

## President's column: interoperability—the 30% solution: from dialog and rhetoric to reality



Over the last decade, the members of AMIA have been at the forefront of calls for interoperability. But, our advocacy has been a *call* for interoperability, not a *demand*. The time has come for healthcare leaders to move from passive dialog and rhetorical support of interoperability toward active engagement with the public, government, and private industry to create the reality of interoperability. Clearly, advantages and benefits would accrue to society, our children, our parents, and ourselves if we were to finally see the full realization of our investment in health information technology by fostering interoperability.

The statistics are stark. Fully 20% of preventable medical errors in the USA are caused by the lack of immediate access to health information according to the US Department of Health and Human Services.<sup>1</sup> In addition, one of every seven primary care visits is compromised because of missing medical information.<sup>2</sup> Furthermore, an independent review of physician treatment plans suggests that decision-making could be improved for 14% of admissions, where many of the benefits would have delayed manifestations.<sup>3</sup> In yet another study, it is estimated that only 55% of adults in the USA receive the care recommended by the best protocols and guidelines.<sup>4</sup>

Finally, the main reason for pursuing interoperability relates to the level of *waste* in healthcare spending, which reaches upwards of 1 trillion dollars annually because of inefficiencies within the healthcare system. In essence, about 30% of the dollars we invest every year in healthcare are wasted.<sup>5</sup> In an era where our economy must compete on a global basis, such waste is intolerable. Furthermore, we could learn from repositories of comparable and consistent data to support the discovery of best practices, prevent latent adverse events, and evaluate comparative effectiveness. I refer to these benefits as the *predictive knowledge management* capabilities that we would realize through true interoperability. And, the list goes on and on... surely we can do better? The fundamental problem that creates these difficulties is the lack of interoperability. Now is the time to solve this problem!

The 2004 Institute of Medicine (IOM) report, *Patient Safety: Achieving A New Standard of Care*, stipulated that the 'road map' for improving quality in healthcare was based on a three critical elements: (1) a foundation of information infrastructure, (2) the use of healthcare data standards; and (3) the exchange of information for reporting and analysis. In fact, the IOM report goes on to state that the '...lack of system interoperability is a barrier to improving clinical decisions and patient safety, as it can limit data available for clinical decision

The purpose of the *Messages from AMIA* section is to provide a forum for AMIA to inform and involve its current and potential members about the goals and the directions of the association. These messages, which reflect the directions and opinions of AMIA leaders only, are intended to inspire members and readers to connect with the association on strategic objectives and activities. See also [www.amia.org/presidents-page](http://www.amia.org/presidents-page).

making.' We are now 10 years out from the study with little real progress.

It is amazing to me that I can literally use my iPhone almost any place in the world to connect to almost any place in the world. The telephony industry's *use of standards* and adoption of *interoperability principles* is the foundation which supports the seamless nature of communications across the world. In the banking world, the same can be said for my ability to conduct basic banking. I can walk up to any ATM around the world, check my balance, and withdraw cash. But, in healthcare, getting my prescription filled requires multiple phone calls and other interventions because of incompatibilities between my primary care provider's electronic health record system and my local pharmacy. And, that's only the beginning of the lack of connectivity related to my personal healthcare. Despite all of the investment that we've made in healthcare, I continue to serve as the data coordinator for my personal care in an era where data coordination is accomplished with ease in other industries. Is it any wonder that the annual waste levels are estimated to be 1 trillion dollars in healthcare?

Too frequently, discussions related to healthcare interoperability devolve into technical discussions related to nomenclature, data standards, and the like. While these considerations are crucial elements of the interoperability dilemma, the technical challenges are not insurmountable, and also are not the core of the problem. In fact, all information is not necessarily required to be 'interoperable' in the true sense of the word. For example, scanned or faxed images may not be truly interoperable, but they should be available. While such approaches are not ideal, we need to support these methods during the transition period. The more important consideration in realizing true interoperability—from my perspective—is a focus on how information is used and by whom. It is through a focus on the *workflow* and how information is integrated in the processes of care via the electronic health record that we will garner the efficiencies and effectiveness of interoperability.

