



200 S. Tryon Street, Suite 1700
Charlotte, NC 28202
704.837.7100
www.secureedi.com

The Clearinghouse is Dead!
'Transactions Integrators' Required
for Healthcare Transformation

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By Mark J. Moticik
Senior Vice President, Sales
Secure EDI

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Introduction

Virtually everyone agrees that our healthcare system is in need of a radical overhaul. Policy makers, business and healthcare industry leaders and consumers alike appear to have reached a consensus that current care delivery and funding models are no longer capable of supporting the demands and complexities of the marketplace.

While there is agreement on the problem, there is much less agreement on the solutions. From pundits to politicians, everyone has recommendations on to how to fix healthcare, including expansion of access, increased individual responsibility, more competition, less competition, more government control or less government control.

One of the few common threads running through all of these transformational propositions is the need for broad, real time access to actionable information. Many of the new healthcare models, such as consumer-directed funding accounts and performance-based reimbursement, require real time access to greater volumes of complex information from more sources.

It has become abundantly clear, however, that the information technology infrastructure underlying our healthcare system is woefully inadequate to the task of transformation. Evidence of this recognition was recently reinforced by the Obama White House and its inclusion of expanded funding for electronic medical records as part of the economic stimulus package. Beyond provider specific electronic medical records, there is growing recognition that our healthcare system would also benefit from electronic health records, which would cover a patient's care history over an extended period of time from multiple providers.

While the concept of electronic medical records maintained by individual providers is hardly new, adoption rates are meager in large part due to cost. Implementation of electronic health records, which would be based in part on digital records at the provider level, is an even more ambitious undertaking that would appear to be many years in the future.

In any case, we are certain that healthcare transformation will require new models for sourcing, processing and distributing richer, more complex

data in ways that facilitate collaboration, real time decision-making and hands-free automation. Numerous obstacles lie on the path to real-time digital collaboration, however, including healthcare claims clearinghouses that remain the dominant electronic conduit among providers and payers.

The classic clearinghouse model is based largely on controlling, and in many ways restricting, the flow of digitally transmitted information between payers and providers. Advances in Internet based technology and service oriented business models have rendered the legacy clearinghouse model obsolete. In other words, the clearinghouse is dead!

Information Based Business Transformation

Long time industry veterans wax poetic about the changes that must occur if we are to improve the cost and quality of healthcare but they are often reluctant to inject widely accepted business principals into the transformation discussion. Nevertheless, it is undeniable that we must fundamentally change the ways in which we conduct the business of healthcare

In a 2004 Harvard Business Review article, "Redefining Competition in Healthcare," renowned strategy expert Michael Porter and innovation expert Elizabeth Teisberg argue that with the right kind of competition "the health care system can achieve stunning gains in quality and efficiency." The authors argue that relevant information is key to any well-functioning competitive market but is all but absent in our current healthcare system.

Imagine how an information driven healthcare system might look and feel. Not only would consumers be better equipped to make informed decisions, those decisions could influence other aspects of their healthcare experience, such as the cost of services or adjustable rate premiums.

In this information rich environment, coaching and advisory services firms would emerge to guide consumers faced with making critical care decisions. Physicians would prescribe treatments based on the latest protocols and the patient's up-to-date longitudinal health record. These scenarios have been envisioned many times, but the technology infrastructure that undergirds healthcare today is incapable of facilitating this transformation.

Clearinghouse as an Obstacle to Transformation

Without question the road to a digital revolution in healthcare is littered with many obstacles, chief among them the reliance on an inadequate data exchange infrastructure dominated by claims clearinghouses. While essential during the decades preceding the Internet revolution, clearinghouses today have become impediments to real-time information exchange and transformation of care delivery and support systems.

The claims clearinghouse traces its modern day origin to the 1970s and the first significant applications of automated processing for the insurance industry. Data entry clerks fed mammoth machines using dumb terminals to key in data from paper forms. Batch programs lumbered overnight to churn these mountains of data into even more paper for distribution through the U.S. Postal Service.

In many ways the fundamentals of the 70s-era clearinghouse model still exist. Because the vast majority of core administration systems are antiquated and inflexible, information transmitted electronically must flow through a tangled web of data aggregators, processors and controllers. The passage of HIPAA further strengthened the clearinghouse value proposition by adding another layer of technical complexity and business process to an already inefficient information supply chain.

During recent years, vendors have leveraged their experience and assets to provide enhanced cleansing and transformation services to help payers achieve regulatory compliance at a fraction of the cost of internal development. These economics proved favorable as clearinghouses maintained their dominant position of connecting hundreds of payers with thousands of providers who lack sufficient technology and know how.

