Letter to the Editor

Transatlantic Health IT Policies: Opportunities for Small Businesses and Health Systems

Kai Ruggeri, PhD, and Patrick Wollner, MEng

Engineering Design Centre, University of Cambridge, Cambridge, United Kingdom.

Dear Editors:

It is unfortunate that headlines on global health reforms have largely focused attention on the public-private payment system shifts. Although this may be unsurprising given the political battles on which many elections hinge, beyond the politics, reforms create new markets for services, particularly via changes in management for data and transactions handled electronically. These new markets have the potential for creating jobs for skilled laborers in information technology (IT) as well as reducing costs for strained health systems without adding to the political divide on health service regulations. Although opportunities are certain, barriers with connecting needs to providers have been hindered by lack of progress on various transatlantic policies that could develop such advances. These issues include semantic interoperability—the alignment of diverse systems across parallel groups—and the ability to reference past successes of comparable work. This letter aims to address these issues through highlighting possibilities for health IT (HIT) experts in a global market, beginning in Europe.

In December 2010, the U.S. Department of Health and Human Services (DHHS) and the European Commission's Directorate General for Communications Networks, Content and Technology (DG CONNECT) signed a memorandum of understanding (MoU) outlining the need to improve interoperability between U.S. and European electronic health (e-health) records (EHRs). This established a clear path toward overlapping health service markets between the two largest health economies. The MoU has been reinforced by the Trans-Atlantic Economic Council and provides a framework on which e-health solutions can be built. Preliminary discussions between the DHSS and the European Directorate General of Information Society and Media aim to establish a global conceptual framework for the integration of e-healthcare. Although steps toward interoperability have clearly begun, a summit of HIT stakeholders between the two sides was held in Copenhagen, Denmark, in May 2012 to address opportunities and remaining issues in this field. Pressing areas of need and opportunity were outlined, including the expanding role of HIT companies in Europe. However, there is little evidence that considerable progress has been made in the time since this meeting toward improving interoperability.

At the Copenhagen meeting, the DHHS outlined the key policy incentives to reward implementations based on adoption and

“meaningful use” of e-health applications. These solutions should be based on patient-centeredness and meaningful certification procedures for future products. The first results of this policy indicate a dramatic increase in the area of EHR certification—recently, the number of certified products increased from the low hundreds into the thousands.

Since the Copenhagen meeting, there has been a debatable amount of progress on the MoU, although a roadmap was recently produced via agreements between the European Commission's DG CONNECT and DHHS. This roadmap focuses on standardization and workforce development for users and providers of HIT services in the United States and is a key component (much of the information on this comes from gray literature, technical documents, and Web information; for an overview, see <http://ec.europa.eu/digital-agenda/en/news/eu-and-us-step-cooperation-ehealth-it>) of the Digital Agenda for Europe (see <http://ec.europa.eu/digital-agenda/>), a seven “pillar” strategy aimed to enhance digital technologies focus on sustainable economic growth. Given this approach, as well as concurrent aims to enhance small-to-medium enterprises (SMEs) in Europe, it is entirely appropriate that further efforts should be made to learn from established, similar markets.¹

The associated industry (in the United States) is led by SMEs, with 60% of the innovation coming from small players in the market according to the DHHS. This is a remarkable share given the size and costs associated with healthcare—both public and private—in the United States. Furthermore, this indicates the level of expertise available from small businesses in HIT. However, given the resources available to SMEs, the ability to expand services into new markets largely relates to the availability of information on comparable issues manifested in dissimilar systems.

The key drivers for SME success in this field are based on trends in healthcare, policy, and technology.² Although, and because, EHRs are a transatlantic priority, semantic interoperability (ensuring that the data have universal meaning and utility, or are capable of conversion for parallel use) is a core requirement to satisfy elements of modern healthcare. It is required for complex care scenarios, multiple location treatment, evidence-based treatment (and payment), decision support in medicine in a wide variety of locations, and biomedical research through statistical data access, as a key catalyst in improving safety and cost of healthcare, as a means to enrich population health management and prevention of illness, and as a motivator to empower and involve citizens and patients in healthcare scenarios.

The MoU is important in health economics beyond the political debate on public/private health coverage: it is an international step toward improving care, saving costs, and creating jobs through

innovation, better management, and new approaches to using available data. Although there are still political elements to this area, they focus on specifics such as data protection, privacy laws, and contracting non-local vendors.

There is a clear understanding regarding the issues of immediate importance to U.S. policymakers: (a) implementation of internationally recognized and utilized EHRs with clear interoperability standards and (b) strategies for the development of skilled HIT workforces. Furthermore, the policy coordination of these points plays an equally important role in the rollout of the plans that are given incentives by the MoU. These are formally published as part of the MoU roadmap statements released regularly by DHHS and DG CONNECT.

Health officials in the United States see issues of interoperability as critical factors in the integration of both domestic and global health data. These policymakers understand that the business models behind healthcare are changing from payment models for specific services to models based on the quality of healthcare and overall care provision. This implies that e-health solutions and EHRs in particular must not only manage care in hospital environments, but must also provide a meaningful link to other care sites, becoming a sustainable element of entire healthcare systems. Without compatible EHRs and relevant data, essentially any work involving HIT will be developed and defined in silos tailored only to immediate stakeholders and will thus lack high interoperability standards. This is the current practice and, at present, represents the market in which small businesses function.

