

The Case for Collaboration in Health Infostructure Developments

Can We Deliver on the Promise IT Holds?

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ABSTRACT

At the outset of its health reforms in 1992, Saskatchewan identified health information and technology as a key enabler for health-system change. Collaboration with the new health districts led to a provincial health IT architecture and development of an arms-length agency, the Saskatchewan Health Information Network (SHIN) to operationalize this vision. Drawing from experience in Saskatchewan, this article explores both the benefits and challenges of collaboration at a time when planning and investment through a new pan-Canadian approach to health infostructure holds out so much promise and opportunity for health informatics in our country.

SASKATCHEWAN'S EXPERIENCE

As the birthplace of Medicare it is perhaps not too surprising that Saskatchewan was one of the first provinces to restructure the delivery of most of its health services on an integrated community-based model. Health reform, as it was known at the time, began in Saskatchewan in 1992. Over 450 healthcare institutions, including individual hospitals, special care homes and home care facilities, were replaced with 32 new health districts as an initial step in this process.

Saskatchewan Health, in early planning for these sweeping changes to our health system, recognized that health information and the information technologies would play an important supporting role in enabling the new vision for health in the province to become a reality.

Saskatchewan Health began developing a forward-looking IT architecture in 1993, working closely with representatives of the new health districts and the Saskatchewan Association of Health Organizations. Through a highly collaborative approach, the districts embraced the need for a new approach to IT planning through the architecture process. *The approach was innovative because it engaged program planners and service-delivery staff at all levels in rethinking service-delivery processes and information needs in a client-centred and integrated manner.*

Significant changes in health services delivery systems do not occur overnight, as those of us who have worked in the health industry appreciate. It was important that IT support the health districts' own program planning processes so that information technology could foster changes rather than cause front-line health practitioners to adopt new technologies without corresponding program benefits.

By the mid 1990s the provincial health system IT architecture was complete and it was apparent to all stakeholders involved that a collaborative approach was essential to not just planning, but indeed to building and operating many of its elements on an ongoing basis. Accordingly, a new crown corporation – Saskatchewan Health Information Network (SHIN) – was agreed upon as being the best vehicle for operationalizing the IT architecture. SHIN was launched in August 1997 with a \$40 million start-up investment from the province and with its main objective (development of a province-wide electronic health record) consistent with the provincial IT architecture that had evolved through three years of cooperative development. As a corporate entity, SHIN has the needed flexibility to enter into financial arrangements and partnerships, and is governed by a board represented by health districts, health professionals, First Nations representatives, consumers and the provincial government.

SHIN has just completed its fourth year of operation. In my role as co-chair of the Advisory Committee (to the federal/provincial/territorial deputy ministers of health) on

Health Infostructure, I have often reflected on many of the parallels now beginning to occur at the national level. Over the past year, for example, provinces and territories have actively collaborated on the need for a common IT vision: the Advisory Committee on Health Infostructure's *Blueprint and Tactical Plan* (Health Canada, 2000). This led to last fall's announcement that \$500 million would be invested in health infostructure through a new corporation (Canada Health Infoway Inc.).

So what have we learned in Saskatchewan through SHIN's development that might be instructive as we move down the new path of pan-Canadian collaboration on health infostructure? After all, SHIN, like most significant federal, provincial or territorial health infostructure initiatives, faced challenges in the early stages of its development. SHIN has now successfully completed its initial \$40 million start-up phases and is receiving an annual allocation of funds from the province for both operating costs and new investment. This year, SHIN has a strategic and pragmatic set of initiatives (www.shin.sk.ca) that build upon the strong collaborative links that have been developed with healthcare stakeholders, including health districts, professional groups, the Saskatchewan Medical Association, Saskatchewan Health and members of the Western Health Information Collaborative.

WHAT HAVE WE LEARNED?

There are five main ideas I would like to share from our experience in Saskatchewan, as they have relevance to the important pan-Canadian health infostructure developments we are about to embark on in Canada.

1. The Importance of Common Vision

As Bill Pascal observed in *ElectronicHealthcare* (Vol. 1, No. 1), "success will hinge on collaboration, risk management and benefit sharing among all stakeholders" (Pascal 2001, pg.21). As provinces, territories, health regions or individual service providers, we each face many priorities and opportunities for IT investment. Hence, a prerequisite for working together is that we share a common vision for how IT

investments can support improved health and health services in the future. While the concept of sharing investments and risks and benefits is attractive intellectually, a common and compelling vision for the future is needed if we are to successfully align our local IT initiatives and benefit from collaborative work.