It has been over a decade since the passage of HIPAA and something as basic as universal real-time eligibility verification continues to elude us. Challenges extend well beyond technology, however, because of a business model that incentivizes exclusive relationships and controls the flow of critically important information. This situation is incompatible with the demands of today's consumer-directed health plans, incentive-based reimbursement models and the retail-like revolution for providers.

Fundamentals, Precedents Available

Valuable lessons that could be applied to healthcare transformation can be learned from other industries that have undergone similarly disruptive digital transformations. The advent of the Internet, supported by expanded availability of broadband services, gave fuel to the dot.com revolution of the 1990s. We have every reason to expect the same is possible in healthcare if the roadblocks of funding and common standards can be overcome.

Even though hundreds of dot.com companies failed, their relatively brief era in American business history inspired a transformation of our entire economic and social landscape. The most significant legacy of the dot.com period is that consumer and business behavior has been heavily influenced – if not reinvented – by universal access to relatively low-cost, easy-to-use technology.

Twenty-first Century consumers are leveraging the Internet to acquire information, make purchasing decisions and build relationships in ways that were unthinkable a decade ago. More than 175 million people have made “friends” on Facebook, Google estimates 200 million searches are performed every day and Amazon reported 2008 net sales of over \$19 billion. The Internet has proven to be a low-cost communications infrastructure that can provide the foundation for a broad, yet secure, sharing of complex information.

Businesses of all shapes and sizes are leveraging IT infrastructure to extend their brands, improve operating efficiencies, level competitive playing fields and build new routes to market. Information technology has truly been democratized for the masses, giving rise to “systemic disintermediation.” In other words, the application of on-line technology has virtually eliminated the need for middlemen or, as in the case of healthcare, the traditional clearinghouse.

As a result of the Internet, broadband communications and new consumer behaviors, several of our nation’s core industries have changed in fundamental ways. One of the best examples is the travel industry, whose information supply chain and transaction processing infrastructure were in many ways similar to healthcare.

For decades a few clearinghouses stood between the airlines, car rental and hospitality companies, commissioned travel agents and consumers. Companies such as Galileo, Worldspan and Sabre, known as global distribution systems (GDS), provided a valuable service in storing and distributing a comprehensive real time “inventory” of travel products (tickets and reservations).

In the mid-90s, however, the Internet revolution gave rise to literally hundreds of travel sites and portals – often funded by the airlines themselves – where consumers and business travelers could shop and book their own travel more or less directly with the airlines and hospitality venues. Consumers had greater access to the information they needed to make informed buying decisions.

New value propositions emerged within the travel segment, ultimately leading to the disintermediation of the GDS and a fundamental restructuring of the travel agent channel. It soon became clear that travel companies had two choices – transform or die. Sabre formed Travelocity, the Internet’s first travel site, and transformed the entire economic structure of the travel industry. No longer profitable to be a distributor of travel products, the focus shifted to travel integration. Today’s travel sites offer consumer tools for customizing complex itineraries. At the same time, successful travel agencies have morphed into travel consultants providing high-touch service.

Many are reluctant to compare travel and healthcare, clinging to the position that healthcare is unique and far more complex than other industries. Certainly a week’s vacation in the Caribbean is not on the same level as a cardiac by-pass procedure in terms of importance to the individual. There are, however, essential lessons to be learned by observing how the Internet and the disintermediation of iconic institutions and status quo thinking can transform a segment for the benefit of consumers.

The healthcare industry can gain insights from an examination of this changing IT landscape and its ability to increase efficiency, enhance quality and empower people to take responsibility and make informed decisions for themselves and their families. Why is it that healthcare seems unable to follow new business models based on today’s information technology?

We Need New Thinking

Over the past decade the Internet has become an efficient infrastructure for deploying business-ready systems functionality in situations just as complex as consumer-directed and incentive-based health plans. In fact, industry giants such as Amazon, Google and Microsoft have launched cloud computing offerings that enable healthcare IT managers and developers to leverage some of the world's most advanced Internet infrastructures with little or no upfront investment.

Delivering on the promise of a 21st Century healthcare system, however, will require more than a ubiquitous communication infrastructure. Interoperability has been the siren's call for nearly every healthcare technology initiative since President George W. Bush signed the Medicare Modernization Act of 2003.

Dozens of organizations and standards bodies have sprouted to tackle a host of technical, medical, political, legal, social and business issues surrounding the exchange of digital medical information. Groups such as The Healthcare Information Technology Standards Panel (HITSP) and Integrating the Healthcare Enterprise (IHE) International are doing the most promising work. These groups are rallying public and private sector organizations to achieve widely accepted integration standards using real world case driven frameworks and Connectathon developer jam sessions.

