TMG Commentary: Rebalancing Healthcare Technology Investments
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The Reality of the Last Ten Years

Back in 2003, the wheels were set in motion for the largest IT project ever conceived when the Medicare Modernization Act’s promotion of e-prescribing included the notion that the U.S. healthcare delivery system would eventually adopt an interoperable electronic medical record (EMR) system. At that point in time, TMG’s judgment was that such a project would be much more expensive than experts projected (possibly ten times), and would take decades to complete, if true interoperability were ever achieved. On the way to this lofty goal, we’re experiencing a persistent localized problem with electronic health record (EHR) adoption in many physician practices. In light of slower than anticipated EHR adoption and an enormous price tag to get to the fully interoperable EMR, an unavoidable question is surfacing: should we consider shifting more of our limited technology dollars to implementing technologies that directly impact patient care and outcomes?

TMG has previously addressed the practical barriers to the adoption of EHRs in physician offices, in large part because of the cost of implementation and maintenance during a time of narrowing provider profit margins, but also due to the changes in business processes and practice methods that have to occur. The 2011 Data Brief on EHR adoption by the National Center for Health Statistics states that overall physician adoption is still just at 54% (http://www.cdc.gov/nchs/data/databriefs/db98.pdf), not that much higher than the 48% or so reported in 2009 (Wikipedia: Electronic Health Record, retrieved 2/25/13). We also knew on day one, that smaller providers would be disadvantaged because of their limited resources, and their resistance to abandoning traditional practice methods (just 29% of solo practitioners have EHRs). Similarly, we anticipated that large providers or delivery systems with an
existing IT infrastructure would jump on the opportunity to use the EHR as a competitive advantage (86% of large groups of 11 or more physicians have EHRs).

Even the providers with the resources to get on board have discovered that this is not an easy transition or an inexpensive one. A recent poll of 17,000 active EHR adopters conducted by Black Book Rankings (http://www.blackbookrankings.com/healthcare/) found that as many as 31 percent of the medical practices were dissatisfied enough to consider switching (changing) their EHR software vendor. The report identified several issues contributing to this trend:

1. Backlogged implementations
2. Vendors selling products that require additional development
3. Lack of integration with other practice programs
4. Complex connectivity and network schemes
5. Falling behind accountable care requirements
6. Rapid adoption of mobile devices

In particular, mid-sized providers (2 to 10 physician groups) are experiencing more of these adoption problems compounded by some regulatory monkey wrenches.

In 2004, there was a certification process established for EHR applications (CCHIT) that naturally took a long time to evolve and execute. Then, more recently, the federal government decided to accelerate the process by offering money to help providers with technology adoption. As is always the case, HHS also decided to stipulate that in order to receive the incentive, the EHR has to meet the regulatory definition of “meaningful use”, which by itself has become a troubling, moving target. In fact, these HIT regulatory incentives may have actually delayed EHR adoption and spawned a lot of substandard solutions. In the same report we quoted earlier, it was stated by Black Book that, “meaningful use incentives created an artificial market for dozens of immature EHR products.” Other recent survey data supports similar conclusions.

A recent RAND report (www.rand.org/pubs/external_publications/EP51265.html) found that the implementation of Health IT has been “disappointing” so far. They made the following observations:

1. Adoption has been sluggish
2. Systems are not interoperable or easy to use
3. Care processes are not being adequately reengineered
4. Patient access and control over their health data is too limited

All of these findings confirm that the time and the costs for achieving interoperability are going substantially longer and higher. Without a federal mandate, would U.S. healthcare providers have converted on their own to a universal, interoperable medical record system? The answer is probably no, although lower technology costs and the increasing ease of digital information sharing would continue to drive the implementation of EHRs. Additionally, given a more active industry growth phase, rather than the current cost-lowering maturation and consolidation phase, more money also might have been
there to pursue more information technology investments. Given the industry’s current financial constraints, there remains that persistent question: where are our technology dollars best spent?

▶ Health Information Technology vs. Patient Care Technology

Health information technology (HIT) and patient care technology (PCT) are separate worlds that overlap. PCT involves things like new instruments and treatment or diagnostic methods that provide value by improving care and outcomes, or by lowering costs. In many cases, there is interdependence between HIT and PCT because of the vast amount of digital data that has to be stored and manipulated. Generally, we believe that our technology choices fall into one of three basic categories:

1. If a technology improves patient outcomes and lowers costs, that type of direct improvement in healthcare should be adopted.
2. If it improves outcomes but raises costs, there has to be a debate over whether we can afford it.
3. If it does not have a direct impact on outcomes, and it increases costs, then we have to consider whether it is viable in the current healthcare business and regulatory environment.

