EDITORIAL

BETTER DATA, BETTER HEALTH?

Healthcare informatics, largely in the form of electronic medical records and e-prescriptions, promises to help doctors and hospitals make fewer mistakes and limit the cost of patient care. It also promises to help patients maintain their health and prevent medical procedures and prescriptions when none is truly warranted.

Better outcomes have always followed better data, only now the data is systematically being captured, validated, mined, analyzed, integrated, and ultimately modeled in databases of patient records and lab and radiology test results. Much of it can be derived from a single drop of blood (a window into our genomic legacy and real-time chemistry) to distinguish health from disease. Access could transform the entire healthcare enterprise from reactive (treatment when someone gets sick) to proactive (supporting lifelong health management).

A complication is that economic incentives still reward doctors and hospitals for doing more procedures and tests and writing more prescriptions. As long as billable revenue is based on more of everything, the result could be more care but not always better care. However, even if electronic medical records could reduce operating costs in the long run, the initial investment in healthcare IT is still significant and sometimes prohibitive for individual doctors and hospitals.

Health and biomedical informatics ranges from the personal to the global, says Aaron Weiss in his cover story, combining electronic medical records for individual patients with public-health data on epidemiological research, whether cutting-edge computer models like the Intelligent Histories project (<http://www.intelligenthistories.org/>) or

projections of the spread of viruses like H1N1 (<http://www.ncbi.nlm.nih.gov/rn/RRN1014>). Despite the apparent benefit, he says, an estimated 85 percent of primary-care physicians in the U.S. still rely on paper charts to record patient histories.

In her article on personalized medicine, Laurie Rowell explores how tailoring therapies to individual genomic profiles is dramatically changing the way pharmaceuticals are designed, manufactured, and prescribed. The goal is greater precision as to which medical interventions are indeed most effective in a patient's treatment, along with lifetime risk prediction and personalized health planning.

Speculating on the potential political and cultural implications of access to genomic data, Frank Stajano (in his Last Word column) says it could also be used to justify prejudicial labeling by, say, an employer in a hiring or layoff decision, a police department tracking a suspect—despite having faulty or incomplete information—or even a potential blind date.

With the emerging store of data, how much would we even want to know about our personal predispositions for devastating illnesses like lung cancer and Alzheimer's and Parkinson's disease? Would such knowledge worry us more than help prepare us for care? Ultimately, many of us are better off doing nothing. Our greatest common interest is still outlined in the physician's oath, beginning: First, do no harm.

— **Andrew Rosenbloom**
Executive Editor

DOI: 10.1145/1655737.1655738