

THE ROAD TO SUCCESS IN HEALTHCARE IT

It's all about relationships
and end-user involvement

- WILLIAM PASCAL AND MARY GIBSON -



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The ultimate success or failure of any project - from designing a new group family practice office to building a new hospital - is in the planning. Spend the time and effort upfront and you have a much better chance of achieving your goals. That then leaves you with the question of what should be included in the planning process. And fortunately, when it comes to physicians and healthcare IT projects, there is a simple answer: The success of any physician end-user IT project is directly linked to the amount of physician involvement in the planning process.

It's an answer that's widely known, and one that's supported by a plethora of evidence from studies, surveys, and actual examples from around the world.

A Standish Group report (1999) from the United States revealed that about \$250 billion (U.S.) was being spent annually on 175,000 IT projects. Of those initiatives only 16% were completed on time and on budget. Nearly one-third (31%) of projects were cancelled, and just over half (53%) experienced cost overruns of 190% on average.

The same report identified the most common elements for the successful and the unsuccessful projects. The successful ones had user involvement in planning, executive management support, and a clear statement of requirements. The problem and cancelled projects suffered from lack of user input, incomplete requirements and specifications, changing requirements, and a lack of resources.

Another U.S.-based study, (*The Importance of Leadership in the Clinical Information System Implementation Process-2001*), on key factors in forecasting EMR/EHR implementation success identified over 150 factors associated with these projects. However, only two of those factors were consistently associated with successful implementations. These "success" factors are clinician involvement and top management support.

Closer to home, a Canadian Medical Association (CMA) IT survey, conducted in 2003 gathered responses from IT payers, vendors, end-users, and CIOs. Overall there was a significant convergence among the views of these groups, with end-user engagement described as "absolutely critical" and a "no brainer" for the success of any healthcare IT project (See sidebar article: *Notes from the field*).

And a paper on clinician involvement in clinical information systems, (*The British Journal of Healthcare Computing & Information Management-2003*), concluded that "understanding user needs in detail is clearly a prerequisite for successful development of new products. There is an abundance of evidence in the literature that not widely including the users of systems in the design and development leads to under commitment and slower implementation and effectiveness."

A real-world example of the dangers of not adequately involving end-users, or at least the right end-users, comes from the Cedars-Sinai Medical Center in Los Angeles. In implementing a new electronic healthcare patient management system, the hospital believed it had sufficiently involved physicians in the design/implementation process by working with a 40-physician medical executive committee. In 2003 the system (CPOE: Computerized Physician Order Entry) was turned off after complaints from hundreds of physicians. Physicians described the system as cumbersome, and they said that it didn't follow their workflow. They also said that the designers underestimated the new system's impact on ancillary departments, the complexity of implementation, and the work involved in transitioning to CPOE. As one physician said: "They poorly designed a system, poorly sold it, and then jammed it down our throats and had the audacity to say everybody loves it and that it's a great system."

Physicians and technology: The real story

Healthcare IT projects can be influenced by many tangible issues—from financial to political to technical. However, they can also be influenced by generalized perceptions, or misperceptions, that have no basis in reality. One of these misperceptions is the idea that physicians are technophobic and, as a consequence, are resistant to change.

The results from the most recent PRQ, (Physician Resource Questionnaire-2003), and a survey focused on physicians in group practices compiled by the CMA counter that perception. As the PRQ and Group Practice surveys reveal, currently most group practices (92%) use computers for billing and a large majority (68%) use them for scheduling. As well, 27% of group practices have electronic clinical patient records. At the same time, 41% of these practices report making major technology investments within last three years, and 46% expect to make technology changes in the next year. There is also a major shift among physicians toward using a variety of specific software applications in group medical practices, from patient reminders to drug alerts (See sidebar: *The use of technology in group practices*).

The Internet is also widely used by physicians. PRQ results show that 88% use it personally, 62% have access to it at their office or clinical practice, and almost 65% use it as a tool or source of information in their clinical practice.

The bottom line is that physicians are not computer phobic. Their drivers for using IT in their offices will be around improving the healthcare provided to their patients, and that it saves them time and/or it allows them to earn a higher net income.

