Mobile Solutions For Physicians Shackled by Electronic Medical Records

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Within Health Delivery Organizations (HDOs), leaders, information technologists and privacy officers have been focused on the acquisition, implementation, and security of enterprise Electronic Medical Record (EMR) systems. Unfortunately the investment of money, human resources and time is at the expense of addressing daily physician workflow complexities. To optimize patient centered care, we must unshackled the physician from the EMR desktop and move them closer to the patient. For this reason, physicians should engage with key stakeholders to identify the financial, legal, administrative and human resource challenges of delivering efficient workflow solutions alongside the deployment of enterprise EMRs.

Resetting the Investment Tipping Point

In 2011, the Canadian Medical Association (CMA) presented a 5-year strategy for Health Information Technologies (HIT) investments in Canada.[1] They proposed a framework to: a) support significant adoption of EMRs, b) increase the effective use of EMRs and HIT solutions, and, c) accelerate the exchange of health information. Recognizing the difficult financial climate, they recommended a "bottom-up" grassroots approach to deliver tangible short-term benefits to the front lines. Yet 80% of the proposed $923 million dollar investment was directed towards the adoption of EMRs[1]; an allocation that not only included initial EMR investments, but also costly post installation customizations and data migration.

Incentivizing rapid EMR adoption over workflow analysis and patient engagement solutions has not met physician needs. Accordingly, physicians have developed their own creative manual and electronic processes to capture and share information. Despite their ingenuity, they have often employed their own devices (i.e. smart phones, tablet computers) and have not gone through proper regulatory channels,[2] thus exposing themselves to a milieu of potential medico-legal risks.

Presented with this reality, investments should "tip" where physicians have already pointed: integrating mobile HIT solutions into clinical processes to share data at a local or regional level. Canadian Health Infoway stated that mobile health is "more than an emerging set of technologies" and "should be regarded as a priority component of the health enterprise's IT strategy and supported as platform".[3] Their findings suggest that mobile health offers many benefits to maximize efficiency, including viewing clinical documentation, and being able to access EMRs. In agreement, a recent mobile health review commented on its key role for healthcare solutions, and outlined an expanded vision of addressing the emerging problems of health services: access to care, cost, and patient empowerment.[4]

Untangling the Web of Policy and Legislation

Beyond financial priorities and constraints, a significant obstacle in addressing physician requirements is the patchwork of privacy legislation and policies that exist concerning personal health information (PHI). In Canada, the Canadian Medical Protection Association (CMPA) actively engages stakeholders to advance these issues and their interim recommendation is for physicians to be aware of the provisions that apply in their jurisdiction.[5] Using the province of Manitoba as an example, the major levels include provincial legislation with the Personal Health Information Act,[6] the regional health authority,[7] and the College of Physician and Surgeons of Manitoba,[8] and the national CMA.[9] In total, they represent

over 20 multi-jurisdictional policy statements that physicians are held accountable to.

Ultimately, these policies are enacted to address the administrative, physical and technical safeguards that must be in place to safeguard PHI as required by law. For mobile solutions, administrative safeguards may include signed pledges of confidentiality or record keeping of user activity for manual and electronic systems that do not have this capability built into the software. Physical safeguards would ensure that tablets, printers and fax machines are located in restricted access areas with secure disposal of confidential information. Finally, technical safeguards would address the security of electronic devices and protect PHI in transit across HDO networks and the Internet, or on portable storage devices like USB keys.

While enterprise EMRs vendors have the resources to untangle the web, simplifying the coordination, adoption and deployment of HIT solutions is needed. Developing multi-jurisdictional policy matrices and appropriate safeguards-where possible-would greatly simplify inter-physician and data sharing agreements, and promote grassroots solutions.

Building a Championship Team to Deliver Patient Centered Care

Although the physician must have skin in the game, a complete team is critical. The CMA should continue to advocate for HIT investments that support front line points of care, report on HIT spending and efforts to date, and host Centres of Excellence to showcase successes and lessons learned. The CMPA has an instrumental role in educating physicians about their responsibilities and medico-legal risks under PHI legislation. If appropriate, they can also develop safe harbor provisions to simplify the creation of inter-physician and data sharing agreements, thereby accelerating the deployment of HIT solutions within HDOs.

The role of Chief Medical Information Officer can bring the voice of physicians to the management table and executively sponsor initiatives. Health Records Management Officers may assist physicians in identifying and classifying PHI in the context of its use. This includes guidance regarding data input, collection, copying or sharing, and that the "medical record" should only exist for as long as needed to meet legislative or policy requirements.[10,11]

In the context of HIT investments and solutions, HDO Privacy Officers and Information Technologists can educate physicians on PHI safeguards, and provide information and advice on commercial off the shelf and open source solutions. These alternatives are low risk and cost effective, and address the interoperability and mobility requirements of physicians. Privacy Officers certify HIT solutions for use within the HDO by conducting privacy impact assessments as required by provincial legislation. Lastly, the Information Manager can assist in translating and documenting workflow requirements, resulting in business cases to take forward to the Chief Medical Information Officer for consideration.

Confirmed by the Ottawa Hospital

After Telus Health declined to develop a custom tablet version of their EMR (for the Apple iPad), the Ottawa Hospital developed an in-house solution.[12] Their considerable enterprise enabled 70 internal and contract employees to develop what their Chief Medical Information Officer described as part of a larger "back to the bedside" strategy.[13] He observed that "over the past 10 years or more… clinical teams have become computer-centric as opposed to being patient-centric" and that clinicians were "always gravitating back to nursing stations where the computers are to get information".[13] These barriers of patient centred care are not novel, and have been well documented in primary care encounters with observations of lessened dialogue, protracted screen attentiveness that disrupted emotional disclosure, and non-receptive body positioning.[14–16]

By introducing iPads and other mobile devices, their goal was "to free up…clinicians' time so they spend more time with the patient".[13] While exemplifying Canada Health Infoway's recommendations for a mobile strategy as a platform,[3] the focus of moving away from the screen and back to the patient's bedside demonstrated the role HIT and mobile health can have on delivering patient centered care.

Conclusion

Although enterprise EMR adoption continues to be the focus of HDOs, they have missed the mark for mobility and optimization for patient engagement. Physicians who have limited access to funds are searching for their own solutions, but find themselves stuck in a legislative web of complexity, and are searching for guidance from a strong team.

While the Ottawa Hospital example shows what is possible with executive support, this represents the exception in the current fiscal climate. However, opportunities do exist to address this problem through the use of commercial off the shelf, open source and mobile solutions. If physicians are a critical component to patient centered care, then we need to ensure that they are not left chained to the EMR desktop without resources or support.

Research scholarship

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