In the current health care environment, organizations of all sizes have access to an abundance of data. This presents a unique challenge for hospitals and health systems: they have plenty of data and analytical tools, but few people who can analyze and translate data into actionable insights that motivate change.

Data scientists can provide the missing link from data to change. Aside from reporting data and information, data scientists are able to add context, and detect trends and opportunities that transform a data set into a story to actually motivate change. When effectively interpreted, data can be applied to rapid performance improvement efforts within health care organizations.

Read this Q&A with Steve Meurer, executive principal of data science and member insights at Vizient™ to learn more about the role of data scientists, and how to hone their skills to drive engagement and positive change in operational, financial, and clinical areas.

Q. What is a data scientist?
A. A data scientist in health care is someone who is going to take information, make sense of it, put it into a story and present that story to motivate change. These are the people who can add context and understanding to the data they’re given by delving deep into data sets to find and understand connections others may not see.
Q. What specific characteristics should data scientists have?

A. Data scientists possess the ability to transform information into a story that can get other people engaged to take action. So if you think about that, there are certain characteristics that a data scientist has to have—starting with industry knowledge. For instance, if someone tells me they just hired a data scientist, I will reply, “Great. How many years of health care experience do they have?” Unfortunately they might respond, “Oh, well, they don’t have health care experience. I brought them over from another industry.” I don’t believe that’s a data scientist. You can’t add context or understanding to information if you don’t have in-depth, hands-on knowledge about the industry you’re working in.

Q. What is the difference between a statistician and a data scientist?

A. Statisticians are typically used to publish papers—and typically when you get a PhD, you turn to publishing papers. This line of work demands statistical significance. However, when you work in the quality area in health care or in a hospital, you are never going to try to achieve statistical significance because achieving statistical significance has as much to do with the effect size as it does the sample size. When we’re working to create change in health care, we don’t have the sample size to get the power needed to create statistical significance. If you want to publish a paper, a manuscript, you will need to get statistical significance. Data scientists focus on practical significance, variation and statistical process control.

Q. How do you develop people within an organization into data scientists?

A. When helping an aspiring data scientist develop the necessary skills, it’s important to continually give them information and data sets and challenge them to interpret it and then explain what they think and what’s happening. Although programs like this don’t currently exist, we’re getting some interest from a lot of our members in terms of building something to that effect. Our Analyst Certificate Program is a good starting point.

Q. What role do data scientists play within smaller systems, such as community hospitals?

A. Data science is just as important at smaller organizations as it is at big health systems. Analysis of data is the most accurate way to measure improvement, which is so crucial to health systems as reform moves more toward pay for performance. Data science work can, and probably should, be done across hospitals and health systems. We have found that improvement is a team sport. So when we talk about the networks driving engagement in the Clinical Data Base (CBD), what we’re really talking about is the ability for a whole group of people to study data and have a data scientist there to help tell the story for the entire group. I believe that a lot of this should be the work of an organization like Vizient rather than each individual hospital building their own data scientists. I do believe that the accountability for change has to be local.

Biography

Stephen Meurer
Executive principal, data science and member insights
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Steven Meurer uses his background in hospital administration and expertise as a data scientist and change agent to increase engagement in the company’s comparative data and performance improvement products and services. He spends a considerable amount of time with the senior leaders of academic medical centers, providing insights for change in operational, financial and clinical areas. He also serves as a faculty member on the Vizient Analyst Certificate Program.

As the nation’s largest member-driven health care performance improvement company, Vizient provides network-powered insights in the critical areas of clinical, operational, and supply chain performance and empowers members to deliver exceptional, cost-effective care.