

Implementing an advanced clinical information system is a complex undertaking, fraught with dangerous pitfalls. Knowing the most common fallacies and misconceptions can help decision makers avoid costly mistakes.

"If You Build it, They Will Come"

In the movie *Field of Dreams*, an ex-baseball player receives heavenly advice to build a baseball diamond in his cornfield. If he does, he is told, his long-dead baseball heroes will miraculously appear to play a ballgame on his field. The reality for clinical systems is less than miraculous. Although you may invest heavily in a system that automates physician order entry, for example, physicians will not automatically flock to use it. Physicians and other clinicians who will use the system must all agree that the benefits of such a system more than offset the effort required to use it.

One hospital's experience serves as a cautionary tale. This hospital developed, with the collaboration of three technically savvy physicians, a rudimentary system for generating reports and accessing patient records from outside the hospital. Expectations were high that the hospital's staff of 350 physicians would adopt the system and reduce some of the nurses' clerical burden. At the end of a year, the only clinicians using the system were the three physicians who had helped design it.

The obvious lesson is that no system will deliver meaningful benefits unless all the clinicians, from physicians and nurses to radiologists and pharmacists, choose to use it. They must perceive that the benefits they will personally receive from such a system are worth the changes to their work routines and the time and effort required to learn how to use the new technology. Achieving buy-in from clinicians requires that representatives from every clinical group get recruited and become actively involved in the design and implementation of the system they

will use. Clinicians must participate in building the consensus that will drive the implementation plan in order for the clinical information system to meet its objectives.

Skilled Resources Are Readily Available

It is vital that the right mix of functional, technical, and clinical resources be brought to bear on the challenge of implementing an advanced clinical information system. Internal IS departments and even IT vendors often lack the depth and breadth of talent and experience required for a successful implementation.

It's also important to recognize that a project like this often has peak requirements for resources during "go live" or other key phases of the project. Provision must be made for putting in place the right mix of skills at the right times.

Implement a CIS and You Will Realize a Big Return on Your Investment

Investing in technology will not in itself produce process efficiencies or bring about huge cost-savings. The true benefits of a CIS are realized only when enabling technologies are combined with re-designed clinical processes and a revamped organizational structure.

Often, health care organizations are led to unrealistic expectations on ROI by overzealous software and hardware vendors. Significant cost savings come mostly from the redesign and automation of clinical processes and the reduction in medical errors that a well-implemented clinical system supports.

"Skate to Where the Puck Is Going to Be" — Wayne Gretzky

This might work for hockey great Gretzky, but it's a bad way to choose or implement a clinical information system. This strategy might also be termed the "smoke and mirrors" approach: "The functionality you desire will be implemented in the next software release. Go ahead and design to it." All too often, when the health care organization gets to the implementation stage, there is no product to support the new process.

Prospective buyers need to be very cautious about vendor promises regarding future functionality. Sometimes, vendors demonstrate features and functionality in a pre-release software version that is still being debugged. Integrating these features into the stable, production software may be months in the future. The only functionality you can depend upon is what's available in an application's current, tested, and running-live version. In other words, what you see is what you get.

All Costs Are Known Upfront

Health care organizations frequently underestimate the time and costs involved in implementing an advanced clinical information system. More than half of all projects come in late and over budget. A realistic budget requires a candid assessment of your organization's current IT capabilities and a detailed plan for the information system needed to support the desired changes to your organization's clinical processes.

The budget must include the cost of paying the people who will implement the system, including clinicians and other operational staff. The considerable cost of end-user training needs to be figured into the total cost of ownership of a CIS.

Realistic budgeting for a CIS is an area where experience really counts. The best place to seek budgetary advice or guidance is from an organization with predictive budget models and a track record of successful implementations.

Another problematic approach is to start with a target budget, then choose system capabilities and design functionality that the budget can afford. Organizations that pursue a "we'll take what we can get" approach generally end up with about one-third the functionality they need to support industry-leading applications and processes. One organization that took this approach found that planning to a budget is no bargain; after spending millions to develop a system that proved a dismal failure, they terminated the entire project along with their CEO.