The most significant issue in fostering interoperability is connecting the people who are involved in the intensive nature of the care delivery process to technologies of all types that are used across the care continuum. While there are many definitions of interoperability, I offer the following definition which is built upon the foundation of the Institute of Electrical and Electronics Engineers (IEEE) glossary as a framework for moving from rhetoric to reality: 'the ability to support the *effective interchange or sharing* of data and information between disparate information systems, devices, and *people* for the purposes of supporting increased quality, reduced costs, and enhanced services for people seeking and delivering health and healthcare services.'

Finally, if we are to be successful in supporting the 30% solution, certain principles must be front and center in our deliberations on how to move forward. I offer 10 principles to guide us in our efforts:

1. The patient's data is the patient's data and yet at the same time a process of consent that requires *all uses* to be determined up front is impractical and, potentially,

disastrous. We need to establish policies that allow researchers the opportunity to engage in vetted research while simultaneously recognizing the confidentiality of personal information. This is feasible, but requires getting the right people in the room for the dialog and debate.

2. Interoperability is the cornerstone for driving effective care coordination across the healthcare industry for increasing quality, reducing costs, and enhancing services that result in safer care and outcomes. Therefore, interoperability must be adopted universally as a priority for the industry.
3. The concept of simplicity is another consideration that while separate from interoperability is of equivalent importance. Therefore, fostering usability must be kept at the forefront of interoperability discussions.
4. The focus when creating and using standards must be on reaching a common understanding on the effective use of data rather than creating yet more standards.
5. Attention to the effective use of standardized vocabularies which allow for inter-user understanding of the meaning of the data which support clinical decision support is essential.
6. Research for public benefit should never be compromised.
7. Interoperability requires a public-private partnership where the entire industry is mobilized to solve the problem.
8. Interoperability must be the primary focus of Meaningful Use over the next 5 years rather than a focus on the features and functions of products and systems.
9. The use of standards is the foundation upon which interoperability will be realized within the healthcare industry.

Which brings me to the 10th principle: *Let's not let 'perfect' be the enemy of 'good enough.'* Healthcare is the central target in virtually every discussion related to solving our nation's fiscal and budgetary woes. We—in the healthcare community—know how to drive efficiencies and effectiveness. If we fail, we—the healthcare community—will clearly bankrupt the nation. If we believe that the use of informatics can solve these problems, we need to step forward. To move from dialog and rhetoric to reality requires our involvement. We are central to the 30% solution. Let's step up to the plate... And, let's not offer dialog and rhetoric. The time has come for action...

#### Kevin M Fickenscher

**Correspondence to** Dr Kevin M Fickenscher, AMIA, 4720 Montgomery Lane, Suite 500, Bethesda, MD 20814, USA; drkevin@amia.org

**Competing interests** None.

**Provenance and peer review** Not commissioned; not internally peer reviewed.

**To cite** Fickenscher KM. *J Am Med Inform Assoc* 2013;**20**:593–594.

Published Online First 9 October 2012

*J Am Med Inform Assoc* 2013;**20**:593–594. doi:10.1136/amiajnl-2013-001768

#### REFERENCES

- 1 Wikipedia. Medical error. [http://en.wikipedia.org/wiki/Medical\\_error](http://en.wikipedia.org/wiki/Medical_error) (accessed 25 Feb 2013).
- 2 Smith PS, Araya-Guerra R, Bublitz C, *et al*. Missing clinical information during primary care visits. *JAMA* 2005;**293**:565–71.
- 3 Lucas BP, Evans A, Reilly B, *et al*. The impact of evidence on physicians' inpatient treatment decisions. *J Gen Intern Med* 2004;**19**(5 Pt 1):402–9.
- 4 McGlynn EA, Asch S, Adams J, *et al*. The quality of health care delivered to adults in the United States. *N Engl J Med* 2003;**348**:2635–45.
- 5 PriceWaterhouseCoopers Health Research Institute. *The Price of Excess: Identifying Waste in Healthcare Spending*. <http://www.pwc.com/us/en/healthcare/publications/the-price-of-excess.jhtml> (accessed 25 Feb 2013).