Unfortunately, the interoperable EMR and practice-based EHRs are perceived by some providers to fall in the second and third categories. It is clear that we have a long way to go before adoption reaches anywhere near 100%, and without question the resistance and cost of achieving the remaining 50% will be much more than the first 50% of adopters.

If our technology goal in healthcare is to improve care and lower costs, then health IT has a huge hurdle and years of work remaining to get to interoperability. Ideally, given unlimited time and funds, universal interoperability could significantly impact the quality of care by eliminating treatment duplications, conflicts, and errors by informing providers and empowering them to make more effective decisions at the point of care. Our experience with enterprise-wide applications, let alone industry- or nationwide ones, is that participation and compliance are always an issue, as is data quality. The unprecedented size of this IT project makes these issues much more daunting. Physician practices are the focus of attention, although they are just a part of the equation since many other ancillary suppliers and providers also provide services and have patient data.

What about all those other non-physician providers of medicines, products, equipment, and ancillary healthcare services? When will their patient data be included in the interoperable EMR or widely integrated into individual EHRs? Just last month (January, 2013), HHS brought these suppliers and providers into the data security fold by publishing a new HIPAA rule essentially giving the associates of covered entities, and their contractors, the same liability as physician practices if breaches in PHI security occur (see our 1/25/13 summary on TMG Legislative and Policy Watch page. Since it has been acknowledged by HHS that many other entities have patient data — including medical data because these parties may be directly or peripherally involved in the patient’s care.
These concerns over data quality and security are based in the real life experiences of providers. Physician focus groups convened by the University of Chicago’s National Opinion Research Center is 2012, expressed “…their distrust of the completeness and quality of electronic records other providers send…” (http://www.healthcarepayernews.com/content/what-do-physicians-think-hie), and this is just the exposed part of an iceberg with plenty of issues remaining below the waterline. Another inescapable rhetorical question is: if it’s not practically feasible for the medical record to be complete or accurate for any given patient, in any given location or scenario at any time, then is a national, interoperable EMR a realistic goal?

Regardless of our progress on interoperability, there’s no question that EHRs will become a requirement for managing and accessing large amounts of digital health data, and then sharing it with patients. This is partly because the possibilities for streamlining and improving care are mushrooming with the inexorable development of mobile healthcare technology. These technologies are underlying accelerating growth in alternate site care, making it viable to shift more acutely-ill patients to non-institutional, lower-cost settings. Much of our experience and results from leaps in patient care technology are being overshadowed by the latest and greatest information technology, but we have lots of PCT experience to point to and emulate.

►Patient Care Technology Advancements

Many key patient care technology developments seem to fly under the radar screen or receive just momentary attention. For instance, telemedicine is creating a paradigm shift in how we treat and monitor patients using communication technology. Also, surgical technology improvements are allowing major procedures to be done in a minimally-invasive manner – reducing dependence on hospital stays and intensive care. Throw the two technologies together, and we could be embarking on an alternative delivery paradigm where we perform complex interventions, and then send patients home with continuous monitoring and nursing support – the “hospital without walls” paradigm. Here are two cases – one from the 80’s and one this year - that demonstrate these revolutionary impacts in more detail:

►#1: The Case of High Tech Homecare

Back in the 1980s, someone had the idea that patients didn’t need to languish in the hospital for weeks, pushing around an IV pole, just so they could receive intravenous drugs or feedings. Some innovative pharmacists (some of which I worked with) starting offering their clinical expertise gained in the hospital; combined with new drugs, IV access devices, and pumps for delivering IV therapy at home; to encourage forward-looking physicians to try something new. Within a few years, a new industry was spawned, and one that still thrives today on a national scale, providing all kinds of intravenous and subcutaneous therapies to patients in their homes. The results of this innovation? Greater patient satisfaction, better outcomes, and much lower costs. Now, with the growth in telemonitoring services, higher levels of acuity, using more intensive therapies, are possible at alternate sites.
Envision a new approach where home infusion pharmacists with clinical monitoring experience, instead of having their heads buried under a compounding hood or dispensing medicines, are studying a screen displaying pump statistics and vital signs for ten patients, all on various IV therapies at various non-institutional locations. For new patients, particularly those starting a new drug, the monitoring can be more intensive, watching for potential reactions. For more stable or chronically-ill patients, intermittent monitoring can demonstrate that their treatments are effective, their conditions are well-managed, or that equipment is functioning properly. Put physicians in the loop, and highly interactive, low cost, real-time care becomes possible.

