INSTITUTE FOR

HEALTHCARE

IMPROVEMENT

Helping Leaders Blink Correctly

Split-second decisions have patient safety implications.

In 1983, the J. Paul Getty Museum in California was approached by an art dealer claiming he had a very rare statue called a kouros (an ancient Greek statue of a standing nude youth often thought to represent the idea of youth) that dated back to the sixth century B.C. As only about 200 kouri exist and most are damaged, the Getty was interested in adding this rare and supposedly fully intact statue to its collection. Before writing a check for more than $10 million, however, Getty's curator wanted to be sure the kouros was authentic.

The museum's research staff conducted a 14-month study and determined the statue was the real thing. But just before the acquisition was completed, Getty board member Frederico Zeri took one look at the statue and said it "didn't look right." What was the problem? "It was fresh," he said. The statue turned out to be a fake.

How, after researchers spent 14 months studying the kouros and gathering a considerable amount of data, did they arrive at an inaccurate conclusion? How did one man, with a quick look at the same statue, know it was a fake? The experience led the curator to conclude, "I always considered scientific opinion more objective than esthetic judgment. Now I realize I was wrong."

This story appears in Malcolm Gladwell's 2005 award-winning book, *Blink: The Power of Thinking Without Thinking* (Little, Brown), which details fascinating stories of how individuals make split-second decisions by engaging in what Gladwell calls "thin slicing." Thin slicing "refers to the ability of our unconscious to find patterns in situations and behavior based on very narrow slices of experience," according to Gladwell.

Sometimes these thin slices lead individuals to make accurate assessments, as in the Getty board member's one look at the kouros. But at other times thin slicing leads people to make incorrect decisions, some of which can lead to tragic consequences. For example, Gladwell tells the story of how four New York City police officers thin sliced an unfolding situation and killed a young man from Guinea as he pulled out his wallet to show the officers his identification card. They thought Amadou Diallo was pulling out a gun.

We blink and thin slice all the time. In healthcare, especially, we engage in thin slicing when it comes to analyzing data, and that approach is usually problematic. It is not uncommon, for example, for individuals to blink and quickly engage in thin slicing when presented with performance improvement or financial data. We see trends where no trends exist, conclude that the data have shifted when in fact they display nothing more than random variation or spend an inordinate amount of time trying to explain a single high or low data point while ignoring the rest of the data.

In order to blink correctly, like Getty board member Zeri did, healthcare leaders need to develop skills in four key areas:

- Understanding the messiness of improving healthcare
- Determining why they are measuring
- Understanding and depicting variation
- Translating data into information

The first two skills are discussed in this article, and the second two skills will be addressed in a future issue.

Understanding the Messiness of Improving Healthcare
The complexity of healthcare challenges cannot be adequately understood with simple models or theories.

Rarely does a single variable drive an outcome. But it is surprising how often we blink as though this is the case—that is, X leads to Y. An alternative to this perspective, proposed in the book *Causal Models in the Social Sciences*, edited by H.M. Blalock Jr. (Aldine, 1971), is causal modeling. This process offers a more accurate framework for blinking (and thinking) about the complexity of the problems we face.

Using causal modeling, the outcome measure or dependent variable (Y) in the chart below could be a patient assessment score such as health status or an outcome from a hospital admission. Note that for outcome Y there are five independent variables (age, gender, current health status, coordination of care and communication), indicated by the Xs. Each independent variable by itself has a direct effect on the outcome. Notice, however, that this model becomes messy from the 10 possible interactions between the five independent variables (e.g., four of these interactions are X_1X_2, X_1X_3, X_1X_4 and X_1X_5).

These interactions create a complex set of relationships as we attempt to untangle, for example, the combined effect of age and gender on patient outcomes. The model becomes even messier when you realize it may not adequately account for all the variation in patient outcomes. There may be variables we are not even considering (e.g., the presence of a family support system) that have more of an impact on the outcome than do the variables we have identified. These unaccounted-for variables are identified by the residuals (the Rs) in the model.

