Exchange

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DOCTORS' ORDERS, IGNORED

Reconsidering the Costs of Non-Adherence

Doctors, health care systems, pharmaceutical companies, insurers, and even the U.S. government seem to agree on one thing: patients too often fail to adhere to their treatment plan. In the past 20 years, Carlson School of Management Assistant Professor Mark Egan notes that academics have churned out more than 1,000 articles per year on the problem of non-adherence, and recent estimates put the cost of non-adherence at a staggering 13 percent of healthcare costs, or 2.3 percent of the U.S. GDP. Still, no one has figured out the best way to get patients to take their medicines or obtain regular treatments as described by their doctors. Egan, who studies consumer finance and health economics, thinks he might know why: What if, he asks, patients aren't dropping off their medications because the copays are too high or the treatments take too much time, but because they tried the prescription and learned that it didn't work well for them? Further, what if the real problem is that too many people adhere to a health plan that isn't helping—or is even hurting—them?

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That is, what if the inefficiency represented by measures of non-adherence is a red herring? In a new NBER working paper coauthored with the University of Chicago's Tomas J. Philipson, Egan points to patient learning as a key driver of non-adherence as he also considers the estimated economic inefficiencies the phenomenon supposedly creates. Through their analysis, Egan and Philipson posit that the more costly inefficiency is the length of patient learning. If patients must take a drug, for instance, for several months before they learn, through the experience, that it doesn't work well for them, their suffering may have been prolonged. It's easy to see why this process is inefficient.

About

Exchange, a publication from the Medical Industry Leadership Institute, features dialogue on medical industry research and application. The content is a summary of research from both academia and the medical industry, followed by commentary on the importance of the research and its application. Topics highlighted in the *Exchange* span all sectors of the medical industry and include commentary from leaders in the field, as well as researchers from the University of Minnesota and other academic institutions.

Rather than put more effort into seeking ways to manipulate healthcare consumers' behavior—through smartphone app reminders and copay reductions, for example—Egan believes the idea of speeding up patient learning by refining and deploying the tools of personalized medicine can streamline treatment, saving time, money, and even possible suffering from side effects. "Some patients adhere to what turns out to be ineffective treatment for them—over-adherence—and others do not adhere to what turns out to have been an effective treatment for them—under-adherence. There are two types of inefficient adherence, but most research has only focused on the latter. We show that the former is equally important," Egan explains.

The professor cautions that, while his paper begins to tease out the drivers of consumers' non-adherence, a study explicitly devoted to that portion of his research is needed before anyone can make credible normative claims about any private or public intervention aimed at raising adherence. Still, "We argue that personalized medicine is intimately linked to adherence issues," he says, "and wherever personalized medicine can replace the learning-through-treatment experience with a diagnostic test, patient learning is faster." Since patients arrive at effective treatments more quickly in these scenarios, they are also more likely to stick with the plan. ■

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Exchange—A dialogue on medical industry research and application

Commentary

*By **Dr. Archelle Georgious***

As long as I have been a physician and a healthcare executive, patient non-adherence has taken at least some of the blame for high medical costs and poor health outcomes. Pharmaceutical companies, health systems, and managed care plans have invested billions to combat this issue. In fact, I jumped on the bandwagon when I was at a national managed care company. We developed a program that used medication possession ratio data (a proxy for adherence) to identify and educate patients who weren't regularly refilling their statins or high blood pressure medications. Unsurprisingly, the program didn't work; adherence rates never rose above the 50 percent baseline.

However, it may be that patient non-adherence may be exactly what we need to achieve better care at a lower cost. In their paper "Healthcare and Personalized Medicine," Egan and Philipson "boldly go where no man has gone before." They use an economic model to show the positive implications of non-adherence.

Egan and Philipson explain that providers prescribe medication based on population-wide data regarding treatment effectiveness. In other words, providers' recommendations revolve around "Does this medication work?" But patients' adherence behavior is based on "Does this medication work for me?" After initiating treatment, they use their individual experience to guide adherence choices, considering the clinical efficacy of the medication as well as the side effects, costs, inconvenience, and impact on their quality of life.

In applying their model to cholesterol-lowering medication, Egan and Philipson shatter conventional thinking about the value of adherence by showing that "over-adherent" patients – those who simply comply with recommended evidence-based medicine treatment even if the medication is ineffective – generate financial losses 80 percent greater than "under-adherent" patients who discontinue effective medication.

In our deep-rooted "doctor knows best" healthcare culture, non-adherence is scorned upon, but this research reveals that it is merely a passive behavior patients quietly resort to when they believe a particular treatment isn't right for them. Imagine how healthcare outcomes might improve if providers balance their expertise in clinical medicine with patients' expertise in, well, themselves. By acknowledging that only patients can determine the individual value of at least some treatments, we might invite non-adherence disclosure and find better solutions.

Egan and Philipson's work reminds us that all healthcare efforts and investments require thoughtful, creative analysis—sometimes even counterintuitive study. This is my five-year mission: to explore strange new worlds in pursuit of better health. ■

Dr. Archelle Georgiou is an Executive in Residence at the University of Minnesota's Carlson School of Management. Her new book, Healthcare Choices *was published in February 2017.*