In January of 2013 the UK Department of Health (DOH)\(^2\) published a report from PricewaterhouseCoopers entitled *A review of the potential benefits from the better use of information and technology in Health and Social Care* (1). The 60-page final report highlighted additional evidence in support of previously published strategies [*The power of information: Putting all of us in control of the health and care information we need* and an accompanying impact assessment (2)], which identified and evaluated the potential benefits that would arise from implementation of actions to “transform information for healthcare . . . to achieve higher quality care and improve outcomes for patients and service providers.”

The majority of the DOH review contains substantial quantities of “could deliver,” “potential financial benefits,” and “significant further work is required.”

Given the size and scope of the variables that must be conquered in implementing such systems, the viewpoint presented in the report appears overly optimistic. It also ignores many of the known limitations of electronic medical records and use of the Internet for communication and coordination of medical care.

Key findings of the review suggest that potential financial benefits could be on the order of 7 billion dollars annually if 4 primary actions were taken, which include use of ePrescribing, better use of information to improve care of patients postoperatively, “acute operational performance” information to achieve contractual savings, and widespread utilization of accurate clinical information at the point of care (institutional, office, and home). The review is honest in presenting the challenges that will be faced in the implementation of the recommended actions and in pointing out that possible benefits will not be achieved if a proper foundation of supporting elements is not established. To better understand some of the challenges, readers are referred to an evaluation of earlier efforts in the NHS system by Ann Robertson and coworkers that appeared in an online report published by the *British Medical Journal* in 2010.

The authors of the DOH report are a bit unrealistic when stating that staff would be able to view, create, update, and amend patient records instantly, in real time from any location. Their report makes the claim that electronic records could save 3 min of nursing time and 5 min of clinician time. However, the report does not address the time needed to “instantly” create and update these records or the time it takes to log into several components of a system (such as prescriptions, labs, and imaging). The authors do not consider the potential impact of failures of such systems if they were implemented. To understand the importance of such failures, readers should review the reported experiences of numerous facilities using Cerner information systems that suddenly were all offline for extended periods in the summer of 2012. The facilities all had “down time procedures” in place, but these procedures captured only information and data generated while the system was down, and clinicians were unable to review data from the hours, days, or even weeks before the electronic resources disappeared. Thus important information such as data regarding medication doses and patient allergies were preserved only in the memories of caregivers and perhaps in some paper documents.

The DOH report does contain several case studies of interest to the laboratory community that demonstrate how improving communication between the laboratory, clinicians, and patients can considerably improve the quality of care and the effectiveness of delivery (with accompanying financial improvements).

One example case study, from the Evanston Northwestern healthcare system, describes the use of a full electronic records system linking 3 hospitals in the Chicago area. Positive outcomes from the use of this system included significant reductions in turnaround times for test results, duplicate test orders, and prescription errors. More recently and on a somewhat larger scale, the Northern Ireland Electronic Care Record (ECR) Proof-of-Concept project in 2011 demonstrated that if an ECR system was used across all programs there could be a reduction of over 48,000 unnecessary diagnostic imaging tests and more the 500,000 laboratory tests from outpatient clinics alone.

Clearly opportunities exist to improve the delivery of healthcare in an effective and efficient manner with resulting overall cost reductions. The DOH report details one country’s review of potential benefits, but the report is limited as a true assessment of the risks and benefits. The case studies described in the report provide...
the best reading, but should be viewed with a careful eye because these reports highlight the pros but not the cons. One thread to many of these case studies is that simpler systems, using technology like secure messaging and portals for patient education, appear more successful than larger systems that fail to account for the needs at local levels, which can vary substantially across systems as large as the NHS or US healthcare systems.

Finally, readers should consider the noteworthy lack of safety and risk data associated with the use of electronic health records and communication systems in this and similar reports. The US Institute of Medicine, in November 2011, and the Pennsylvania Patient Safety Authority, in December 2012, have both published reports that present information on the risks associated with these systems. Most patients and clinicians are unaware of these risks.

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