ANALYTICS

Brain Power
Data Visualization Can Transform Information into Useful Insights and Actions

How to utilize data to improve organizational decision making.

By Andrea Simon, PhD

Today, the volume of raw data a healthcare organization collects can be overwhelming. In fact, it is estimated that 90 percent of all the data in existence today was created in the last two years.[1]

The challenge for healthcare strategists is to figure out ways to make sense of all this information. But how?

Data—even "big data"—means nothing out of context.
The ability to generate data-driven insights is among the key implications featured in SHSMD's *Bridging Worlds: The Future Role of the Healthcare Strategist*. Data is only

valuable if it can deliver insights that enable better decision making. And strategists have a role in adopting the best tools for collecting data, analyzing it, and communicating information.

As a corporate anthropologist, I apply a variety of concepts, methods, and tools to help organizations use data to better understand or visualize a problem. I assist them in transforming information into a

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compelling "story," or messaging, to communicate logical solutions and strategies that leaders and their teams can act upon. If people are going to embrace data's insights, they must be able to envision its power.

A story is more than just graphs or dashboards, although these are very important. A story makes the pictures and the data come alive in the minds of those you want to influence. A powerful narrative can change or affirm an organization's strategy and inspire actions.

What happens when a hospital loses its core referral network?

For one of my medical center clients, data-driven decision making and visualization became urgent necessities as they responded to a critical development in their physician network.

The crisis arose when the organization's leaders learned that a large number of its aligned primary care physicians had agreed to be acquired by a competitor. They realized that the looming loss of alignment with these physicians would inevitably lead to a significant loss of revenue.

The leadership team knew they had to quickly build a new primary care network, but what was the right strategy? They had many questions, all of which demanded urgent answers. How could they find new patients who were not already linked to the other physicians? Was there "hard data" that could help the medical center better understand the needs of people who did not have a primary care physician? Was there "soft data"—anecdotal accounts of human experiences—to help make sense of the hard data?

Most of all, the leadership team needed to develop an effective strategy that reflected their shared discovery of the meaning of the data. They also needed to communicate their vision to internal audiences by creating messaging that would help to rally everyone around the strategy, mobilize resources, and encourage people to take action.

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We believe with emotions and justify with reason.

There is excellent research today that reveals the brain recognizes patterns in order to rapidly predict what might happen next. The studies show that stories are the most effective and elegant way to craft and communicate those patterns.

This means that the stories organizations develop to make data understandable are not simply cute, fun ways of dressing up the facts. They are essential tools for conveying meaning and connecting emotionally with others.

Using charts and graphs might make us feel smart, but it is only when we read or listen to stories, and share them, that we truly understand the practical and psychological needs of consumers. Stories work through the integration of the senses—sound, texture, color, sensation, and emotion—to give us deeper insights into people's needs.

What was the right theme for this hospital's story?

There are essentially seven archetypal themes that recur in every kind of story: slaying the monster, rebirth, quest, journey and return, rags to riches, tragedy, and comedy. In the case of my client, the data pointed to telling a story of rebirth, with messaging about how they would overcome the loss of the primary care group by creating new entry points within the healthcare system.

There were key markets in which consumers simply wanted fast, easy, high quality care—available when they needed it and in a location close to home. In support of the hospital's decision making process, my firm, Simon Associates Management Consultants, conducted research. Consumers were quick to tell us that they were less concerned with visiting a primary care doctor for an immediate need, such as the stomach flu or an earache. They wanted care and cure "now."

The medical center's rebirth story was built on a strategy focused on using

urgent care centers with a new start-up primary care network to open up new access points.

Further examination of the data revealed that a large subset of one of their own primary care physician's patient base was utilizing a competitor's emergency department on a frequent basis, causing "leakage" for the medical center and higher prices for the patients. Drilling down, the team found that these patients lived close to the competitor's emergency department (even though they were traveling across town to see the primary care physician).

The medical center's response was to open an urgent care center where those patients lived, thus creating "keepage" rather than leakage, and providing care at a lower cost and in a more convenient location.

What's your data telling you?

Data visualization was essential for the creation of this rebirth strategy and story, which continues to influence how the medical center responds to business challenges—from growing their women's health services to converting new urgent care patients to primary care relationships. The power of data to overcome individual opinion while grounding the organization in the meaning of the facts has changed the way the medical center approaches problems and seeks solutions.
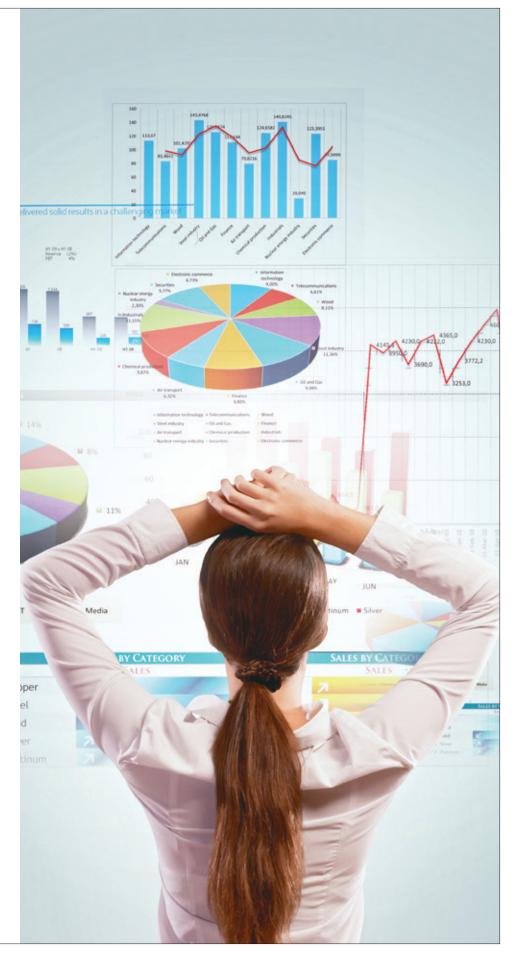
To learn more about the power of data visualization and other aspects of analytics, sign up for the four-part SHSMD U certificate series entitled, *The New Data Landscape in Healthcare: Advanced Analytics for Strategists*, **which begins the first week in October. To register for the online course, visit shsmd.org/education.**

Andrea Simon, PhD
Principal and Founder
Simon Associates Management Consultants
Yorktown Heights, NY
(914) 245-1641
asimon@simonassociates.net

[1] A Data Scientists Real Job: Storytelling. Harvard Business Review, March 2013. (https://hbr.org/2013/03/a-data-scientists-real-job-sto/)

[2] Read more about the brain and storytelling from neuroscientist Michael S. Gazzaniga's most recent book "Who's In Charge."