



Achieving an ROI on Your CIS: An Operations Perspective

By Patrick Shumaker, Director of Executive Services, CTG HealthCare Solutions

The three most pressing challenges facing hospitals today are profitability, quality and patient safety. The common approach has been to address these as separate issues. Years of cost reduction activities have made little impact on the cost of care. Years of quality improvement activities have made no real improvement in the overall quality of care. Now comes a new push for patient safety. Given the historical approach, no major gains in improving the safety of patient care will be achieved unless the line of attack is changed.

Addressing the challenges

The latest approach to these challenges is the implementation of clinical information systems. Such systems can support a variety of initiatives, such as electronic health record, CPOE, and nursing documentation, as well as OR, ED, pharmacy, radiology and other clinical applications. Organizations need to view finance, quality and safety as interconnected issues—and the systems and processes put in place must take that into account. The return on investment in the installation of clinical information systems lies in the ability of the organization to see this interconnectedness and fundamentally redesign its delivery system and work processes. In other words, the willingness to change the way the organization works.

Hospitals and health systems today are spending millions to install new clinical information systems or upgrade existing systems to improve the safety and delivery of care, improve patient service, and reduce cost of operations. Implementing these clinical information systems carries significant risks, including:

- Financial risks of expending significant resources for purchase and installation with little improvement in financial results or quality
- Organizational risks of physician and staff dissatisfaction, loss of confidence in the organizational leadership, and potentially increased levels of process failures
- Quality/Patient Safety Risks continuing at the same or increased levels

Hospitals and health systems must ensure the investment they are making in clinical information systems will produce the intended results—that includes a return on their investment. That return must be measurable in cost, quality and safety. Hospitals can no longer afford to invest in such systems and hope that they will see a return. They must plan for it and measure it. The reality is that the return on investment is not in the clinical information system. Simply installing such systems will have little, if any, positive impact on cost or quality. In fact, it could have the opposite affect. The clinical information system is simply an enabling tool for allowing staff to potentially work more effectively and efficiently. In and of itself, it brings nothing that would result in lower cost or improved care. The return on value lies in the transformation of the way care delivery works. One hospital attempted to maintain the operating systems and processes

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in its emergency department with the implementation of a new CIS. Within two weeks of going live with the new CIS, it was clear that the previous systems and processes were not compatible with the new CIS, and virtually every process had to be redesigned.

CIS implementation has similarities to current efforts at designing a new hospital. To achieve significant savings in operating efficiency from a new facility, the organization must significantly challenge its assumptions about how the business works and how its systems and processes operate. This is not done in the majority of cases, and the result is that new facilities do not achieve these expectations. Too little time is spent up front in redesigning work and then designing the physical facility to support the redesigned work processes. To achieve maximum benefits and results, CIS implementation should more closely mirror building a new highway. In doing so, a new pathway is created, and the road is completely designed along that new path to improve the speed, safety and capacity to move traffic. Unfortunately, our historical CIS approach is merely paving over the existing highway without improving the trip.

Only by approaching CIS and clinical transformation in an integrated fashion to simultaneously address cost, quality and safety will real improvement and value be derived. The present approach of dealing with each of these issues as if they were separate and unrelated silos is a result of an infrastructure approach, rather than a business and customer approach. This silo approach creates both confusion for staff and management, and conflicts over resources and time resulting from differing goals and approaches. Let's rethink the historical methodology.

The solution: Creating real process redesign

Step one: Rethink value from the customer perspective

The first step in creating real process design begins with rethinking value from the perspective of the customer rather than the organization. A hospital's two main customers are patients/families and physicians. It is critical that hospitals understand their definition of value. An essential element of defining measurable value is establishing institutionally agreed upon standards of care. It means understanding what is important to their customers and what it takes to solve their problems, from scheduling an outpatient visit to an inpatient stay. This will require rethinking our assumptions about how things work and who does what. It also means that process redesign begins at the desired outcome and works backwards through the care delivery process.