In the United States, there are two well-established markets of relevance to the MoU. First, health exchanges between payers for services provided by a third party are well regulated by both legal service providers (to determine responsibility) and financial service providers (to manage transactions). The complex nature of these is rooted in patient protection, defined by the Health Insurance Portability and Accountability Act (HIPAA) and the U.S. health system at large.

Health exchanges between insurers have become commonplace in the United States,³ and although they are regulated at the state and federal levels, they often make use of small businesses that act as a neutral third party to audit and manage transactions between stakeholders. As private insurers expand their business in the United Kingdom and across Europe, similar markets will develop likewise. Although the legal side, such as subrogation, may not yet have robust regulation, the requisite data integration is urgently needed. Regardless of which specific elements exist in a given region, each of these markets has a direct impact on healthcare through the costs involved, and where similar services previously existed, there are companies ready to expand their work to new regions.

Specifically, within U.S. health services, there is an existing competitive market to develop internal, integrated programs for healthcare providers. This can be seen primarily between large hospitals and health systems, which may require that individual datasets be sent instantaneously and concurrently to a variety of health, financial, and other offices within the system as well as potentially to third-party suppliers. Small businesses have routinely served this function, although literature on these services has typically been limited to corporate reports and mainstream media (for example, see

Freudenheim⁴). In the United Kingdom, such attempts at integration have been largely unsuccessful, particularly as seen in the outcome of Connecting for Health, a recent national scheme aimed at a comprehensive database, which cost over £12 billion but was widely criticized for various shortcomings and never being fully realized.

Likewise, where large U.S. health groups have attempted to handle data integration internally, this has resulted in missed deadlines and budgets, although data-backed details of this are unsurprisingly scarce. Such results would likely damage any standing administration's attempt to provide better healthcare management, particularly those funded by taxpayers. Allowing third parties to provide services on a result-driven contract or similar structures will help avoid repeating expensive mistakes.

The EU-U.S. agreements largely relate to the push for innovation in e-health. Although the market for HIT services may not present an innovative area in e-health in terms of technology, the service needs described above present a pragmatic need for addressing existing problems through incremental improvements. Given the dangers created by the push to implement new technologies in health,^{5,6} this is a clear opportunity for small businesses with experience in managing sensitive, private data.

Confidentiality is a central staple within HIT, particularly when third-party vendors receive information from major clients. For this reason, it is often disallowed for small businesses to publicize the impact of their services in detail, particularly on with whom they are doing business and specifics about their role. Without this, they are limited in presenting a strong argument to potential new clients, particularly those operating in a different system.

This explains the lack of specific data and literature on the topic mentioned previously. Likewise, potential clients with similar needs are unlikely to disseminate details about potential losses or inefficiencies—in both public and private health services. For public services, there could be clear political consequences for reported losses from data. For companies, management positions related to cost control, recoveries, and similar financial issues are dramatically affected (positively and negatively) by department performance. In the United States, this often leads senior staff to seek experts to work on a merit-based agreement given they improve on the standard of return done in-house.

Specifically, for small businesses, it is a major challenge to get the information described on system needs at a level necessary to decide on possibilities for entering a new region. Although much of this could be aided through better semantic interoperability, SMEs that have a limited clientele are forced to use the language specific to that group. When this expands beyond a given system and its stakeholders to entirely new systems with new issues, the inability to understand local jargon in health, IT, or corporate services can create a preemptive barrier to even attempting to increase capacity in a new market. Such issues should be addressed through policymakers as discussed previously.

The market for specialists in HIT is expanding, particularly in Europe. The U.S. market for these services is further developed owing to a longer history of private healthcare and private sector involvement in health, thus creating an opportunity for leading firms to expand internationally. However, as the majority of such firms in the

United States are small businesses, there are particular barriers to do with semantic interoperability and linking to global providers. This is on top of the lack of available, detailed information on the needs and current issues faced by healthcare offices, both public and private. Linking these SMEs to healthcare providers has the opportunity to create new competitive markets whose main players thrive on providing cost savings and reducing the need for austerity. This stands parallel to the political debates related to health reforms and thus can focus on development matters such as improving health management and job creation for skilled labor.

Acknowledgments

This piece is inspired by a larger body of work partially supported by funds from the Collaborations for Leadership in Applied Health Research and Care program of the National Institutes for Health Research.

REFERENCES

1. Lasagni A. How can external relationships enhance innovation in SMEs? New evidence for Europe. *J Small Bus Manag* **2012**;50:310–339.
2. Kalra D, Musen M, Smith B, Ceusters W. Policy brief on semantic interoperability. *Interoperability Reviews ARGOS Trans-Atlantic Observatory Policy Briefs* **2011**;2(1):1–15.
3. Frank R, Zechauser R. Health insurance exchanges—Making the markets work. *N Engl J Med* **2009**;361:1135–1137.
4. Freudenheim M. Digitizing health records, before it was cool. *The New York Times* January 14, **2012**. Available at www.nytimes.com/2012/01/15/business/epic-systems-digitizing-health-records-before-it-was-cool.html?pagewanted=1&r=1&smid=fb-share (last accessed January 15, 2012).
5. Wyatt J, Sullivan F. E-health and the future: Promise or peril? *BMJ* **2005**;331:1391–1393.
6. Jha A. Health information technology comes of age. *Arch Intern Med* **2012**;172:737–738.

Address correspondence to:

Kai Ruggeri, PhD
Engineering Design Centre
University of Cambridge
Trumpington Street
Cambridge CB2 1PZ
United Kingdom

E-mail: kai.ruggeri@eng.cam.ac.uk

Received: October 2, 2013

Accepted: October 2, 2013