Despite their promise, these efforts are largely confined to the clinical practice setting and do not fully contemplate the needs of a truly transformed real time marketplace. This will require new thinking around composing, exchanging and processing transactions across many more touch points.

For the most part, middleware based integration methods have proven too complicated and expensive for even the most sophisticated enterprises. Instead, a strategy of integrating disparate touch points at the transaction level, independent of user interfaces and technology preferences, is much more practical.

Transaction integration is by no means an entirely new concept. IT professionals have long used distributed transactions to maximize performance and reliability across disparate systems. In fact,

today's online travel experience – booking an airline ticket, hotel reservation and rental car over the Web – is supported by a vast array of complex distributed transactions processed across a global spider web of systems.

The mere click of a purchase itinerary button for an airline ticket starts a digital domino effect across pricing and yield management systems, crew scheduling, catering and maintenance systems, loyalty programs, credit card systems and more. Few people realize what goes on behind the scenes. To us this all appears as a single integrated e-commerce transaction.

New Skills

By comparison, healthcare encounters are unquestionably more complicated and often involve processes that resist digitization and automation. To achieve anything close to an integrated e-health transaction will require healthcare “transaction integrators” a new class of IT professionals whose skills and domain expertise extend far beyond electronic data interchange (EDI), messaging and networking.

Healthcare transaction integrators will possess specialized knowledge of emerging technology, business, healthcare, financial and regulatory standards. The transaction integration model emphasizes automation of virtually every element of the patient encounter life cycle from verification of coverage through real time settlement. The healthcare transaction integrator must understand the context in which these domains can be meshed to facilitate new processes.

Should healthcare transaction integrators emerge as described, they will disrupt the entire clearinghouse business model. They will be a catalyst for accelerating the development of a more open transaction exchange infrastructure, influenced by contemporary technologies and evolving business models that promote collaboration.

Exclusive relationships that limit the ability of providers, payers and consumers to work collaboratively will be a thing of the past. New products and innovations will move to the marketplace faster. The entire system will become agile, nimble and responsive. The result will be increased efficiency, reduced costs, higher quality and better outcomes.

Summary

Transformation of our healthcare delivery and support systems is an economic and social necessity. Digitization offers wondrous opportunities for greater access to better quality lower cost care. Delivering on the promises of a 21st Century healthcare system will, however, require new thinking, expertise and business models that facilitate collaboration among all participants. The current system of exchanging critical electronic health information through clearinghouse intermediaries is inadequate to the task.

The dot.com era fueled a wave of technology and business innovation predicated on the notion that the free flow of rich information could produce radical efficiencies and fundamentally disrupt legacy business models. Disintermediation became the call of the day as Internet based technology made it possible to forge new relationships with customers and trading partners. In fact, the Internet has influenced the behavior and expectations of an entire generation. Healthcare leaders can find lasting examples of “what is possible” by looking to other industries that have undergone digital transformations.

Over the past decade the Internet has proven to be an effective infrastructure for deploying business-ready system functionality. Nevertheless, healthcare has inherent attributes that present challenges and risks we have not yet fully contemplated. Healthcare encounters are highly complex, can involve multiple participants and take place over time. Generating, distributing and reassembling critical patient-centric data among many disparate touch points is the greatest IT challenge of our time.

Many organizations have been formed to address the multifaceted issues surrounding interoperability, mostly centered on clinical oriented systems. Signs of progress are evident as healthcare information technology users and developers are collaborating on real world interoperability standards. But what are the chances that these efforts will yield sustainable transformative results when we have failed to achieve universal adoption of the “standard” HIPAA transaction sets?

Instead, what we need is new thinking around integrating disparate touch points at the transaction level, independent of user interfaces, technology

preferences and intermediaries. This will require a new class of IT professional – healthcare transaction integrator – with unique knowledge of real time Internet technologies and a deep understanding of the complexities of healthcare.

Transaction integrators will leverage the good work of standards bodies, vendors and end-users to foster an environment based on the open exchange of vital healthcare information in real time. The result will be creation of the infrastructure necessary for transformation into a 21st Century healthcare marketplace.

Mark Motcicik is senior vice president for sales with Secure EDI, a healthcare information technology firm that is pioneering electronic solutions for enhancing the efficiency and the quality of health and dental care. Based on proven platforms, Secure EDI assures seamless interfaces among healthcare and dental providers and payers. Secure EDI capabilities include on-line coverage verification, real time adjudication of claims, electronic funds transfer, on-line reconciliation and a full range of informatics for payers and providers. On the Web at www.secureedi.com.