

## Future State of Technology: Gateway to Knowledge

“Meaningful Use” is upon us. Hospitals around the country are scrambling to assess its implications which, aside from the obvious financial investment that must be made, will affect healthcare providers in other ways for many years to come. Since change is inevitable, this is the perfect time to look beyond the short-term aspirations of meaningful use, and identify what healthcare should look like into the future, maybe even as far as 20 years. The government however, is not likely to create that vision, so the task will be left to those providers who are bold enough to shape new models for healthcare delivery.

In the meantime, as providers follow the technology path, additional opportunities will exist for providers of all sizes to learn from the data that will be gathered. Innovative use of information technology will enable much of what is yet to come. By focusing on the data from which we glean information, which eventually becomes knowledge, process change occurs organically. From this, we may well see completely new models emerge that would have been impossible to foresee if we had remained focused on the technology and the processes that it automates.

When considering what the healthcare delivery system of the future might look like, there are a host of questions that must be asked before we may proceed. Among them:

### **Do we expect meaningful use to transform healthcare?**

If we do, we're in trouble. Meaningful use is really a new metric created for the purpose of determining whether or not hospitals and non-hospital-based providers have implemented the basics of an EHR system in such a way as to qualify for the financial incentives provided as part of the Recovery Act of 2009. It's like saying a carpenter must have a certain set of tools in order to charge union rates. It doesn't necessarily mean the carpenter does transformative work, but we know the carpenter has the tools.

### **What role will technology play?**

There are a couple of ways to look at this. First, we might see technology as the driver that forces healthcare providers to modernize, using the latest information technology to offer improved, safer care. The problem with this view is that it assumes that “adding technology equals improvement.” This is not necessarily the case, as anyone who has ever tried to learn a new software application can attest. Sometimes you're *limited* by your tools. The trick is to ensure that the tools are right for the job, and that they're employed in a way that accomplishes a larger task. Which leads to the second way to look at technology's role.

Like the carpenter in the example above, providers have many tools at their disposal with which to accomplish their mission. Instead of planes and rasps, a provider's tools include people, processes, capital physical structures, etc. Information technology is another tool, but it doesn't fit neatly into a single category however. While its wires and servers may be part of the physical infrastructure, it exists in order to enable a suite of data-centric processes that range from moving data within the organization to

performing sophisticated business intelligence analysis on that data. In short, it enhances and enables the development of a provider's most valuable asset: knowledge.

In the former example (the "technology as a driver" model) providers are being pushed, and are limited not only by the design of the tool, but by the force (or vision) that causes the push. If the vision is "implement technology," providers are limited to that goal. In the latter example, or "technology as a tool" model, providers do the pushing, and have more control over the end goal. In addition, when information technology is viewed as a tool, providers determine where technology is most valuable to their vision, and become both the force that drives as well as the driven.

### **Could today's application of information technology limit what we might want to do in the future?**

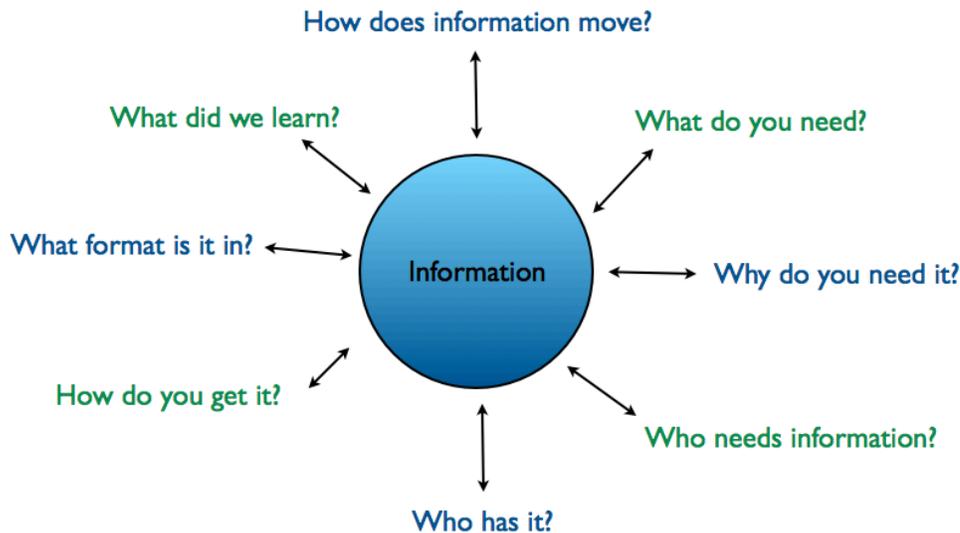
If we view technology as the driver, then yes, we will most likely be limited to the capabilities of the current state of the art. More often than not, this manifests itself as continued refinements and enhancements to existing systems that were built to automate paper-based processes. Even organizations that try to push the limits of what they can do with technology are working within the bounds of the current delivery and payment system. This doesn't mean these organizations lack vision or creativity when it comes to applying information technology; they are however, continually limited by the current framework. For an individual entity, creating a new system while operating in the existing structure would obviously mean a substantial investment, and it would do so at the risk of possibly stranding itself with a good idea that isn't widely adopted by others.

### **Beyond the limitations**

Let's examine the term "Health Information Technology" (HIT) for a moment. In all of the federal initiatives, HIT is treated as if implementing the "technology" piece is the primary objective. This focuses everyone's attention on vendor capacity, functionality, capital requirements and the other issues surrounding its use. Technology is the driver, and we are making localized adjustments to our organizations in order to accommodate the current state of technology.

Let's turn the whole thing around. Imagine if, rather than concentrating on the *technology*, we focused instead on the *information*. We then begin to investigate what kinds of information we would need to know in order to improve care, efficiency and safety. We would ask if that is the same information we would need in order to improve public health and to develop best practices. We would ask whether or not we currently have that information and if not, how can we get it? This is where technology comes in. In this model, technology helps us get the information we need, and it supports our vision. (See Fig. 1)

# Information Focus



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Working in isolation, an individual provider could, with the right resources, learn a lot about itself and the community it serves. But the real benefits of having information accrue when more organizations collectively focus, not on technology, but on *data*, and ask these questions. Herein lies an advantage: incremental changes to existing information systems, when designed to reveal knowledge, and when done as a coordinated demonstration project that involves several stakeholders, can produce a huge return on a smaller investment than what would be required to make wholesale technology changes.

This is the ideal time to ask the questions outlined in Fig. 1, and coordinate demonstrations among hospitals and physician practices that help expand the vision of information technology beyond its mere application. The result of these collaborations can help create a broader understanding of the role of technology and through that, the creation of effective policies that encourage innovation. Thus, by tailoring our information systems today around the ability to turn data into applied knowledge, we can avoid any technological dead-ends, improve business intelligence and overall, the art of medicine.

October, 2010



*Rod Piechowski, Inc., Consulting, partners with individual executives, board members or organizations seeking context, technical clarity and a fresh approach to managing technology-driven change. See more at the regularly updated blog "The Art of Medicine and Technology" at: <http://www.blog/rodpiechowski.net>*