Step two: Envision a perfect system to deliver the defined quality

The second step is designing a new process to deliver the defined value. This is not tweaking the existing process, but envisioning a perfect system – one that could deliver the customer defined value without waste. This means a complete redesign of the way the business operates, that is built on aligning the customer's consumption process and values, established standards of clinical outcomes, and the hospitals delivery process. There are some developing care standards that can be utilized in this effort such as the Joint Commission Core Measures or the National Committee for Quality Assurance (NCQA) to establish a minimum standard of clinical care against which to measure for your institution.

This envisioned, ideal system defines the metric to measure progress and is far more useful than current benchmarking programs. Systems and work processes must focus on the organization's mix of patients and services and measure progress against this envisioned ideal. A traditional step of extensive mapping of current processes is avoided or minimized by



focusing on the actual needs of customers and the established clinical outcomes and what must take place to meet those needs.

Healthcare is a clinical business and making clinical decisions based on the best information is essential to high quality. A critical element of system and process design is insuring that information necessary for clinical decision making is delivered when and where it is needed.

Step three: Determine key value-creating activities

The third step is determining key value-creating actions to deliver what the customer desires. This is creating a stream of activities without waste—the value stream. This step includes identifying the key resources, tools and information required for each step in the “value stream”. CIS technology can enable value-added activities that would otherwise have been impossible; this could be as simple as eliminating information gathering forms at the time of registration via remote pre-registration capabilities. It is important to reiterate, however, that the CIS is only an enabling tool. The ROI is in creating efficient and effective processes supported by reliable and effective technology. A lesson can be learned from Toyota: “People are the most flexible resource you have. If you have not efficiently worked out the manual process, it will not be clear where you need automation to support the process.” Toyota’s approach to technology is to use it to support the designed process. Its focus on process design is to address all business issues simultaneously; increasing efficiency, quality, and customer satisfaction.

Step four: Align value steps for maximum efficiency

The fourth step is aligning those steps to create the most continuous and efficient flow. To see the value of flow, you must first see the flow of value. By focusing on the customer’s definition of value, you rethink specific work practices, tools, departments and functions to align flow to create a waste-free process. Understanding the consumption process and matching it to the organization’s delivery process and clinical standards, helps to identify the key value-creating steps. To reiterate, this includes key decision-making information such as timely laboratory results.

Step five: Continuously push for perfection

With the metric of the envisioned perfect system, the organization can jump start itself toward this fifth step. Once the new system and processes are in place, then the organization can continuously measure against the established standards of care and other value criteria. Process improvement, Six Sigma or some other approach can be used to continue improvement in performance and processes, moving toward the institution’s ideal. Healthcare is continuously evolving, and our customers are growing increasingly more sophisticated. The “perfect” system today can become mediocre without revisiting the model on a routine basis.

With the investment of millions in clinical information systems, hospitals must invest in real system and work process redesign or face serious risk of failure. Hospitals cannot afford to simply automate their current processes. Dramatic redesign is needed to improve both speed and accuracy and the actual standard of care. In order to really improve the cost, quality and safety in care delivery, these issues must be dealt with simultaneously. They are all business issues. The key is to plan well and identify your vision and metrics. Redesign to support this vision while maximizing your investment in enabling technology. The result is establishing your own more relevant benchmark for excellence, which reduces cost and risk while delivering increased customer value.

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About CTG HealthCare Solutions

CTG HealthCare Solutions (CTGHS) is a leading provider of information technology (IT) consulting services and solutions to healthcare providers and payers in North America and Europe. CTGHS is dedicated solely to helping healthcare organizations achieve their clinical and financial objectives by more effectively deploying IT. The company is recognized for its ability to mobilize healthcare and IT expertise, to use proven methodologies, and to draw upon our corporate knowledge base in a client-responsive and cost-effective manner. CTGHS is part of CTG (NASDAQ: CTGX), an international information technology solutions and staffing company. More information is available on the web at www.ctghs.com

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