process of standardizing data values and meaning. Data governance is fundamental to "bend the curve" in order to achieve the breadth and speed of integration required by healthcare reform. And most assuredly data governance will also benefit the developing personalized/evidence-based clinical decision support, personalized medicine, personal health management applications, and information privacy and security.

IF THE DATA GOVERNANCE MODEL FITS

A cross-functional data governance structure and process helps an organization harness value from its data assets. Data governance is not an information technology (IT) function nor is it a department in the organizational hierarchy. Rather, data governance brings together the key stakeholders from quality, finance, administration, IT and others to make decisions on how data should be captured, standardized, used and secured. The data governance discipline is responsible for maintaining documentation, by data element, of which systems capture the data. It makes decisions on how to rationalize inconsistencies in data that is allegedly the same. It governs how the data can be used to ensure appropriate access, security and patient privacy. And if necessary data is not captured in the way that is usable (or not captured at all), it identifies the need for potential changes in workflow and system implementation, and engages the right stakeholders to effect the required modifications.

Governance Models Characterized by Spans of Focus & Accountability

	FEDERATED	CENTRALIZED	HYBRID
Executive Council	Executive Leadership is Centralized in all models		
Steering Committee	Service Line or Business Function	Facility	Temporary Project-Based
Working Groups	Service Line or Business Function	Service Line or Business Function and Facility	Temporary Project-Based

Figure 3. Governance model accountabilities.

Even as the purpose of data governance is always the same, to be effective the formal structure of each data governance implementation is a choice best aligned with each organization's guiding principles, decision style and other characteristics. One of three governance models, federated, centralized or hybrid often fits or is easily adapted. The executive leadership role is a centralized role in every model. The implementations of steering groups and work groups are what will vary.

Data governance begins with policies, standards, rules and definitions about data which are enforced by processes to monitor that data. It is not a function owned by the information systems or IT department. Rather, it is a multi-stakeholder, multi-disciplinary function that encompasses the entire organization.

The complex and diverse environment of most healthcare organizations necessitates a multi-tiered, multi-discipline approach to a governance structure regardless of which model is selected. A standing, hierarchical governance model that governs data as well as business intelligence activities is often the preferred alternative. That structure is shown in the figure below.

This structure, described below, appropriately distributes the decision-making and provides the opportunity for broad participation across an organization. Frequently there are existing governance groups which can be leveraged to help ensure participation and avoid increased meeting burden on executives.
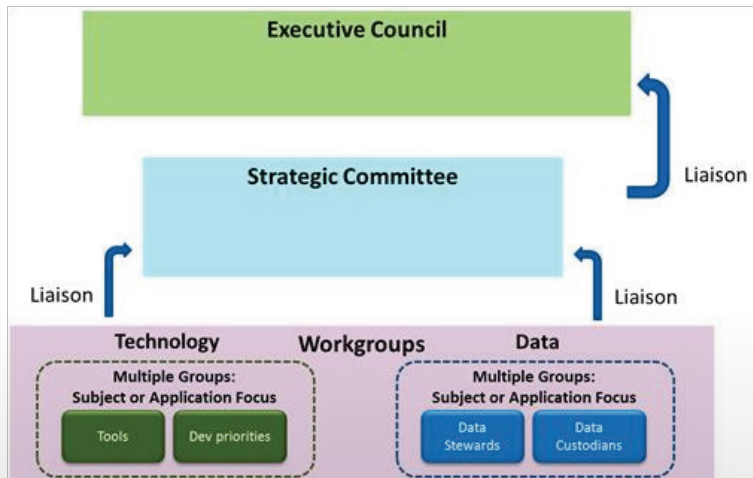
A standing, hierarchical governance model that governs data as well as business intelligence activities appropriately distributes the decision-making and provides the opportunity for broad participation across an organization.

The executive council is the highest escalation point and final decision making body in the governance structure should agreement not be reached within the other governing committees. The Executive Council ensures data related policies, compliance, and guiding principles are being followed. The council sets overall direction on health analytics initiatives and strategy, and empowers the Strategic Committee to implement an enterprise-wide program.

The strategic committee plans, prioritizes, and communicates data governance efforts between the Executive Council, Work Group(s), stakeholders, and communities of interest. The Strategic Committee ensures data governance efforts align with health analytics priorities from the Executive Council, and provides resource allocation and budget recommendations to the Executive Council as needed. The committee sponsors, approves, and manages tactical plans that support data governance projects and efforts. It prioritizes data elements to be governed in line with Executive Council priorities and escalates issues to the Executive Council should agreement not be reached within the Strategic Committee. The committee forms work groups based on area of expertise and responsibility. It reviews recommendations, and approves data governance standards and implementation plans.

Work groups implement the plans and policies defined by the Strategic Committee. Work Groups research data element standards and regulations for assigned subject areas to recommend standards. They develop implementation plans and tactical communication plans. They track and audit the data elements under data governance and escalate issues to the Strategic Committee when necessary.

ACTIVITIES OF DATA GOVERNANCE

There are multiple components that compose robust, enterprise-wide data governance. As data governance is new to many healthcare organizations, not all components need to be addressed to start a useful data governance program. Typically organizations find great value in starting with just organizational awareness, stewardship and data quality – with potentially a light touch on information lifecycle management to contain the proliferation of "rogue" datasets.

