

Board Oversight of Data Analytics in an Era of Value-Based Payment

BY EARL P. STEINBERG, M.D., M.P.P., GEISINGER HEALTH SYSTEM AND XG HEALTH SOLUTIONS

Much of the attention of hospital and health system boards over the past year has been focused on what the hospital or system's overall strategy should be to compete successfully in the emerging world of value-based payment.

For those who have decided that they should prepare to manage the health of a population in addition to managing the care of individual patients, one of the first things they will need to develop is an enterprise data strategy. When developing such a strategy, a board needs to decide which responsibilities will be handled by their own organization and which will be outsourced to other parties. Regardless of whether particular responsibilities are being handled in- or out-of-house, decisions will need to be made regarding governance and oversight of the enterprise data strategy.

Key Decisions

Numerous decisions have to be made regarding collection, management, analysis, and reporting of data if one is going to be successful at population health management. The key issues relate to: 1) what data need to be collected, 2) how to acquire it, 3) how to ensure the completeness and accuracy of the data, 4) how to store it, 5) how to ensure the data are secure, 6) the types of analyses of the data that should be performed, 7) how to ensure the accuracy of those analyses, 8) what reports to produce, 9) to whom particular reports should be provided, and 10) the means through which those reports will be distributed or made available.

What Data should be Collected?

The answer to this question will vary for particular hospitals and health systems. However, in all instances, in order to perform successfully under value-/risk-/performance-based payment systems, one needs, at minimum, "insurance data" (i.e., enrollment data, benefits data, data regarding providers, medical claims, and prescription drug claims). Although claims data lack the clinical richness of data from electronic medical records (EMRs) or the data nurses enter into care management software, they provide critically important financial data that enable the entity that is responsible for

managing the health and care of a population to know the volume of particular types of services that have been delivered, the unit prices of particular services, and how much money is being expended for particular types of care. Claims data also provide information regarding "out of network" utilization, which otherwise is hard to obtain. Failure to obtain data from out-of-network providers can result in spuriously low scores on quality measures. Before entering into any type of risk-based arrangement with an insurer, a hospital or health system needs the insurer to guarantee that it will provide insurance claims in a timely fashion.

The second type of data to be collected is that from EMRs. In addition to providing more granular insights into clinical issues, EMR data are more timely than adjudicated claims data, which typically have at least a 30-day lag before becoming available. (Un-adjudicated claims data obtained from medical management/billing systems is more timely than adjudicated claims data, but is less rich clinically than EMR data.) The greater timeliness of EMR data enables an at-risk provider to take action immediately or soon after an event, which increases the likelihood of being able to intervene successfully.

Another type of data being used increasingly is patient-reported data, such as health status, functional, and symptom assessments. These types of data are increasingly likely to be obtained via Web portals, tablets, and mobile devices, so boards should ensure that the management team has considered the need to acquire data from these types of devices.

Finally, boards should ensure their institutions are ready to process ICD-10 codes by October 1, 2014.

How should Data be Acquired?

The need to acquire data from multiple sources is one of the biggest challenges that population health managers need to overcome. An agreement needs to be reached with each insurer from whom data will be

obtained regarding the format in which the data will be delivered. Increasingly, EMR data from multiple providers is available via a health information exchange (HIE), but even standardized data, such as Continuity of Care Documents (CCDs), don't usually come in an analyzable form. Health systems should pressure EMR vendors to make it easier to extract data in an analyzable form from their EMRs.

How Does One Ensure That Data Are Complete and Accurate?

Unfortunately, claims data are often incomplete and/or inaccurate, and EMR data can be inaccurate due to data entry errors. As a result, it is critical that personnel who have substantial experience working with these types of data be involved in ensuring data integrity. Boards thus need to ensure that there are procedures in place to ensure that data are as complete and accurate as possible, and that policies are in place regarding the frequency with which particular types of data will be updated. They also should ensure that some form of performance oversight (e.g., periodic audits) is in place so the quality assurance process is adequate. Errors in data will result in errors in healthcare interventions. Tight audit controls are needed as data is interfaced from one system to another system.

How should Data be Stored?

Boards should establish policies regarding whether data will be stored in multiple distributed databases or in a single enterprise data warehouse (EDW) to which various types of personnel will have access. In either case, boards should request an assessment of the new types and amounts of data the management team anticipates needing to store over the next five to 10 years. The explosion of genomics and imaging data, for example, and the increase in the number of specialty-specific quality measures, will markedly increase the amount of storage capacity that is needed.

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The term “Big Data” is increasingly used to describe the increased volume and types of structured and unstructured data that are available. In light of the growing volume of data that will need to be stored and the rapidity with which technology is changing, many entities are considering cloud-based EDWs. Once volume requirements are defined, boards need to decide whether their institution’s data will be maintained by the organization itself or by a vendor. Before a decision is made regarding build versus rent and non-cloud-based versus cloud-based data storage, the board should receive an analysis of the comparative cost and security of these options.

Is Data Secure?

Boards are well aware of the importance of complying with HIPAA regulations. As a result, they should ensure that policies are in place to govern the types of data to which specific users have access, as well as to whom and by what means data can be transferred. They also should ensure that a reasonable data recovery plan is in place in the event of a disaster.

Data Analytics

If a hospital or health system is going to be successful under value-based payment arrangements, it will need to have the ability

to perform actuarial and other financial and clinical data analytics, either internally or via a vendor. Most hospitals and health systems have never performed the types of analyses needed. As a result, boards need to ensure that management has established a means for assessing cost trends, forecasting costs, comparing unit prices and service utilization to relevant benchmarks, and identifying the most actionable opportunities to intervene to reduce cost and improve quality of care. Several types of business intelligence and data mining software will help facilitate some of these types of analyses, but they need to be supplemented by more specialized analytic tools, and be employed by personnel with substantial experience in performing clinical and actuarial analyses. Boards also should ensure that management has given sufficient consideration to the increased amount of resources that will be needed to perform analyses related to meaningful use.

Much attention is being focused on the use of natural language processing (NLP) and various statistical techniques for analyzing unstructured data, such as physician and nurse notes in EMRs and nurse notes in care management software systems. Although analysis of these types of data improve the accuracy of both descriptive and predictive analyses, boards

should make sure that management has adequately addressed basic actuarial, financial, and clinical data analytic needs before focusing attention on analysis of unstructured data.

Conclusion

Since most boards are not well enough informed to make decisions on their own regarding particular enterprise data strategy and management issues, they should consider instructing management to establish an enterprise data governance committee to address the issues raised in this article. They also should ensure they know: 1) who has responsibility for making particular decisions, 2) with what input(s) those decisions will be made, 3) who has responsibility for executing on each component of a data strategy, and 4) who has responsibility for oversight of performance. Boards then should ensure they receive reports on performance and compliance with established policies. ●

The Governance Institute thanks Earl P. Steinberg, M.D., M.P.P., executive vice president of Innovation and Dissemination, Geisinger Health System, and CEO, xG Health Solutions, for contributing this article. He can be reached at esteinberg@xghealth.com or epsteinberg@geisinger.edu.