

As I write this at the end of March, I am confronted with a world turned upside down. The COVID-19 pandemic has changed every part of my daily routine, limiting my trips to the grocery store, physically distancing me from family, friends, and colleagues, and forcing me to work from home. I am learning to adjust to my new work environment, substituting in-person meetings with video webinars, finding other sources of entertainment, and embracing strategies that make me feel less isolated. I suspect this experience will fundamentally change how we do our work and interact with each other. What that means in terms of specifics, though, I do not know.

Yet this unprecedented event has also taught me a valuable lesson. While I always believed data to be a valuable tool to guide science and decision-making, I never realized how important a role it plays during a crisis.

The exponential cost of being wrong

During normal times, managers often make decisions based on their knowledge and experience; analysis of data to varying degrees informs that decision-making process. Circumstances change at an easily manageable pace, errors in judgment can be corrected, and the impact of those poor choices is often insignificant.

During a healthcare crisis, however, the cost of being wrong is exponential. Poor decisions can lead to preventable suffering, unnecessary deaths, and wasted resources. Circumstances change rapidly, often outpacing the ability of managers to process new information. Relying on expertise built from years of experience becomes less valuable, as that expertise does not include consideration of the unknowns presented in a crisis.

Organizations use simulations to learn about crisis scenarios and better respond when confronted with a disaster. Nevertheless, no organization can

When in Crisis Mode, Let Everyone Follow the Data

By Barry P. Chaiken, MD, MPH

**ORGANIZATIONS USE
SIMULATIONS TO
LEARN ABOUT CRISIS
SCENARIOS AND
BETTER RESPOND
WHEN CONFRONTED
WITH A DISASTER.**

completely prepare for every contingency. For example, the U.S. government ran numerous simulations over the past two decades in preparation for a flu pandemic. In none of its simulations did the government anticipate the unavailability of diagnostic testing kits. Therefore, all planning was based on the rapid identification of cases and the ability to track disease spread. During the COVID-19 pandemic, the U.S. has responded without the benefit of widespread disease testing and rapid reporting, severely hampering contact tracking and application of proven disease containment measures.



In a crisis, data analytics provides managers with a new set of information that helps them make more objective decisions. It further describes the current state and provides insights into the new reality.

Data literacy

The importance of data literacy and the embrace of a data culture is never more important than when faced with a crisis. Every decision, in addition to its heightened importance, also attracts additional scrutiny.

Executives armed with strong data literacy are best equipped to use available data to extract insights that inform their decisions. Wikipedia defines data literacy as “the ability to read, work with, analyze, and argue with data. Much like literacy as a general concept, data literacy focuses on the competencies involved in working with data” (“Data literacy,” 2020).

Data literacy allows executives to understand the value of analyzing data and expands their receptiveness to insights from that data. Executives can then guide data scientists and analysts to extract those insights and enhance their decision-making. Without data literacy, executives fail to understand the information available to them in data, and in turn make decisions based more on intuition and less on facts. In a crisis, such decisions are mistakes, and they lead to poor outcomes that are not easily reversed.

Data culture

Data culture creates an environment where everyone in an organization applies their data literacy to their decision-making. Wikipedia defines data culture as “the principle established in the process of social practice in both public and private sectors which requires all staffs and decision-makers to focus on the information conveyed by the existing data, and make decisions and changes according to these results instead of leading the development of the company based on

experience in the particular field” (“Data culture,” 2020).

Data literacy (arming employees with the ability to understand data) and data culture (focusing

software, and other transactional systems by extracting data, analyzing it, and using it to inform their leaders. Organizations use their data sources to deliver dashboards that guide staff activities by offering useful, actionable information to every employee.

WITHOUT DATA LITERACY, EXECUTIVES FAIL TO UNDERSTAND THE INFORMATION AVAILABLE TO THEM IN DATA, AND IN TURN MAKE DECISIONS BASED MORE ON INTUITION AND LESS ON FACTS. IN A CRISIS, SUCH DECISIONS ARE MISTAKES, AND THEY LEAD TO POOR OUTCOMES THAT ARE NOT EASILY REVERSED.

decision-making on data) together offer organizations a foundation to obtain the best possible outcomes during a crisis. With all decisions driven by data shared throughout the organization, decisions naturally become coordinated, with each manager reacting to the same set of facts. Without data literacy and a data culture, decisions made from personal experience will naturally be random and unlinked, and results will be less optimal. This can also lead to confusing directives and counter-productive activities.

The power of data, in and out of crisis

During a crisis, desired outcomes can be driven by enterprise-wide deployment of analytics, coupled with a workforce armed with data literacy and data culture. This allows organizations to leverage existing data sources such as EMRs, ERP

Embracing data literacy and data culture also offers enormous benefits during normal times. Organizations can leverage their enhanced decision-making to impact clinical and financial outcomes. They can quickly understand trends and adjust processes to achieve targeted goals such as enhancing patient safety or decreasing treatment costs.

While pandemics are rare events, organizations that use data in both calm and turbulent times further ensure the delivery of quality care to patients while enhancing their financial well-being. Data analytics facilitates informed management—a powerful foil for both the common challenges facing provider organizations and “black swan” events such as our current pandemic. *

Barry Chaiken is the clinical lead at Tableau Healthcare and has more than 25 years of experience in medical research, epidemiology, clinical information technology, and analytics. He is board certified in general preventive medicine and public health and is a fellow, and former board member and chair of HIMSS. Chaiken may be contacted at bchaiken@tableau.com.

REFERENCES

- Data culture. (2020, March 5). In Wikipedia. https://en.wikipedia.org/w/index.php?title=Data_culture&oldid=944019387
- Data literacy. (2020, March 1). In Wikipedia. https://en.wikipedia.org/w/index.php?title=Data_literacy&oldid=943336069