WHITE PAPER

The Importance of Data Governance in Value-based Care

An emids + encore Point of View *By Randy Thomas, FHIMSS and Barbara Doyle, MSN, RN* *January 2018*

AN emids + encore POINT OF VIEW

With the new MACRA quality payment program, the shift to value-based care delivery and reimbursement models continues. MACRA ties clinician reimbursement to reported performance under either the Merit-based Incentive Payment System (MIPS) or participation in advanced Alternative Payment Models (APMs). Fee-for-value (FFV) programs such as MACRA and population health risk-based contracts bring into stark relief the need for reliable data to measure quality, patient safety and cost of care, as well as margin and productivity across the continuum of care. At the same time, clinician and patient expectations for easy data exchange and interoperability are growing[1]. Many organizations have built enterprise data warehouses (EDW) to support the performance measurement and analytics required to succeed in a FFV world.

However, absent data governance, having consistent, reliable, and accurate data across the continuum of care is unlikely. Organizations must be confident that the data used to provide patient care and make performance improvement decisions is reliable and accurate; data governance provides the structure and process to ensure the needed reliability and accuracy to promote interoperability and data exchange.

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The data chain of trust from source to integration needs to be clear and well documented. Then, the resulting integrated view can be considered the "source of truth" for information to support the reporting, measurement and analytics needs of an organization.

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. Data is at the heart of these activities. Creating a chain of trust from source (i.e., point of capture) to use (e.g., quality measurement) gives both the producers of the data and the consumers of the data confidence in the data. Data needs to be appropriately used and accurate for its purpose. This data should also flow quickly and easily for optimum use (i.e., is "liquid"). 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. Inaccurate quality measurement can negatively impact clinician reimbursement. The wealth of data collected across an enterprise needs to be appropriately, consistently, and accurately integrated to provide timely and reliable information. The data chain of trust flowing from source to integration needs to be clear and well documented, so the resulting integrated view can be considered reliable to support reporting, measurement and analytics.

Enabling this data liquidity requires hands-on governance to establish and maintain data sources, definitions and uses. The same data element (e.g., patient date of birth) can be collected (i.e., entered by a person) by 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 and population health, 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[2]:

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 provides organizations a means to integrate both clinical and business policy requirements into the collection of data and creation of reports.

All four situations currently apply to healthcare. Yet, the concept of data governance has not garnered solid footing in the healthcare provider space. While analytics and reporting activities have used data from different systems for many years, until the MACRA legislation, there has not been a driving need to ensure consistency or accuracy across the enterprise. The shift to MIPS and Advanced APMs brings into stark relief the need for reliable data that measures quality, patient safety, cost of care, margin and productivity across the continuum of care.

HEALTHCARE IS IN GOOD COMPANY

Data governance is not a new subject. Searching the internet on those words produces 454,000 results[3]. Technology giants IBM, SAS, Informatica, Oracle, SAP, and others offer technology-based tools designed to support the managing and monitoring processes that data governance requires. Data governance practitioners use social media to collaborate, and professional certifications and advanced degrees recognize its emergence. A Chief Data Officer role is emerging. The experiences of all industries that began their journey to a culture of performance and data governance are available for healthcare to draw upon. Healthcare should focus on implementing data governance using proven strategies from other industries; 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 gives organizations a means to integrate both clinical and business policy requirements into collecting data and creating reports. Data governance returns quality information to be driven back through the organization. Data governance is planned; it is intentional. Figure 1 illustrates how data governance informs data processes for accurate data usage.

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.

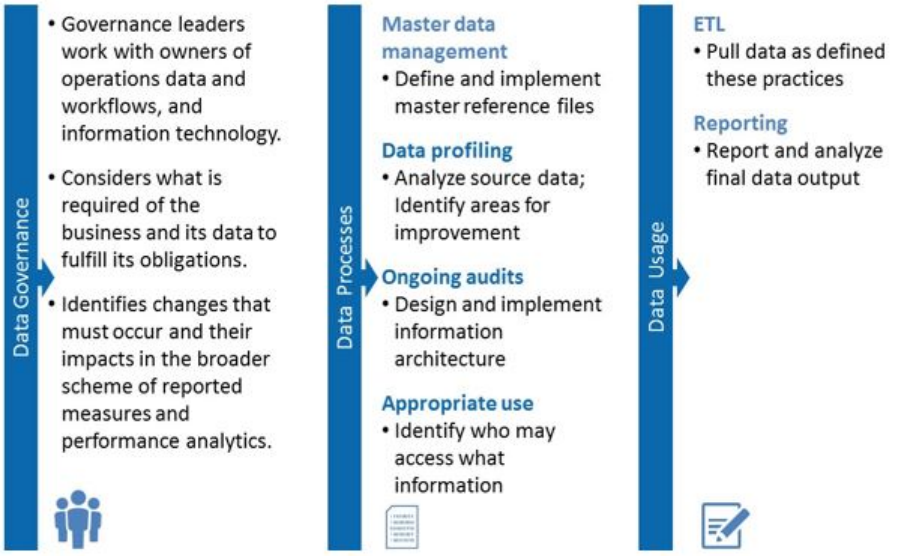

Figure 1: Data Governance in Practice

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 should 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 to define, teach and implement 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.