We would add that physicians are by training and nature very independently oriented and therefore like programs where they have the choice to participate. In our own observations on experiences in Canada where physicians have been coerced directly or through negative option programs, we find a resistance to participate whether the initiative has the potential for being beneficial.

The Canadian experience: Where are we now?

It seems then that there is a consensus about the importance of physician involvement in the planning of healthcare IT projects, and there is solid evidence that physicians are very progressive in their adoption of new technology. So where does that leave the current experience in Canada with these types of projects? Unfortunately, the answer to that question is that there is still a lot of work to be done in this country to effectively engage physicians in IT planning.

Results from the CMA IT survey show that the stakeholders generally consider attempts at physician engagement across the country to be “spotty” at best, and that overall little of value is happening.

By way of example, very few jurisdictions have a structured approach to engaging physicians. Alberta has demonstrated the most progressive physician involvement in IT planning, and Ontario has set up an e-Council structure to engage physicians through the local association. In British Columbia there have been discussions with the BCMA about this issue, and the North West Territorial government has recently initiated discussion with the local physician association.

We are seeing some interesting steps by the Alberta government to try

and speed up the process through their governance process, financial incentives, and voluntary nature of their program. However, we would caution that no matter how smooth one can make the process for physicians, there is a limit to the speed of implementation perhaps in part due to the characteristics of the healthcare system (conservative, cautious, political) as much as it has to do with the pace that individuals are willing to change. Expectations have to be managed between those from the political side, those who have to manage the system, and those who have to provide care. One runs on a four-year cycle, one has a tendency to be driven by annual budgets, and the other focuses on care, not time lines.

There are also several basic change management issues that need to be dealt with in this type of project - issues that include: time requirements, such as researching vendors, and training; getting buy in from associates and staff; privacy and security issues such as transfer of information between providers, labs, pharmacies; stability of vendors and systems; and cost of implementation.

International success stories: We're not alone in this!

While we still appear to have a long way to go in this country in properly engaging physicians in the development of IT healthcare projects, it is important to note the issues facing us are not unique to our situation, nor are they insurmountable. They can be effectively resolved, as examples from other parts of the world illustrate.

Denmark has about 3,500 GPs in 2,000 practices, and more than 90% of them are computerized. They have electronic medical records, and they use their computers to electronically send and receive clinical messages such as discharge letters, lab requests and results, referrals, medication prescriptions, and reimbursements. The Danish national system, known as MedCom, grew from a modest clinician-driven project. One of the key success factors was having the opinions and ideas from not only the physicians' professional organization, but equally from practicing GPs—those who knew the realistic problems and possibilities.

In New Zealand there are approximately 3,000 GPs, and more than 95% of their offices are computerized. Almost 75% use their systems to electronically send and receive clinical messages such as laboratory results, radiology results, discharge letters, and referrals. Their national communications system, known as HealthLink, is intricately and comprehensively tied to physicians. Many of the HealthLink initiatives were a result of demands of the primary care physicians for such things as hospital discharge summaries from hospitals, and radiology test results. And like the Danes, New Zealand GPs increasingly favour referring patients to specialists who are able to send information back to them electronically.

A privately run company handles electronic message traffic and exchange in the New Zealand health sector. Message standards have now been implemented in over 40 computer systems, including seven physician office systems, five hospital systems, four laboratory systems, three radiology systems, three physiotherapy systems, and three government-funding agencies for claims handling.

In terms of IT adoption, the upstate New York Veterans Healthcare Network achieved significant change in less than five years, going from being a poor performer to being a leading performer among 22 VA networks. It achieved this outcome by a conscious attempt to empower frontline employees through increasing patient outcomes focus, adopting a learning environment, increasing frontline autonomy, encouraging grassroots innovation, and, developing esprit de corps among frontline workers.

Physician engagement in IT: What needs to be done to succeed

The first thing that needs to be done to improve the situation in Canada is also the most basic - the dialogue with physicians has to begin in earnest. These discussions have to happen so that solid relationships among the various stakeholders can be created, and that trust can be built.