Implementing a CIS Doesn't Require Operational Leadership

Wrong! To be sure, the CIO and the IS staff play vital roles in designing, implementing, and supporting an advanced CIS. However, treating a CIS as a purely technical initiative leads to a system poorly aligned with the organization's vision and the needs of its clinicians. It is unlikely to produce an attractive return on investment. An effective system implementation requires strong participation and leadership from clinicians and other operational personnel. Chief operating or chief executive officers often champion the most successful CIS implementations.

The hospital's medical staff has a key role to play in implementing a CIS that will support the automation of patient care processes. The role of technology is to make possible new clinical processes and clinician relationships that give caregivers more time and flexibility in delivering patient care. The symbiosis of

process improvement and enabling technology works only when there is close collaboration between the operational and technical staffs.

Don't Bother Talking to the Nurses

Probably no single group of clinicians knows more about the day-to-day operation of a hospital than its nurses. They spend more time in direct contact with the patient than any other group. Automating the delivery of patient care will have a profound effect on how nurses spend their time and how they collaborate with other clinicians.

Nurses from every medical specialty need to be involved in the design, implementation, and ongoing support of a CIS, and not just as advisors. Nurses must take leadership roles in the system implementation, and share responsibility for meeting goals and objectives. Their participation will ensure that the core nursing population, not just a few nurse-technophiles, will willingly adopt the new processes and technologies.

You Can Hide Implementation Costs In Operational Budgets

The successful implementation of an advanced CIS requires the dedication of significant human resources from many operational departments for extended periods of time. In fact, significant operational resources will be required throughout the life of the system to evaluate its performance and make necessary changes and improvements to both clinical processes and the applications that support them. These health care professionals must be compensated for their efforts. The cost of their time should be factored into the implementation budget, even though they are paid through their operational departments.

Since it is easier to cost-justify a small implementation budget than a large one, many organizations ask operational departments to pick up the costs of these "loaned" individuals. This hides the true cost of ownership of a clinical information system, and leads to unrealistic ROI projections.

Even though individuals involved in an implementation project may not get paid extra for their roles, there are costs associated with assigning other personnel to cover their clinical duties.

Projects that hide personnel costs in this way tend to be under-resourced, since operational departments naturally view time spent on these unbudgeted initiatives as a lower priority than a clinician's primary duties. The best system implementations need the most experienced and talented of your medical staff, not technophile volunteers or conscripts chosen by expediency. The best way to assure continued availability of experienced operational personnel is to budget and pay for them.

It's worth remembering the old adage, "Free advice is worth what you pay for it."

Technology Is a Vehicle to Fix Broken Processes

The danger here is that the technology solution is likely to end up supporting the current broken process. Throwing the latest technology at an inefficient, poorly conceived clinical process actually hinders progress toward a system that delivers real quality improvements. The proper role for technology is as a tool or enabler of new, automated clinical processes. A combination of process redesign and powerful, flexible technologies for storing, comparing, and sharing information is required to deliver better, safer patient care.

With the Right Team and the Right Solutions, This Will Be Seamless

Organizations facing the challenge of clinical transformation would like to believe that everything would be simple and success assured if only the right mix of talents, the right vendor, the smartest implementation team, and the most experienced consultants can be brought together to do their jobs properly. The reality is that the path toward an operational clinical information system is invariably bumpy. Through no fault of methodology or lack of skill, problems will crop up. This is an exciting, pioneering journey, and discovering unexpected challenges goes with the territory.

The realistic approach is to seek out problems so that remedying them becomes part of the implementation plan. Expect the unexpected. The path is long and the environment unpredictable, so pack conservatively. Bring warm clothes and extra food, just in case. Plan for the implementation to take longer and cost more than you think it should. Be confident that the view from the summit is worth the climb.

There You Have It

The above list is by no means exhaustive, but exposes common misconceptions that often lead to unrealistic expectations towards people, processes, and technologies. Wariness and caution should guide your decisions, and for this reason, initial anxiety and trepidation are probably healthy, since they encourage caution. Misconceptions can be costly. Bringing them to light should encourage you to keep your eyes open, and your anxiety level appropriately high.