The Power of Decision Science

A decision-making framework helps organizations weigh risks, see value when making key decisions.

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—Bob Cady
COO
The Risk Authority Stanford
Palo Alto, Calif.

Healthcare leaders are tasked with making decisions every day. Many of these decisions have the potential to directly affect patient care and outcomes, the community's health and well-being, and, of course, the organization's bottom line.

These decisions, therefore, are incredibly important—and so is the timing of when they are made. In fact, in today's healthcare climate, with all the competing priorities organizations face, making the right decision at the right time has never been more crucial.

By using a decision-making methodology that assesses both positive and negative value drivers to determine a decision's effectiveness, healthcare leaders can make better decisions that help avoid costly expenditures and optimize use of organizational resources. The methodology, known as decision science, is designed to drive down financial costs of implementing effective interventions to address patient safety, quality concerns and other issues while elevating the likelihood that these interventions will succeed.

A Framework for Decision Making

Stanford University was one of the pioneers of decision science, or the science of making good decisions, in the 1970s and 1980s. Decision science focuses on the idea that a good decision is distinct from a good outcome, according to Bob Cady, COO, The Risk Authority Stanford, Palo Alto, Calif.

"You can make a good decision based on the information available at the time and still have a suboptimal, or bad, outcome," says Cady. "What we really want to avoid in healthcare and other industries is making a poor decision that results in a bad outcome and costs the organization money, time or other resources."

In today's healthcare environment, where financial resources have become more and more constrained, healthcare organizations need to seek out more efficient decision-making methods, according to Cady.

"We can no longer afford to make decisions solely based on what we did in the past or what our gut tells us and hope for the best," he says. "Those two things in particular, given people's natural biases, will tend to lead us astray, and we end up with decisions that more often than not result in suboptimal outcomes."

Decision science aids in measuring the value of a proposed solution. Having such a framework is a must in a rapidly growing healthcare field, according to Caroline Bell, The Risk Authority Stanford vice president for risk consulting.

"Healthcare, from both a business and a clinical perspective, has gotten so big and so broad," she says. "The number of areas in which leaders are expected to be experts has grown significantly, and it is very challenging to make potentially significant financial decisions without having something in place to guide you."

The Upside of Risk

One area in which decision science can serve as a guide is in the patient safety and quality arena. When Stanford Health

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Care was deciding whether to purchase capital equipment for safe patient handling, it looked to Ed Hall of The Risk Authority Stanford and its decision science methodology.

"This is an initiative every hospital needs to address, as there are patient and staff injuries that can occur when moving patients, so there were multiple issues the organization was facing regarding this decision," says Hall, The Risk Authority Stanford's senior vice president for safety and strategic risk ventures, who led the effort.

Using data and analytics, the decision science method considers the upside of risk—what the possibilities of success would be with a particular initiative—in addition to the downside, or potential worst case scenarios, of implementing a particular solution. In the safe patient handling example, the downside, or worst case scenario, would be that the hospital purchased the equipment and continued to have pressure ulcers, patient complaints and staff injuries.

"Fortunately for Stanford, because due diligence was done ahead of time and a really deep analysis using decision science was applied to this particular initiative, the upside was realized, and it was successful," Hall says.

Decision science also was used by Hall and Stanford Health Care to address a worker safety issue. In 2014, 54 Stanford employees were injured from slipping and falling, a trend that also was contributing to financial losses. After using decision science to analyze the environment—which included working with clinical staff to gain their perspective and directly observing the worker environment—a task force realized that workers' choice of footwear (slip vs. nonslip shoes) was a potential opportunity to improve worker safety.

They broke down the data and devised three different scenarios to evaluate:

- The current program at the time (none), which had a net present value of $44,000
- A voluntary program in which housekeepers purchase their own shoes, which had a net present value of $180,000
- A program in which the hospital purchases shoes for staff and monitors the program, which had a net present value of $487,000

Based on this risk evaluation, the upsides of option three were realized, and all employees were fitted for two pairs of nonslip shoes in the styles of their choosing. Wearing safety shoes became a mandatory part of the daily routine and an area of safety observation.

Stanford is still monitoring the effectiveness of the program, but as of August 2016, the organization has had no more than two injuries related to slips. Although the third option required the largest capital investment, decision science showed that it would yield the greatest value to the organization.

Organizations benefit from looking at both the upside and downside of risk when making decisions, according to Bell.

"I think in healthcare we tend to look at risk from a negative perspective, which is natural because we're dealing with human lives," she says. "In this day and age, we also need to look at the upside of risk, which illustrates that by not taking a particular course, we may be leaving upside potential on the table when we're making decisions."

For more information, please contact Bob Cady, COO, The Risk Authority Stanford, at rcady@theriskauthority.com.

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