The literature on successful partnerships points to the need to build a relationship around common interests and not positions. It needs to be seen by all parties as a win-win. This takes time and is probably the most challenging part of moving forward. It is the critical ingredient to success in introducing IT into the healthcare delivery process.

Out of those discussions, and relationships, has to come clear statements of requirements and a commitment to engage end-user organizations on strategic and implementation issues, and to work with informed end-users at all stages of the process. To help get the process going, and to assist in keeping it on track, skilled facilitators could be engaged to work with the various stakeholders.

Recognition has to be also given to the fact that this work will take a lot of time and that time must be built into the process. It is also important to ensure that end-users aren't "out of pocket" for their time spent working on the project. IT project designers should realize too that once a project is implemented the job isn't finished. There needs to be a feedback system built into the process to collect valuable end-user experience.

As well, when designing a program of introducing IT into a clinical environment, the following characteristics will likely increase the probability of successful physician participation:

- Make it as easy as possible for physicians in the transition process-for example, help with costs, help with training, and help with backup personnel so they can spend time getting the implementation right.
- Make it voluntary at the outset.
- Build a strong peer-to-peer interaction capability into the program.
- Do not put into place part systems. Nothing frustrates physicians more than having to change their practice procedures and by making them have to log into different systems/data bases or run parallel systems.
- Provide good information on best practices from other physicians.
- Understand that regardless of incentives and reducing barriers this is an incremental process - the goal is to show success and grow success.

One should never underestimate the value of getting the physician leadership on side with these efforts. They can be a powerful ally.

Concerning the issues facing physician engagement in IT, our own assessment from talking to almost all CIOs of health in the provinces and most physician provincial and territorial associations, is that by letting other issues get wrapped up in introducing IT into clinical settings - such as tying Primary Care Reform to financing for IT - will only frustrate this agenda. One should assess and evaluate the potential upside of a large scale implementation of IT as it relates to improved health outcomes, improved patient safety, improved system delivery, cost efficiencies, and whatever other objectives are trying to be achieved, versus trying to cross link other policy goals. The



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The use of technology in group practices

HEALTHCARE TOOL	Current % of group practices using the tool	% of group practices projected to be using the tool in 3 years
Electronic labs	32	73
Patient care reminders	18	54
Practice website	12	32
Adverse drug reaction alerts	12	46
Email with patients	10	30
Electronic pharmacy	4	44
Sharing patient information with other healthcare providers	6	44

1 Much of this information was gleaned from presentations that Dr. Dennis Protti from the University of Victoria has made at various events over the last few years in Canada.

frustrations on both sides because of mixed agendas have probably been one of the biggest barriers to moving ahead.

The stakeholders who replied to the CMA IT survey also pointed out some common challenges that need to be dealt with. These include: the perception that vendors are the enemy, and are not generally involved enough in helping the process; the cultural differences between project managers and end-users which get in the way of effective end-user engagement; and, the need to migrate from a “create and direct” approach, to a “facilitate and empower” process.

The stakeholders also agreed that all parties need to be prepared to change their “going in” position in any project. This requires “active listening”, and recognition and acceptance of different drivers. They said that a commitment to the process and the creation of a climate of mutual respect is essential.

We know that if we don't approach the issue of physician engagement in IT planning in the right way and we fail, we risk losing credibility with and the support of senior policy makers, funders, and end-users. And once physicians become disenchanted, it is very difficult to get them back.

Notes from the field

A CMA survey about physician engagement in healthcare IT projects was conducted in 2003. A standardized interview template was used to solicit responses from more than 35 key players in the Canadian healthcare infostructure scene, including physicians, physician organizations, payers (i.e. CIOs), and vendors. Among the varied respondents there was a great deal of consensus on the key issues of physician engagement in IT project planning, how to achieve this engagement and the other elements critical to a successful project, and the reality of IT healthcare planning across the country as it currently exists. What follows is a sample of responses to three of the key survey questions:

Do you think end-user engagement is important to the success of these projects?