**#2: The Case of Transcatheter Aortic Valve Replacement**

Replacing heart valves has been traditionally an open, invasive procedure with significant recovery times and risks associated with any open heart procedure. There was a time when no one could conceive of inserting a catheter in a patient’s leg, and then feeding it to the heart, for anything other than a diagnostic procedure, let alone replacing a damaged heart valve. Fortunately, pioneering physicians have developed great skill in performing all kinds of catheter-based heart procedures, increasing the safety, eliminating complications, and greatly reducing recovery times and costs. Just one of the latest advancements is transcatheter aortic valve replacement.

In 2012, CMS agreed that in certain cases, Medicare should cover transcatheter aortic valve replacement, creating access to this new technology for many more patients. Why cover this procedure? Advancements of this type impact patient mortality and morbidity, satisfaction, outcomes, and costs. This type of coverage decision also encourages the development of more minimally-invasive heart procedures which also have the potential to further improve care and lower costs. In fact, many new treatments are already in clinical trials or beyond, offering us many alternatives to open heart surgery that didn’t exist just ten years ago. Notably, the pace of these advancements, driven by research and development collaborations between physicians, hospitals, and industry, is relatively rapid considering the testing required before they can be approved for general use.

**Should We Pause to Rebalance Our Technology Priorities?**

Maybe a pause, before we spend tens or hundreds of billions more on interoperability, would allow us to revisit the way our technology resources are allocated and reset our healthcare technology priorities. Regardless of the technology and its purpose, here are some questions we might ask in setting our overall technology priorities:
1. Patient Care: Does the technology positively impact patient care outcomes in a significant patient population? Are there instances where a less-expensive technology or procedural solution might have a similar impact?

2. Costs: Does the technology lower the overall cost of treating a given condition? Is it an “out-of-the-box” solution that suppliers or manufacturers have researched and fully developed, or will it require an additional investment by providers to develop, implement, or maintain? If a new product or service, will third parties reimburse the associated charges? And at what level? Or is it a new cost for the provider?

3. Mandates: Is the technology simply required for another reason (e.g., legal or other government mandate)? Or required to support another technology development (e.g., managing digital data).

There’s not a decision model I know of for scoring responses to these questions. As is often the case, deciding on which questions need to be asked is a big part of the assessment and solution design process. Still, these seem to be the same questions we’ve been asking for the last ten years. With some introspection, maybe the answers will eventually lead us to some new conclusions. The big caveat is government, since the industry playing field can be overridden by more government mandates or regulations. In any case, given a finite number of healthcare dollars, and an intrinsic escalation of healthcare costs without any new technology expenditures, prioritizing technology investments is a very real consideration. It’s not sufficient to say that drug and product manufacturers and others will be spending the money to develop these technologies, so we don’t see the direct costs – in fact we always see them at some point in the delivery system. These R&D efforts are generally paid for with a combination of research grants and product and service revenue, so at some point a return on investment will occur for the parties involved in the development.

►A Vision of Technology-Enhanced Care

We’re envisioning a future where costs are significantly lower due to better outcomes and fewer complications primarily as a result of new and enhanced patient care technologies, supported by information systems that allow us to take advantage of large amounts of digital data. We’re not just talking about analyzing textual medical records (notes); decision-support tools process all kinds of textual, visual, and even patient-provided data, so providers can make more informed decisions. Many physicians will argue successfully that medical decisions will always be situational and individualized, and that crunching data and basing decisions on generalities or trends will never work, and in some respects we agree.

The point of our huge investment in electronic health records should not be to replace human decision-making and expertise in carrying out the delivery of care; it should be to give them more tools and information supporting individualized care decisions. We have to be very careful since this ideal can
be easily transformed by information technology into automated decision-making that may or may not be cost-effective or productive. We are also entering a new era where patients want access to the same information, so they can read it and add to it, empowering them to participate in the decision-making process. We can’t say that widespread interoperability for the sake of having a unified record, while a desirable goal, generates as much value as simply a comprehensive local health record. Alternatively, the greatest opportunities for value creation may be found in emerging patient care technologies. Still, using all available technologies, we should prioritize our technology investments and emphasize the ones that produce measurable improvements in patient care and lower costs is the future. We are describing a technology-enhanced future with the potential to maintain access to care, improve quality, and lower costs; the stated goal of practically everyone involved in healthcare reform.

► Contact Information

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Note: TMG analysis and comments are based on the author’s reading and opinions. In all cases, refer to the original published sources before making final judgments or business decisions.