Researchers create roadmap for eliminating defects in health care value

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A new paper published in the *New England Journal of Medicine Catalyst* states that the U.S. health care system spends in excess of $1.3 trillion annually on sub-optimal behavior and outlines a roadmap for reducing

costs by eliminating defects in health care value. The paper is titled "Making a Dent in the Trillion-Dollar Problem: Toward Zero Defects."

A lead author, Peter Pronovost, MD, Ph.D., Chief Quality and Clinical Transformation Officer at University Hospitals and Clinical Professor of Anesthesiology and Critical Care Medicine at Case Western Reserve University in Cleveland, developed the concept of "defects in value." He and co-first author John W. Urwin, MD, of Beth Israel Deaconess Medical Center, Harvard Medical School, and the Department of Medical Ethics and Health Policy, University of Pennsylvania, wrote their model "offers a hopeful path forward for improving value in health care."

Using the success achieved at University Hospitals (UH) in Cleveland—where annual costs per patient in the UH Accountable Care Organization (ACO) were reduced by 9 percent over the course of 12 months—researchers demonstrated that deploying a framework in which specific 'defects in value' were eliminated could not only save money but improve the overall care value proposition. In the UH ACO, they applied this framework to the 37,000 members in its employee plan as well as the 580,000 patients in its ACO, who collectively represent almost half of the 1.2 million individuals for whom UH provides health care.

"In general, health care harms too many patients because it costs too much and learns and improves too slowly," explained Dr. Pronovost. "We deliberately chose the word 'defects' in order to convey an intolerance for suboptimal care and decisions and to hopefully drive a cultural shift emphasizing that these 'defects' are unacceptable and preventable."

To assess the scale of the problem and the potential for improvement, the researchers examined how decisions and behaviors in health care lead to suboptimal care and suboptimal value across all stages of disease,

from maintaining good health in the healthy patient, to managing chronic disease in the chronically ill, to treating acute illness both in and out of the hospital.

Through their research, they deduced these sub-optimal behaviors and a mis-alignment of incentives cost the U.S. healthcare system more than $1.3 trillion.

The authors classified patients into three categories: Staying Well, Getting Well and Getting Better. For individuals in the first group—"Staying Well: Preventing Illness in the Healthy Patient"—the researchers suggest these people have the power to avoid unhealthy habits and adhere to recommended health maintenance guidelines designed to preserve health and prevent the onset of disease. For example, in the U.S. today, three-fourths of adults are obese, one-fifth smoke cigarettes, and one in 10 consumes more than 10 drinks of alcohol daily.

"Indeed, 22 percent of all health care spending is driven by a mere 10 modifiable risk factors. Those costs represented over $750 billion annually in the U.S.," said Dr. Pronovost.

The second category they called "Getting Well: Managing Chronically Ill Patients." In this group, they see under-diagnosis and misdiagnosis as enormous problems. For example, while 1 in 3 Americans is living with either diabetes or pre-diabetes, 36 percent of patients with diabetes and 88 percent of those with pre-diabetes remain undiagnosed. In addition, 1 in 3 Americans has hypertension, and more than a third of them are unaware of their diagnosis and thus are not receiving treatment. Additionally, 1 in 5 adults experience a mental health illness each year, but only 43 percent of those patients receive care. Moreover, 35 percent of patients with serious mental illnesses, such as schizophrenia or bipolar disorder, have not received any mental health care in the past year.

These defects cost the healthcare system billions of dollars.

The third group they defined was "Getting Better: Treating Acutely Ill Patients." These patients often present to inefficient points of care when they could be cared for in higher-value settings. Moreover, they often receive suboptimal medical care, resulting in costly complications. Instead of seeing a physician in the office (at a cost of around $150 per visit), many patients present to the emergency department (at a cost of around $1,500 per visit). Hospitalization costs even more, averaging $3,000 to $5,000 per day. The authors hypothesized, "While estimates of the frequency of improper emergency department use have varied widely...there is a general consensus that at least 20 percent of emergency department visits, and likely 40 percent, are preventable."

"We call for a paradigm shift with a focus on eliminating low-value behaviors and incentives—not just those that are most egregious or visible—in order to sustain a meaningful impact on bending the healthcare cost curve," said Eric Beck, DO, MPH, Chief Operating Officer at UH and a co-author of the paper.

Dr. Beck said health systems can find this shift in focus by embracing four fundamental priorities: Alignment around a common purpose and definition of value; a common framework and analytical platform for measuring—and making transparent—defects in value as well as a disciplined management system to reduce them; incentives for all stakeholders toward the common purpose, and an appropriate population of attributable persons for whom creating this system change and alignment is measurable so that the organization which is accountable for a given population realizes the benefits of the investment.

Pronovost explained that UH "aligned around a purpose of improving value, defined as the quality and experience of care divided by the annual cost of care. This purpose was communicated across the

organization as a new narrative—specifically, that success is defined as keeping people healthy at home rather than healing them in the hospital."

UH developed a list of key principles for eliminating defects in value as well as a checklist for eliminating such defects. To eliminate these defects, they worked to align incentives among employees and clinicians and created a management system to guide their efforts.

Prior to this effort, the ACO's annual per-member-per-year cost of care for the employee plan increased by 6 percent from 2017 to 2018, then decreased by 1 percent from 2018 to 2019. As they continued to implement this framework in 2020, these costs were further reduced by 13 percent from Q1 2019 to Q1 2020.

Among its 57,000 Medicare Shared Shaving Program beneficiaries, the per-member-per-year cost decreased by 9 percent, whereas the cost of care for the U.S increased by approximately 6 percent. Contributing to these cost reductions were decreases in hospital discharges (by 15 percent); skilled nursing facilities admissions (by 31 percent); length of stay (by 28 percent); post-acute spending (by 32 percent), and emergency department visits (by 13 percent). The health system also saw improvements in several other measures.

Their study's limitations include that it is an observational study design from which they cannot make causal inferences regarding the relationship between interventions and improved outcomes.

"Although we are early in the journey and our framework is only 25 percent deployed, we believe that this model offers a hopeful path forward for improving value," concluded Dr. Pronovost.

More information: *New England Journal of Medicine Catalyst*, catalyst.nejm.org/doi/full/10.1056/CAT.19.1064

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