

Major Roadblocks Facing Big Data and Health Care

By [Guest Author](#) | Posted 2016-06-20 [Print](#)



Three roadblocks can delay big data adoption in health care organizations. Often, the problems lie with leadership, costs and the lack of specialized skill sets.

By Sanket Shah

The health care industry has arrived at a crossroad, and it must evolve—or risk losing a measure of effectiveness in preventing diseases and treating patients in an affordable way. Health care organizations are moving to new endeavors in which all sorts of health indicators will be collected everywhere we go, tracking our movements, activity levels, preferences and vital signs.

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Health care's digital footprint is growing faster than most sectors, expanding at 48 percent a year, compared to 40 percent annual growth in the broader digital world, according to a report from EMC. To put it into perspective, if all the data in the health care industry were loaded onto tablets, those handheld devices would fill three-fourths of a large hospital, claims a 2014 report from Health

Informatics. By 2020, the loaded tablets would fill 11.3 hospitals.

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All of this information collection raises a big question: What do health care organizations plan to do with the ever-expanding troves of data available to them? Until each organization has a solid answer to that question, the health care industry may be missing opportunities to make its services more efficient, effective and affordable.



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As predictive modeling, health care analytics and business intelligence have become norms in the health care space, many health care organizations still haven't developed programs and processes to plumb these areas for opportunities.

Three Major Roadblocks to Big Data

As a health care data consultant and professor of health informatics at the University of Illinois at Chicago, I see three common institutional roadblocks that tend to get in the way of implementing big data insights in health care organizations. Quite often, the problems lie with leadership, incurred costs and the lack of specialized skill sets.

In my experience, major initiatives in an organization lose steam almost immediately unless the highest levels of leadership actively participate in implementing the vision. In other words, the desire to update technology and analytics has to come from the top, out of a genuine desire to improve care, reduce costs and improve the community's quality of life.

I don't recommend that a single division in any health care organization should assume the task of building big data capabilities by itself. Instead, they should channel that effort into getting the top brass on board.

A second major barrier is cost. These types of technology investments do, admittedly, require some major resources. Part of the task of getting top management to sign off on these projects means ensuring that the executives understand the upfront cost involved—and, of course, the competitive advantage that funding could help fund.

I recommend helping persuade doubters by charting the big-picture cost savings and then illustrating when they will begin seeing a return on their investment. Have a game plan. Show that this type of investment will set up the organization to provide more value—not only to its key stakeholders, but also to the patient population it serves.

The third hurdle that can be tough to clear is finding the right skill sets. Plenty of companies have agreed from top to bottom that they share a vision. They've earmarked the funding, but they stop moving when the right skill set proves difficult to find.

Try to alleviate the headache of cycling through not-quite-right prospects by getting as specific as possible about what you're trying to implement and what expertise that will require. Having the right people takes more than simply hiring intelligent or talented individuals. It requires finding professionals who have the unique and comprehensive set of skills needed to fully understand and leverage the available data and resources so they can achieve the specific goals that have been set.

The good news is that health care organizations *can* overcome these challenges with a little help. I've seen it happen plenty of times. Hospitals, medical centers, insurance providers and others *can* figure out how to become more effective and efficient by taking advantage of the massive amounts of data available.



The initiatives that make the most difference are the ones led by the visionaries in your organization. So entrust initiatives to your best talent and enable the lines of communication at all levels.

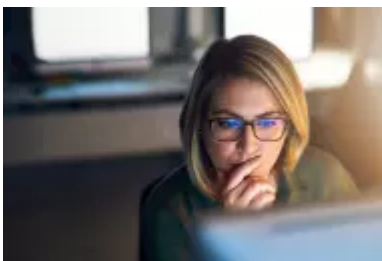
Understanding the data gold mine within your own walls starts with information that's essential to the day-to-day operations of the organization. Once you understand what you have, quickly capitalizing on the potential outputs becomes significant. This data will, in turn, help to fuel critical health care initiatives and insights, such as predictive analytics, genomic sequencing and precision medicine.

To overcome the three major roadblocks, health care organizations need to commit to the long-term benefits of preventive medicine and the belief that the ability to better analyze patient data is imperative to reducing costs. To hasten the evolution of effective analytics in health care, the industry's technology professionals and informatics specialists must educate stakeholders and then lead the way forward.

Once that starts to happen en masse, we can begin to curb growing health care costs and improve the quality of life in a way that was never possible before.

Sanket Shah is a health care data consultant and professor of [health informatics at the University of Illinois at Chicago](#).

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