Organizational Awareness	Risk Management
Organizational Awareness is defined as a strong recognition of data as an enterprise asset and the consequences associated with data mismanagement	Risk Management is defined as the ability of an organization to identify, prioritize, manage, and mitigate risk throughout the organization
Stewardship	**Data Quality**
Stewardship is a systematic approach designed to ensure custodial care of data for data asset enhancement and organizational control	Data Quality is defined as the degree to which an enterprise ensures its core information assets achieve and sustain an appropriate level of accuracy and consistency across its lines of services, functional areas, and processes
Information Lifecycle Management	**Security, Privacy and Compliance**
Information Lifecycle Management is defined as a systematic policy-based approach to information collection, use, retention, and deletion	Security, Privacy and Compliance are defined as the degree to which an enterprise has addressed controls (policies, processes, and technologies) to protect its data from misuse
Metadata Management	**Audit & Reporting**
Literally data about data, Metadata Management is a systematic approach to creating and maintaining all relevant attributes of data created and stored within the enterprise	The enterprise's processes for monitoring and measuring the data value, risks, and efficacy of governance

Figure 5. Components of Data Governance.

DATA GOVERNANCE & eMEASURES

The following is a simple example to demonstrate the importance of data governance in core measure reporting. In the example, a health system is evaluating the changes that would occur if it were to transition from Core Measures based on data manually abstracted from patient charts to Core eMeasures based on data electronically captured from the EHR.

The Surgical Care Improvement Project measure Urinary Catheter Removal – Postoperative Day 1 or Postoperative Day 2 (SCIP-9) is being evaluated as the 77% difference between the resulting Core Measure and Core eMeasure values indicates data being captured electronically are inconsistent and possibly not in a form which supports eMeasures.

SCIP-9 Urinary Catheter Removal – POD 1 or POD 2		
Chart Abstracted	Electronically Captured	State & National Average
97%	20%	97%

Figure 6. Chart abstracted versus electronically captured resulting values.

The Data Governance Strategic Committee, empowered by the Data Governance Executive Council and its direction that this information is critical, forms a Data Governance Work Group to study the workflows and resulting electronically captured data. The work group conducts interviews with the nursing staff which reveal three workflows and associated screens where the removal of urinary catheters is documented in the EHR system. The first and most frequently used location is where nurses document shift assessments to record that a catheter has been removed. The second location is associated with a workflow specific to the placement and removal of catheters at the time of placement and removal. This is the source data used to calculate the eMeasure. The third location is free text nursing notes where the information is recorded in a manner that is not electronically measureable. The interviews further reveal that some nurses are documenting catheter removal while performing two or more of these workflows, while other nurses are documenting in only one location.

Working with the EHR IT application team and chart abstractors, the work group identifies the fields in the EHR where these data are stored. The patient records meeting the criteria for the SCIP-9 measure are then extracted and analyzed. The data analysis confirms the observations made from the interviews.

The Data Governance Work Group analyzes the information it has collected and presents recommendations for consideration by the clinical stakeholders and the members of the Data Governance Strategic Committee. The fact that there are three locations where catheter removal is documented is not as important as is the need to choose, teach and reinforce the concept of one workflow, one location.

Stakeholders decide the best way to always document catheter insertion and removal is through the existing placement/removal workflow which is also designed to automatically document the time associated with each placement and removal, something which documenting in the shift assessments or nursing notes cannot accomplish. Exact placement and removal times are not required by the SCIP measure, but they will be valuable during subsequent workflow analysis. Stakeholders are also aware that while their goal is to achieve 100% documentation through the chosen workflow, their final solution must address the reality that there will be circumstances when documentation will only exist in the shift assessment.

SCIP-9 Urinary Catheter Removal – POD 1 or POD 2 Per Location(s) of Documentation in the EHR			
Shift Assessment Workflow Only	Placement/ Removal Workflow Only	Free Text Nursing Notes Only	Cumulative of all Workflows
57%	20%	20%	97%

Figure 7. Analysis of data capture workflow locations.

Stakeholders choose the catheter placement/removal workflow without change as the location for documentation. Teaching the now standard workflow is carried out including teaching the reason for the standard which is to obtain consistent, electronically measureable documentation for the production of eMeasures as part of an even broader health analytics strategy. Once the standard workflow is implemented, adoption of and compliance with the desired behavior will be electronically monitored and reinforced.

Stakeholders also choose to modify the process to calculate the SCIP-9 eMeasure to be based on the union of documentation in the catheter placement/removal workflow and the shift assessment workflow. This addresses the reality that circumstances exist when documentation will only be done in the shift assessment.

IN CONCLUSION

The formal structures and disciplines which compose data governance create the framework to solve issues and sustain consistent, accurate, and reliable data and information assets across a healthcare enterprise. The eMeasure example demonstrates working together to resolve workflow and data issues affecting one measure. The same disciplines apply to affecting improvements for all information assets throughout the enterprise. As the industry transitions to value-based payment models, it also sets the stage for even more advanced analytics, an essential component to achieving value-based outcomes.

The data governance disciplines enable access to consistent, accurate, and reliable information, and set the stage for even more advanced analytics, an essential component to achieving value-based outcomes.

REFERENCES

1. Data Governance.com, published by the Data Governance Institute. Data Governance: The Basic Information. Captured 4/15/13.

2. Google advanced search on "Data Governance", 7/1/2014.

3. Encore Health Resources definition derived from practical application of the Data Governance Institute definition and other industry leaders, such as IBM.

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