Integration and interoperability are required to forge new models of payment based on accountability and value.

The output of data governance informs data processes that enable reuse of data. Data profiling documents and validates source data elements; master data management supports unique identifiers for people, places, and things (e.g., patients, physicians, locations, equipment) that must be consistent to ensure reliable data for clinicians and reporting. Data processes define appropriate data audits as a check-and-balance to ensure "clean data" and also institute the rules and regulations for data access and appropriate data use.

Owners of core business workflows use data-driven applications to manage patient health, quality and cost outcomes, for both internal measurement and reporting and external regulatory requirements.

WHY DATA GOVERNANCE IN HEALTHCARE – BENDING THE CURVE

While changes in healthcare reimbursement and reform are the catalyst for requiring reliable, accurate, integrated data, data governance is the mechanism to ensure it happens. The degree to which healthcare is required to integrate across care environments (acute care, ambulatory, homecare, telehealth, etc.) can only be sustained in an environment that embraces formal data governance. Within care provider systems, integration is required to identify a patient consistently to enable coordination of patient care, clinical decision support, quality measurement, performance measurement and analysis. Between care provider systems comprising the continuum of care, integration and interoperability are required to recognize the same patient and collaborate to improve the health of a patient population. And across providers and payers, integration and interoperability are required to forge new models of payment based on accountability and value.

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.

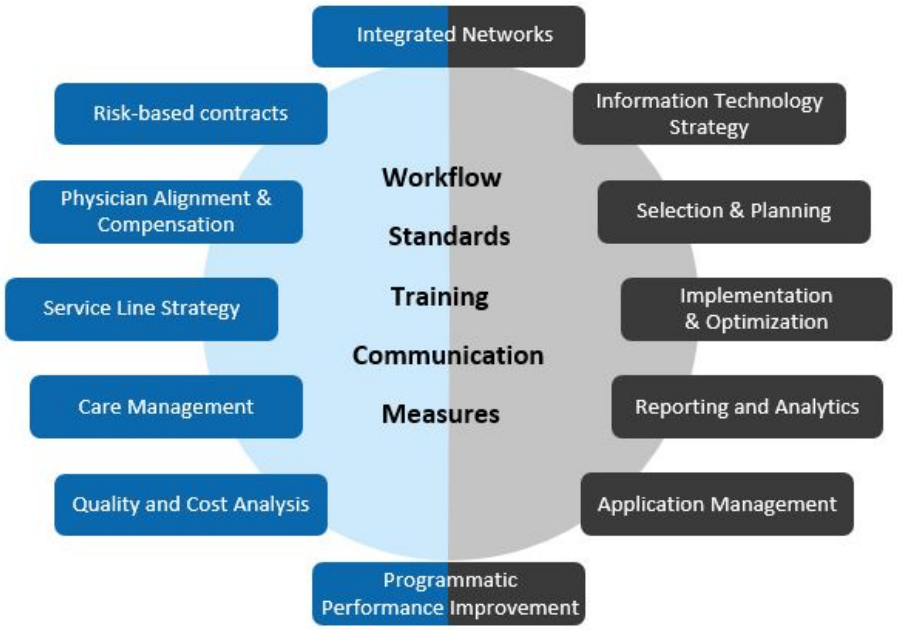

Figure 2: Path to Value-based Payment

Data governance in healthcare includes stakeholders within and across the continuum of care, and it creates liquid, reusable data through its 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 and interoperability required by MIPS and Advanced APMs. And--most assuredly--data governance will also benefit developing personalized/evidence-based clinical decision support, personalized medicine, and personal health management applications, along with information privacy and security.

IF THE DATA GOVERNANCE MODEL FITS

A cross-functional data governance structure and process help 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.

The complex and diverse environment of most healthcare organizations necessitates a multi-tiered, multi-discipline approach to a governance structure.

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 though the purpose of data governance is always the same, the formal structure of each data governance implementation should be aligned with each organization's guiding principles, decision style and culture. 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, but implementation of steering groups and work groups will vary. 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.

