

IS YOUR ORGANIZATION DATA-DRIVEN?

by Brian Studebaker, *Healthcare Technology Consultant*

Health insurance companies are focusing on finding ways to use their claims and enrollment data more effectively. They are part of a nationwide trend in which healthcare organizations are becoming more data-driven. In other words, they are merging, analyzing and using information to set the direction of their organization. Of course, many healthcare organizations already do this to some degree, but the truly data-driven organizations have chosen to pursue a different management approach that allows for a deeper understanding of both their business and the healthcare market, and ultimately, better strategic advantage.

Does your organization use data to...

- Guide strategic planning and decision making?
- Be proactive to environmental forces?
- Understand drivers of utilization and cost trends?
- Support disease management, case management, and population health management programs?

ADVANTAGES OF A DATA-DRIVEN ORGANIZATION

To become data-driven, organizations must undergo a shift in the way knowledge is created and used within the organization. Traditionally, data requests are made by management to data analysts and then they must wait days or even weeks for results. In a data-driven organization, front-line management has the ability to access and analyze data in order to get to the root causes of issues and verify suppositions. In addition to access to data, it is equally important that management has developed a clear vision of what information they should be paying attention to, and then reacting to it when they get it.

Though this shift is cultural as well as structural, it is worth the effort. Data-driven organizations are able to develop knowledge that is available in real time, rather than after-the-fact, which in turn leads to:

- improved accuracy in strategic decision-making,
- decision-making based on objective data, rather than subjective perception, and
- an improved ability to anticipate and react to changes in the market.

STAGES OF A DATA-DRIVEN ORGANIZATION

The transformation to a data-driven organization can be a lengthy process that can take years to achieve.

The process can be characterized as an evolution involving four specific stages:

- First Stage - Data
- Second Stage - Information
- Third Stage - Knowledge
- Final Stage - Wisdom

Though many organizations today find themselves in the first stage, they will be able to make much more effective use of their data by progressing to the fourth stage.

First Stage - Data

Healthcare organizations (HCOs), whether they are payers or providers, typically have a wealth of data in various locations and departments within their organization. Each of these units develops operational reports, but typically the data in these systems is not integrated. The evolution of the enterprise data warehouse (EDW) provides the

structure and environment to pull all the data organization-wide from each transaction system or local data mart into a central repository. The transformation from these data silos to a central warehouse is the crucial first step in building a reporting environment that produces solid, credible information.

During the process of data aggregation, it is also essential to perform standardization. Standardization ensures consistency in data fields that facilitate linking between various data sources. Without consistency in the data fields that facilitate these cross-references, much of the power of centralization is lost. When data comes from multiple data sources, as occurs in many organizations, standardization is essential.

Validation is the final component of the data stage. The process of validation requires cross verification of the data with known and reliable sources. These cross checks can be as simple as checking data warehouse-produced sums against sums in the original data source to verification with the providing organization's general ledger.

Second Stage - Information

Once the core data is in the EDW, the process of data enhancement begins. During this stage, value added metrics are calculated and added to the warehouse. Several examples of these metrics include:

- Service category assignment (e.g. Milliman *Health Cost Guidelines* (HCG) line item),
- DRG Assignment,
- Episode Grouping,
- Benchmarking,
- Risk Adjustment, and
- Completion factor (IBNR) estimation.

With the edition of these elements, the EDW can now be used to produce actionable and insightful information rather than just data summaries. Through the use of grouping methodologies, such as the HCGs and DRGs, managers are better positioned to understand the services that their members are receiving and recognize emerging trends in healthcare consumption. Episode grouping tools provide an insightful way to analyze patterns of care and resource consumption for specific conditions.

Benchmarking is a great tool to highlight opportunities for further investigation and intervention. Risk adjustment plays an important role in a number of analyses since it provides a means to account for the varying acuity burden of a population and also provides the foundation for predictive modeling. IBNR factors, traditionally considered just an actuarial exercise used to set reserve amounts, can be utilized in trend analysis and other reports to transform data from current months into usable and meaningful values.

Third Stage - Knowledge

In the Knowledge stage, a fundamental shift in user responsibility occurs which enables organizations to truly reap the benefits of the Data and Information stages. Typically, technology personnel in the organization drive the success of the first two stages. In contrast, the Knowledge stage requires management and other end users to be capable and ready to ask the question "why" as they review and digest information. To encourage capability, an organization must financially and culturally address any technical competency barriers that may exist in the management personnel of an organization.

The desire of any individual to interpret, analyze and relate information can be supported through the provision of data analysis tools. Tools can be either purchased or internally developed.

There are several types of tools, including:

- Standard Reports: Developed using applications like Crystal Reports,
- Structured Query Tools: Ranging from Microsoft Access to more specialized applications and,
- OLAP (On-Line Analytical Processing) Tools: To support data mining and other high level data analysis.

The deployment of these tools is critical to the acceptance and use by the user constituency. An organization needs to develop an array of well-thought out and hierarchical standard reports that facilitate fast and easy access to key aspects of the health plan. In addition to the standard reports, it is important to also have flexible, user-friendly data query tools to go on data explorations triggered by standard report observations. The combination of these two elements provides for the quick access needed for those who wish to simply monitor plan performance yet also gives the flexibility and power to users wanting to dig deeper to understand the driving forces of their business.

In the later parts of the Knowledge stage, organizations begin to make extensive use of internal data to select, facilitate, and monitor a wide range of quality improvement projects.

Final Stage - Wisdom

When organizations reach the Wisdom stage, using data to guide the direction of the organization becomes second nature.

While there is no defining moment when this stage is attained, organizations that have reached this stage are typically characterized by exhibiting the following attributes:

- Strategic planning and decision-making is based to a large extent on information drawn from use of the EDW

and data analysis tools, external market information, and management's business experience rather than relying on anecdotal evidence and outdated reports and studies.

- The organization has reached a point where it is positioned to proactively influence the direction of the market rather than be reactive to unanticipated environmental forces.
- Front-line managers are able to understand the drivers of trends both within their business and the healthcare market, and respond accordingly.
- Healthcare payer organizations can shift from simply processing claims to understanding the drivers of cost for their covered populations.
- Medical management is positioned to support advanced clinical interventions, such as disease management, case management, and population health management.

In this stage, organizations are making the most effective use possible of something all healthcare organizations have in great quantity: data.

To learn more about becoming a data-driven organization, contact your Milliman Consultant or Brian Studebaker.

Brian Studebaker is a Healthcare Technology Consultant in Milliman's Milwaukee Office. He can be reached by calling +1 262 796.3469 or email brian.studebaker@milliman.com.