By Jeffrey C. Bauer, PhD

Comparative Effectiveness Research

New Demands on Health IT

If all goes according to plan—a questionable assumption about anything in the context of today's economic crisis and political gridlock—some hospitals and medical practices in FY2011 will receive federal subsidies for being meaningful users of certified health IT. However, economic stimulus dollars are not being offered as seed money for getting started in health IT. With a few minor exceptions, the law only provides post-implementation reimbursement for expenses already incurred in becoming operational. Providers hoping to receive stimulus money consequently find themselves caught between the need to have qualifying systems in place very soon and the yet-to-be-determined requirements for qualifying.

RATIONALE FOR NEW HEALTH IT FUNDING

The government's fundamental reason for promoting digital transformation is to reduce the cost of delivering care. Indeed, the program's official title, HITECH (Health Information Technology for Economic and Clinical Health) directly reflects Congressional intent to address cost at least as much as quality. Unprecedented spending and federal debt are causing leaders in both political parties to believe that health IT is essential for reducing Medicare and Medicaid expenditures in the long run. (Medicare and Medicaid reimbursement for all providers will ultimately be reduced regardless of health IT adoption, but that's the subject for another column.)

In addition to authorizing more than $30 billion to defray costs of using health IT between 2011 and 2015, the American Recovery and Reinvestment Act of 2009 (ARRA) also sets aside a few billion dollars for comparative effectiveness research (CER). This unprecedented expenditure is another strong indicator of the government's goal to spend less on healthcare. Policymakers want to identify the relative costs of different approaches to treating the same medical problem and cease paying more money for interventions that do not provide proportionally more value than less expensive treatments.

For example, recent research suggests that patients treated surgically for coronary artery disease fare no better in the long run than patients treated medically. Government officials wonder with good reason why they should pay thousands of dollars more for surgical care when it isn't demonstrably better than less costly medical interventions. Economic and clinical research is beginning to reveal quite a few significant cost differences in alternative approaches that produce similar results. Indeed, many pharmacy management systems are designed to promote use of less-expensive drugs if clinical data do not demonstrate better outcomes with higher-priced medications.

Health IT professionals should be prepared to participate actively in their organizations' evolving discussions of cost-effectiveness. Finding the least-expensive combination of resources to produce a specific outcome—the basic concept of cost-effectiveness analysis—will soon be key to survival for all providers, even those who do not qualify for HITECH funds. Using cost-effectiveness studies to support related performance improvement is imperative in a medical marketplace that cannot keep growing as it has in the past.

The rising importance of CER as an organizational management tool clearly justifies more investment in information systems that enable operational efficiencies. Given new awareness of the complexities of human health and medical care, we now understand that the sophisticated analytics and voluminous data required for cost-effectiveness studies exceed the capabilities of human minds working with paper records. Finding CER in ARRA is not a political anomaly. Rather, it is a foundation of health reform.

METHODOLOGICAL CONCERNS

A few post-ARRA commentaries in the trade literature have rightly reminded us that the quality of data is important to healthcare studies. "Garbage in, gar-

bage out" is a timeless truth. The reform-related goals behind HITECH funding won't be met if providers use upgraded health IT systems to analyze meaningless and/or inaccurate data.

Post-ARRA columns and articles haven't yet placed much emphasis on the value of operations research made possible by increased investments in electronic medical records, computerized provider order entry, e-prescribing and related information technologies. Even if health IT professionals ensure that data in their systems are valid and reliable, state-of-the-art IT won't reduce the costs of doing business if cost-effectiveness research is flawed. To justify the returns to increased investments in the digital transformation of healthcare, health IT's leaders need to pay careful attention to the quality of research done on their information systems. Bad research could diminish the value of good technology.

THE MEANING OF RESEARCH

Research is what scientists do to assess the probability that a specific action (e.g., administering a new drug, performing an experimental procedure, managing patients remotely with telemedicine or substituting advanced practice nurses for physicians) makes a greater difference than the difference that could be explained by chance. The methodological foundation of any research is an experiment, desirably a randomized trial that compares the new intervention with one or more alternative approaches to producing the same clinical outcome. The experiment must be controlled to minimize the potential effects of other factors that could explain the outcome (e.g., case-mix differences or genetic variations in the research subjects).

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A 1,000-word column can't begin to tell health IT leaders all they need to know to participate meaningfully in discussions about getting the best return on increased investments in CER-enabling information technology.[1] Nevertheless, health IT leaders need to know enough to support their institutional colleagues whose professional success depends on having timely information about the least-expensive way to do the many jobs that need to be done in today's unforgiving medical marketplace.

Bottom line, clinical and managerial executives must be able to determine economic differences in alternative approaches to providing healthcare. The ability to support cost-effectiveness studies is not generally mentioned in today's discussions of how "meaningful use" will ultimately be defined, but supporting CER at institution-specific levels will certainly be one of the most important returns on investments in health IT. CER will be the next CSF (critical success factor), even for organizations that do not qualify for HITECH funds. **JHIM**

Jeffrey C. Bauer, PhD, a nationally recognized medical economist and health futurist, is a Chicago-based partner in the management consulting practice of Affiliated Computer Services (ACS Healthcare Solutions). Visit www.jeffbauerphd.com or contact him at jeff.bauer@acs-inc.com.

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