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EHRs in the US

The State of Development of Interoperable Health Records in the United States

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Every 10 to 15 years or so, the United States seems to awaken to the reality that our health care system is a mess. The facts are well known; we spend more on healthcare than any other country, and partially as a result, have developed clinical technology that is the envy of the world. On the other hand, access to our care system is spotty, costs are high and rising, and our health outcomes in a number of key measures don't compare favourablywith most European countries. This being an election year in the US, discussion of the topic is rampant, and every major presidential candidate has a plan to "fix" our system.

Greater Use of IT in Healthcare

One common theme in virtually all proposed improvements to our system involves greater use of information technology. Again, the facts are fairly well known.

The health care industry spends a lower percentage of revenues on information technology than similar industries, often by a wide margin. For example, most US hospitals spend between 2-3% of revenues on information technology, whereas most banks spend 8-10%. It is easy to spot the disparity.Many basic functions are not automated in healthcare, have long been automated elsewhere, to the frustration of patients, physicians,

caregivers, and payers. The system is ripe for change.

The Pervasiveness of Information

Lack of automation causes enough difficulties within the walls of an individual institution. Those difficulties explode, however, when taken outside the walls of an individual caregiver. Since most physicians in the US do not practice exclusively with one hospital, and since most patients receive care (or diagnostic tests) at multiple locations and entities even for a single encounter, the problem of transmitting information among and between entities becomes even more acute. We participated in a recent project setting up an automated information exchange for a small state, and discovered that the average clinician received patient information from an average of 5 to 9 external sources. As a result, many small physicians' offices devote the equivalent of a half-time employee to the tasks of filing and retrieving results in patient charts. An estimated 16% of ambulatory tests are duplicates, frequently due to the inability to find the original test result.

The American Health Information Community

Emerging trends in adoption of information technology in healthcare do give some reason for optimism. President George Bush, by executive order, created the Office of the National Coordinator for Health Information Technology (ONCHIT, later shortened to ONC) in 2004. Since that time, the US Department of Health and Human Services, throughONC, has awarded a number of grants to companies in an attempt to foster the development of standards, encourage the wider adoption of Electronic Health Records, and demonstrate ability to exchange information across geographic boundaries.

In addition, efforts are underway to foster an increased adoption of standards (and to harmonise those standards that are adopted), to assure privacy and security of systems, and to certify systems as meeting required standards. These efforts collectively have become known as the "American Health Information Community".

The interaction of these efforts is shown in the figure below:

Beyond Automation – to Interoperability

One key objective of the Health Information Technology Standards Panel (HIPSP) is to enhance the interoperability of electronic health information – a problem that most users don't know they have until they have gone through early stages of automation, but one which becomes increasingly necessary as electronic information proliferates. It is not sufficient to automate health care data without ensuring that data has a standard content, format and syntax so that it may be interpreted (understood) across disparate systems.

Slow But Sure Paybacks

This increased attention is starting to pay off, slowly but surely. Evidence is accumulating that hospitals and physician offices are starting to adopt information technology, though still at low rates. Drivers for this include improvement in operational efficiency, improvement in quality of care and incentive programs that reward organisations that have implemented EHRs. The best available data suggests that around 18% of US hospitals now have functioning EHRs, while physician offices seem to have increased their automation level to about 16%. Both adoption levels, though still very low, represent significant increases over the past 4 years. However, projections indicate that goals of having all physician offices automated by 2014 will not be met.

Studies documenting the benefits of EHRs are still sparse, but are starting to accumulate. More evidence of benefits, both qualitative and quantitative, will undoubtedly speed adoption, and there is great interest in accumulating evidence of such benefits. In the meantime, some states are starting to attempt mandates to force hospitals to adopt EHRs. In Massachusetts, for example, efforts are underway to force all community hospitals in the state to adopt EHRs. Whether this initiative will succeed remains to be seen, but it illustrates the political energy that is starting to build in this direction.

Attaining a Critical Mass of Users

As more and more providers adopt EHRs, more electronic data will be available to be exchanged to provide a longitudinal view of care from various settings. These data, ideally in a standard/ interpretable form will give the provider of care a more complete picture of the patient's relevant health care events.

Interoperability enables:

Ó Reduction of redundant data capture

Ó Access to recent lab, medical testing and prescriptions information

Ó Alerts to providers to reduce medical errors and eliminate unnecessary treatment

Ó Improved completeness of information for better diagnosis and treatment, and

Ó Opportunity for consumer involvement.

The Future

Where will we go from here? As evidence of value continues to grow, the pressure for hospitals and physicians to continue to embrace automated information solutions will also grow. As information improves and data are aggregated from many settings of care, there is more opportunity to determine effectiveness of care, plan for appropriate preventive care, and perform analysis to determine a reasonable cost of care.

Although information technology is only a tool for the delivery of better healthcare information, its adoption is key to improvement in the current state we are in with our costly and inefficient healthcare system in the US.

We predict that the market will continue to be robust, with adoption spreading beyond academic and government medical centres into community hospitals and physician offices. We may finally be entering the modern era!

EHRs in Europe

In the previous issue of *Healthcare IT Management*, we presented a pan-European viewpoint on the EHR, with an analysis by Georges de Moor of EuroRec Institute.

The question of standards and interoperability is sweeping. Both the US and the EU face massive challenges in enabling the transfer/sharing of

patient data between different hospitals in one State (in the US) or Member State (in the EU), and thereafter on a national – and eventually, international – level.

At the moment, northern Europe is clearly ahead of the US in the game.

The US-based Commonwealth Fund's '2006 Health Policy Survey of Primary Care Physicians in Seven

Countries' determined that Dutch and British physicians (as well as those in New Zealand) led the world in terms use of electronic records, while their US counterparts lagged. The survey found that 28 percent of physicians in the US used electronic medical records, while 98 percent of Dutch physicians did so.

A key criterion for successful adoption of EHRs is believed to lie in the early involvement of physicians in establishing operational objectives.

In the Netherlands, for example, physicians were directly involved with the design of their system. Rapid access to patient records was seen as providing more consultations and higher income, with higher throughputs also arising from the fact that access by patients to their data and treatment histories meant that they were more informed about choices during consultations with their physician.Meanwhile, the Dutch system also secured buy-in from patients, by providing them with the ability to track viewers of their electronic records – thus addressing the major (and still ongoing) concern about privacy.

Philosophically, the final battle lines concern 'interoperability' versus 'openness', and the point where interoperable electronic patient records (already used relatively widely) become a truly open EHR. In this respect, the differences within Europe may eventually turn out to be wider than those between the EU and the US.

In Denmark, for example, the electronic record has been designed as a 'point to point' communications network to transfer required patient data between physicians, and onwards to pharmacists. Current efforts by the Danish government to broaden its scope into a multi-point input/access EHR-type system has provoked considerable resistance from physicians.

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