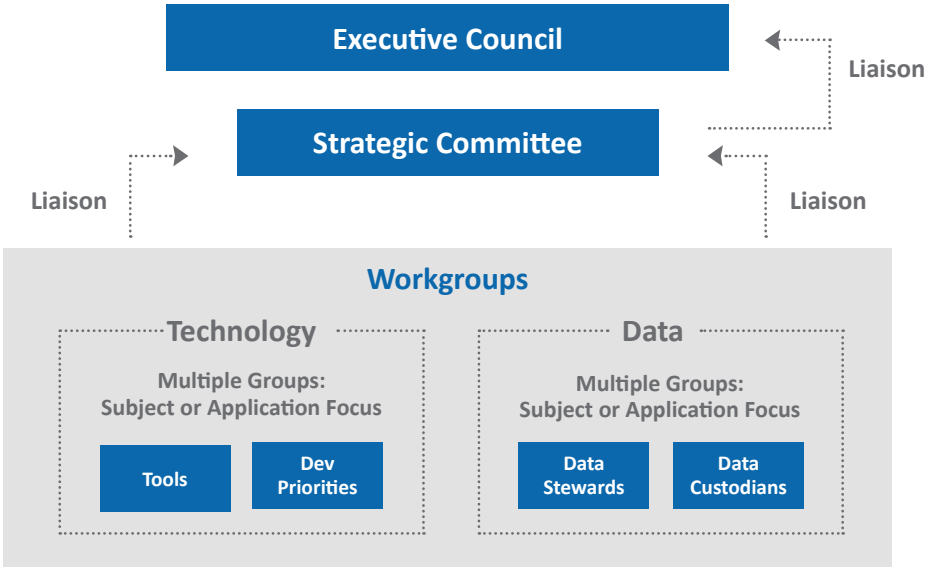

Figure 4: Data Governance Model

This structure, described below, appropriately distributes the decision-making and provides the opportunity for broad participation across an organization. Frequently, existing governance groups can be leveraged to help ensure participation and avoid increased meeting burden on executives.

Multiple components comprise robust enterprise-wide data governance.

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 to support data governance 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 technology and data plans and policies that the strategic committee defines. 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

Multiple components comprise robust enterprise-wide data governance. 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. Although any data governance is helpful, organizations should not stop at this basic function but rather develop a strategy and roadmap to address all data governance components over time.

Organizations typically with just organizational awareness, stewardship and data quality components of data governance.

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 & QUALITY MEASURES

Both MIPS and Advanced APMs require eligible clinicians to submit quality measures. Some are fully electronic, calculated with data sourced directly from certified electronic health record technology (CEHRT), but many can be calculated via registries or other non-electronic means. Regardless of the final measure calculation mechanism, data governance is vital to accurate reporting, as demonstrated in the following example.

An organization is planning their path from MIPS to Advanced APMs and selects quality measures for MIPS that they can continue to measure as they transition into an Accountable Care Organization (ACO).

The Preventive Care and Screening: Tobacco Use: Screening and Cessation

Once a standard workflow is implemented, adoption of and compliance with the desired behavior can be electronically monitored and reinforced.

Intervention is one of the measures selected as it is consistently measured in all of their ambulatory practices. Some practices have been utilizing their CEHRT to automatically collect data and calculate the measure; others have used Qualified Clinical Data Registries (QCDRs); others have collected the data manually. When interviewed by the Quality department, all practices state they consistently provide screening and cessation interventions to their patients and that results should be close to 100%, yet there is great variation across the practices.

The Data Governance Strategic Committee, empowered by the Data Governance Executive Council, forms a Data Governance Work Group to study the workflows and resulting data capture via CEHRT, QCDRs, and by abstractors. The work group conducts interviews with the nursing staff which reveal three workflows and associated screens where tobacco screening and cessation intervention is documented in the EHR system. The first and most frequently used location is where clinicians document tobacco cessation education in provider notes. The second location is in orders, if a particular smoking cessation drug is prescribed by the provider. The third location is free text provider notes where the information is recorded in a manner that is not electronically measureable. Measures calculated electronically in the CEHRT will utilize data retrieved from patient education and orders but cannot use free text. Interviews reveal that when data was entered into the registry, registrars were looking solely at orders and free text information, but were not checking for education; manual abstractors were reviewing all three areas of the patient record.

Working with Quality, the EHR IT application team and registrars, the work group identifies the fields in the EHR where these data are stored. The patient records meeting the criteria for the tobacco screening and cessation intervention 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 tobacco screening and cessation intervention 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 tobacco screening and cessation intervention is through the exiting provider notes workflow, which is also designed to automatically document the date and time that the intervention took place, a data element required for accurate reporting during the performance period. Stakeholders elect to update the existing workflow so that documentation of cessation and intervention activities is located in the same area as tobacco screening, with no option for free text documentation. Teaching the new standard workflow is carried out including explaining the reason for the standard. Once the standard workflow is implemented, adoption of and compliance with the desired behavior will be electronically monitored and reinforced.