Blinking at even simple problems can lead us to think that the solutions should be quick and easy. ("Just fix it!") Good leadership begins with blinking accurately and realistically about the nature of the problems we seek to improve.
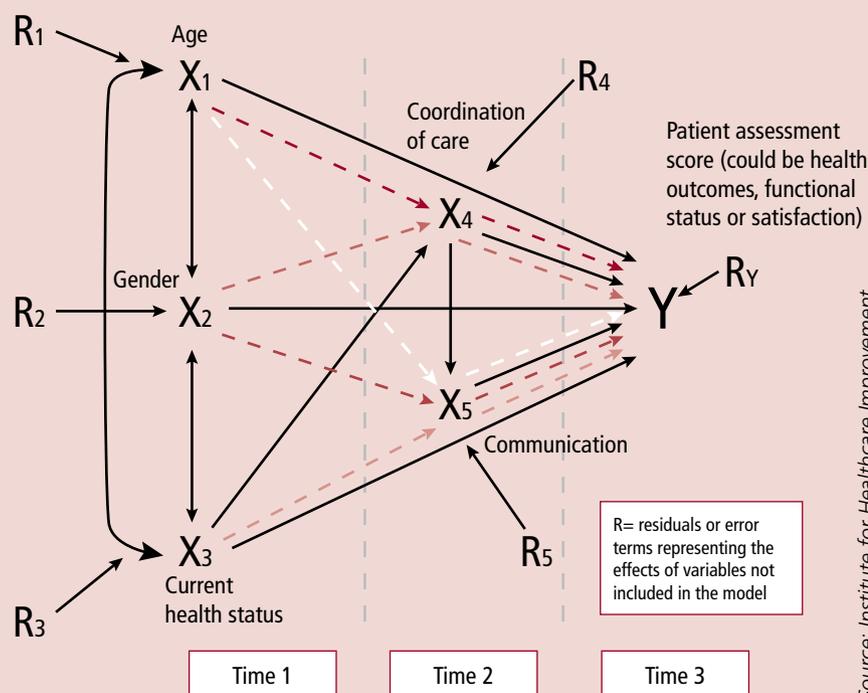
Determining Why You Are Measuring

The act of measuring healthcare processes and outcomes provides an opportunity to blink in many different ways. Yet, many people blink as though all measurement is basically the same.

L. Solberg, G. Mosser and S. McDonald, in "The Three Faces of Performance Measurement: Improvement, Accountability and Research," published in the *Journal on Quality Improvement* in 1997, provide a useful context for thinking about how we blink when it comes to measurement and define what they call the three faces of performance measurement: accountability, research and improvement. Healthcare organizations regularly engage in and use all three approaches to performance measurement.

The leadership challenge, therefore, is to be clear about the purpose of your measurement efforts and avoid being, as Solberg and colleagues state, "counterproductive by mixing measurement for accountability or research with

Direct and Indirect Effects in a Causal Model

In this example, there are numerous *direct* and *indirect effects* between the independent variables (Xs) and the dependent variable (Y). For example, X_1 and X_4 both have *direct effects* on Y, plus there is an *indirect effect* due to the *interaction* of X_1 and X_4 conjointly on Y.

R = residuals or error terms representing the effects of variables not included in the model

Time 1 | Time 2 | Time 3

Source: Institute for Healthcare Improvement

measurement for improvement." When we mix the aims and methods of the three aspects of performance measurement (see chart below), we run the risk of thin slicing the intended measurement aim and increase the probability of arriving at incorrect conclusions.

For example, in the chart below, look at the row labeled "Determining if a change is an improvement." Note that when you blink from an accountability perspective you merely want to know, "Are we better now than we were last year?" If we blink with the eyes of a researcher, however, we use descriptive or inferential statistical tests to determine if a significant level of difference is seen between two data points. Finally, a quality improvement approach will blink at data using statistical process control methods to determine if the data display common or special causes of variation.

Healthcare leaders who blink correctly, therefore, will be clear about why and how they are measuring. Claiming you are engaged in quality improvement, for example, while using methods more appropriate for accountability or research questions will not only waste time and effort but will most likely lead to incorrect decisions.

The two skills highlighted here—understanding the messiness of improving healthcare and being clear about why you are measuring—will assist leaders in blinking correctly and sending appropriate messages to others in their organizations. As mentioned earlier, an upcoming article will discuss two additional skills needed for better blinking: understanding variation and translating data into information. ▲

Robert Lloyd, PhD, is executive director, Performance Improvement, at the Institute for Healthcare Improvement in Cambridge, Mass. He can be reached at rlloyd@IHI.org.

Editor's Note: The second part of this two-part column will be featured in the July/August issue of *Healthcare Executive.*

Key Aspects of Performance Measurement by Type

Aspect	Accountability	Research	Improvement
Measurement Aim	Comparison, choice, reassurance, spur for change	New knowledge	Improvement of care
Measurement Methods Test observability	No test, evaluate current performance	Test blinded or controlled	Test observable
Bias	Measure and adjust to reduce bias	Design to eliminate bias	Accept consistent bias
Sample size	Obtain 100% of available, relevant data	"Just in case" data	"Just enough" data, small sequential samples
Flexibility of hypothesis	No hypothesis	Fixed hypothesis	Hypothesis is flexible; it changes as learning takes place
Testing strategy	No tests	One large test	Sequential tests
Determining if a change is an improvement	No change focus	Hypothesis, statistical test (t-test, F-test, chi-square) with p-values	Run charts or Shewhart control charts (use statistical process control methods)
Confidentiality of the data	Data available for public consumption and review	Research subjects' identities protected	Data used only by those involved with improvement

Source: Institute for Healthcare Improvement