“End-user engagement is essential to the success of any project that impacts the delivery of care and the patient-physician relationship. I know from countless failed projects that the success of any major IT project is directly proportional to the early and continuous involvement and support of physicians. Anything that impacts their workplace, practices, tool sets, role and responsibilities, compensation, and most importantly the physician-patient relationship, must have physician ownership and preferably be driven by them.”

“Absolutely. End-user engagement is top of the scale in importance.

Using software designed by engineers often doesn't fit in with how you do your practice. Software shouldn't force you to change how you do what you do-if it does this could cause physicians to skip things in a standardized process and make mistakes. Software should allow the physician/end-user to use same process more efficiently. If there is no end-user engagement, the greater the chance of medical error, and the slower the uptake and the longer the learning phase-because you're changing the way you practice in addition to learning the software.

“The end-user defines what you're going to do. They need to be involved as proximately as possible, as early as possible. To think otherwise wouldn't make sense. Who are you trying to serve?”

“No project can proceed without end-user engagement, if you want a system that works.

There's often a disconnect between folks who use information systems as a tool (e.g., docs) and folks who use information systems for decision making (e.g., Ministry, region). They need to understand each other and how they serve a common cause.”

“End-user engagement is absolutely crucial to success. This is a business process change and therefore end-users have to have a large influence on end-product outcomes. Having end users inform the process will lead to better solution. And buy in and commitment occurs with involvement.”

What are the characteristics or factors that contribute to effective end-user engagement?

“Front end communications. Letting end-users influence the process, and keeping them regularly in the loop. Trust builds up with end-user involvement in a meaningful way. You need to be careful that governments do not get out ahead of end-users; otherwise resistance will build. You need doctors who are supported/respected by doctors (a peer to peer world).”

“You need early and meaningful engagement, good project managers, and short-term wins. End-users have to be involved from day one. You have to build an RFP together as opposed to the normal government process of going away to develop the RFP without end-user involvement.”

“You need a common agenda, a clear process, medical association involvement, and a good cross-section of representation from the physician community - you need balanced, seasoned physicians, and you need new blood, not the same old gang.”

"It must be an open and transparent process, with the right people involved with the right attitude. There must be a willingness to listen, and there must be feedback on what is happening."

"The individuals involved need big picture outlooks. They have to focus on who ultimately benefits - the patients. The people involved have to be objective, team players, creative, and good communicators. They have to be the right people with the right accountability."

"All issues and all concerns need to be on the table and acknowledged. There needs to be meaningful engagement and consultation. There needs to be constant communications. You need to keep repeating the fundamental messages. A shared sense of ownership needs to be achieved."

What is actually happening (in end-user engagement)?

"Nationally, there is no effort, and no trust."

"We were two years into the EMR project before there was any end-user involvement."

"To date there is no coordinated strategy to involve practicing physicians. The government, at some levels, is actively discouraging contact/engagement. The province is not focused on the service end of equation. And there's a huge disconnect between government and the association. But there was a recent, first positive step with a joint government/association workshop."

"Locally, we are doing the best we can through developing working relationships that foster trust. These relationships are marked by

openness, collaboration and a common commitment to improving the delivery of healthcare in this province. The province still needs to develop and share a comprehensive healthcare information and communications technology strategy so we all have an opportunity to align ourselves. Nationally, the scene is not as clear. I think we still lack leadership in developing a national engagement strategy at the physician level."

"It's a bell curve situation: 25% of projects are being done really well; 50% are so-so; and, 25% are being done poorly."

"Nationally, we've failed. There is no strategic plan for end-user engagement, no plan to systematically engage physicians. There has been sporadic involvement of leadership organizations, and topic-specific consultations. Some provinces have totally ignored the need to engage end-users - they don't want to and haven't put resources into it."

"It's getting better now. Overall, I'd give it a 5 or 6 out of 10. Before it was a 2 out of 10. The problem is part government and part provider groups."

"There is no consistent progress. There are pockets of progress in B.C. Ontario, Alberta, and Nova Scotia."

"This is still not well done or consistently done across the country. We're making a slow transition from not considering it at all to paying lip service to small smatterings of engagement. It's gradually being taken into consideration due to the lack of success of doing it any other way. There's some good stuff with doctors in Alberta."



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