Regardless of the quality measure reporting mechanism, the same measure needs to be calculated the same way for accurate measurement across the enterprise.

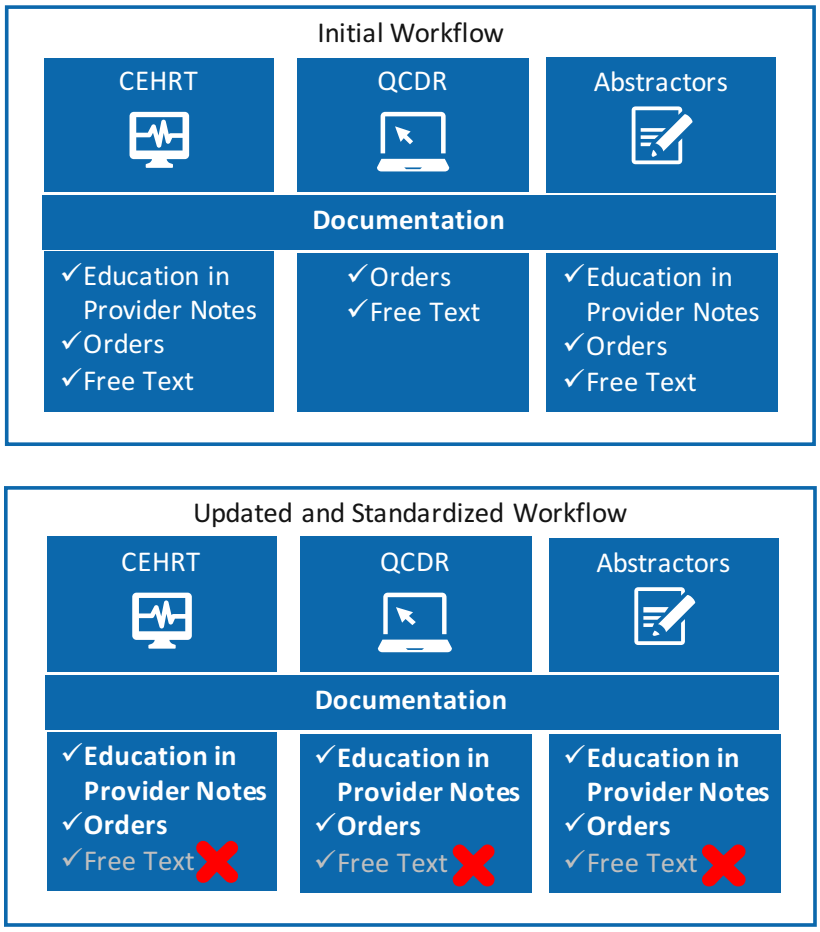

Figure 6: Data Governance Leads to Standardized Workflows

Stakeholders also choose to calculate the tobacco cessation and intervention measure based on the union of both patient documentation and provider orders, but to eliminate the use of free text information in any calculation. This addresses the reality that different care workflows contribute to the same patient care goal, and that regardless of quality measure reporting mechanism, the same measure needs to be calculated the same way for accurate measurement across the enterprise.

The formal structures and disciplines which compose data governance create the framework to sustain consistent, accurate, and reliable data and information assets.

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 quality measure example demonstrates of how data governance teams work together to resolve workflow and data issues affecting one measure. The same disciplines apply to improving for all information assets. As the industry transitions to MIPS, Advanced APMs and other value-based payment models, it also sets the stage for even more advanced analytics, an essential component to achieving value-based outcomes. Reliable data is the foundation for success.

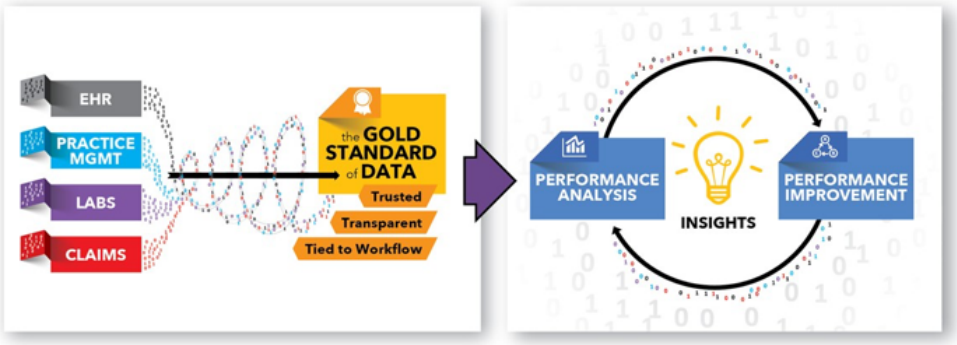

Figure 7: Data Chain of Trust

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