Our Tower of Babel

By Barry P. Chaiken, MD, FHIMSS

The Bible describes why humans speak so many languages:

> *The narrative of the city of Babel is recorded in Genesis 11:1-9. Everyone on earth spoke the same language. As people migrated from the East, they settled in the land of Shinar. People there sought to make bricks and build a city and a tower with its top in the sky, to make a name for themselves, so that they not be scattered over the world. God came down to look at the city and tower, and remarked that as one people with one language, nothing that they sought would be out of their reach. God went down and confounded their speech, so that they could not understand each other, and scattered them over the face of the earth, and they stopped building the city. Thus the city was called Babel.*

Although this explains well why communication is so difficult among people from different countries, it fails to address the inability of our various healthcare information technology (HIT) systems to exchange patient data seamlessly.

Although God confounded our speech to prevent us from turning away from His teachings, there is no equally important reason that HIT systems today do not communicate. It is fair to say that God favors that all of our systems speak the same language and seamlessly communicate with each other. Perhaps if we spoke the same HIT language we could accomplish great things.

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During a presentation to healthcare CIOs at the recent CHIME13 Forum in Scottsdale, Arizona (Chaiken & Vengco, 2013), attendees expressed their belief that the lack of interoperability among HIT systems represents a substantial barrier to utilizing innovative information technology tools, such as social networking applications, to manage the delivery of patient care. Only after what they described as a miracle event – true interoperability - did attendees believe that these new technologies could be used effectively to impact the quality and cost of patient care.

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Can Banking Teach Us Something?

At the dawn of the automatic teller machine (ATM) era, banks competed for customers by deploying increasing numbers of ATM machines. Each ATM network was unique to each bank, preventing customers from using their bank cards in machines owned by banks other than their own. Therefore, banks tried to out-do each other by seeding neighborhoods with convenient, easy-to-use ATM machines.

Bank marketing departments believed that increasing the number and availability of ATM machines increased the likelihood that consumers would choose their bank to make deposits, secure loans, and apply for mortgages. Banks considered the ATM machine costs to be a marketing (i.e., customer acquisition) expense and ignored the losses associated with the installation of each ATM machine. The competition was fierce to sign up new customers and retain existing ones. It was also very expensive for the banks.

After years of ATM warfare, the banks figured out how to turn things

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around. They realized that individually they could never completely saturate a neighborhood or a city to effectively dominate the consumer banking market. Their "war of attrition" hurt everyone in the banking industry and did not offer an affordable endgame.

In response, the banks formed networks of banks—VISA, Cirrus, NYCE—where banks joined together to leverage their existing ATM infrastructure and allow customers to use any ATM that belonged to the particular bank network. They differentiated themselves by building alliances among banks, and in turn expanding the number of ATMs available to customers belonging to one of the banks in the network. They often charged ATM fees for using the network outside of their home bank's ATM.

The banks soon realized that the cost center that ATMs represented was transformed into a profit center thanks to the fees generated by customers willing to pay a small fee for the convenience of using any ATM in the network. In the end, all the banks and their partner network chose complete interoperability, allowing all customers from all networked banks to enjoy the convenience of universal account access using a single ATM card.

Today that access extends around the globe with banks enjoying the profits associated with all the ATM fees generated. In addition, consumers value the ease with which they access their cash in every imaginable denomination.

Why Not Us?

Does the ATM story sound a bit familiar? HIT vendors competed fiercely on features and functions across multiple clinical systems including electronic medical records (EMRs), pharmacy, laboratory, radiology, and medication administration. These vendors created variations of the HL7 standard for clinical messaging to differentiate themselves from their competitors.

Web portal standards were squashed to prevent the easy display of patient medical information generated outside of home systems. Vendors worked to maximize the costs of switching to hold on to the "customers" they acquired. In essence, vendors focused on barriers to exit to keep their clients from switching to competitive offerings, rather than superior features and functions.

Unlike in the banking example described above, patients and institutions carry the costs of these obstacles to interoperability rather than the vendors. The HIT vendors responded to the economic incentives established at the time just as banks responded similarly to their incentives. As circumstances changed, so did the banks and so will HIT vendors.

God's Healthcare Tower of Babel

In the Tower of Babel Bible story, God created multiple languages to protect mankind. In contrast, there is a place for a healthcare Tower of Babel, where the end result, a single, universal HIT language, promotes good works and positive outcomes for patients and their provider organizations. Universal interoperability is not an optional goal, but a mandatory standard for all healthcare organizations.

Although it is unreasonable to expect every HIT vendor to embrace a standard HL7 and business objects standard—although the latter is very much a standard in the non-clinical business world—interface engines and clinical connectors can link systems and bridge the gaps in universal language standards. This task is not easy, and language differences must be normalized. Nevertheless, do we have a choice?

It is time to focus on the value delivered to the patient and our community derived from universal, easily managed HIT interoperability. Such a capability promises to deliver improved patient care; fewer redundant, unnecessary tests; and more accurate diagnoses and treatments. Already some organizations and their supporting vendors recognize the value in ensuring seamless HIT information exchange and are developing the hooks (i.e. APIs) to allow meaningful and instantaneous health information exchange. As with banks, the value is there. We just need to recognize the mutual benefit to our organizations and our patients. The business model will then be as clearly impressive and as monumental as that first Tower of Babel. ▌

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