2. Develop a Continuing Stream of Visible Results Leveraging Early Infrastructure Investments

While having a common vision is important, it is insufficient in itself. Developing a health IT infostructure is a **long-term** commitment; it is complex technically and is particularly challenging in the healthcare environment where results tend to be more qualitative than quantitative. Often we are tempted to focus so much on the future vision that we fail to recognize that you “can’t get there from here.” For example, achieving the long-term goal of electronic health records will require that we first have the necessary computer infrastructure and clinic feeder systems in place. Given the continuing financial pressures on our healthcare system, investments in information technology must compete against other priorities, including the need for new diagnostic equipment, new drugs and increasing costs due to shortages of specialized healthcare staff. In this environment, we must address current program priorities and demonstrate early and visible results through systems solutions that also strategically move the infostructure stakes forward.

3. Be Opportunistic — Seek Ways to Help Individual Stakeholders Address Their IT Gaps

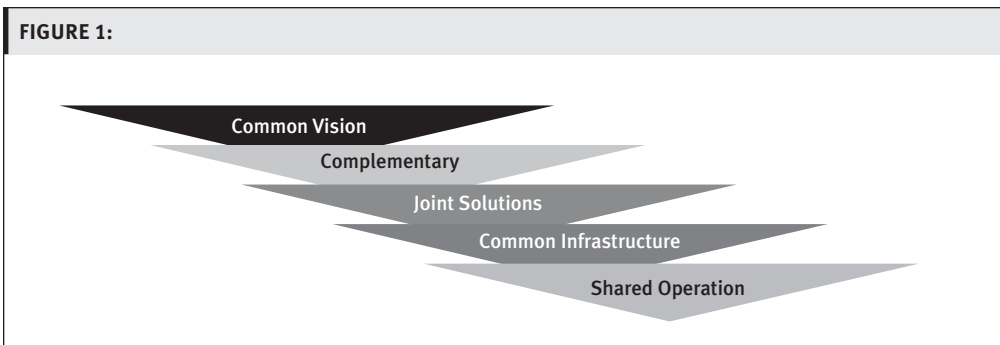
While we may at times be discouraged by the lack of willingness of health professionals to adopt new information technologies, there are always special areas in which healthcare providers are ready to embrace new IT solutions. While there may be risks in diverting from the path, having a shared IT vision for the future makes it easier to respond to stakeholder priorities. This is assuming that the timing is right, and in a way that also can build

toward the longer-term infostructure objectives. As an example, in Saskatchewan the College of Physicians and Surgeons faced the prospect of replacing their registration system for physician licensing due to Year 2000 issues. While this project was not on the radar screen for SHIN in its electronic health record planning, Saskatchewan Health and SHIN seized the opportunity to assist the College in replacing its ageing system with a new solution. The new system implemented for the College has not only helped them carry out their licensing role with increased efficiency, the system will also be used by other provincial licensing bodies and will furnish data to the new Western Health Information Collaborative Provider Registry — a key element for provincial and even pan-Canadian infostructure.

4. Patiently Build Stakeholder Involvement and Support

While there is a small core of healthcare providers who are keen to use the latest in information technologies, IT developments in healthcare often are not of the “build it and they will come” variety. Busy healthcare providers need to see clearly that IT solutions will add value in real life clinical settings. Our experience here has been that when introducing information technology solutions in new settings, one can never underestimate the importance of education, user involvement and a series of smaller scale pilot projects, in which both the provider and the new technologies have both the necessary time and opportunity to adapt to one another.

Two examples from Saskatchewan’s experience may illustrate this point. In long-term care facilities across the province a new assessment tool (MDS 2.0) is being introduced. The MDS is a complex tool that provides a rich dataset for care planning, resource allocation, etc. Consequently it requires IT support, and SHIN has worked with health districts and front-line staff to evaluate a number of ways in which technology can support MDS implementation. *These technologies include central hosting of the software through an ASP model to reduce local infrastructure requirements, wireless*



devices and laptop computers to facilitate data collection at the bedside.

The second approach that SHIN and Saskatchewan Health have used very effectively is the building of ongoing relationships with health districts and major provider groups. For example, through a highly collaborative relationship with the Saskatchewan Medical Association, SHIN will provide technology support for several pilot projects with physicians' offices beginning this fall. These pilots will field test several new tools aimed at assisting physicians in their clinical practices. The pilots are expected to improve physicians' understanding of alternate ways that IT solutions could assist them. As well, SHIN will gain further insights into which IT solutions are most valuable to clinicians and will develop valuable experience in how they could be best integrated with longer-term IT developments at the provincial level.

5. Recognize that the Challenges are Too Broad to Tackle on Your Own

A number of major health information network initiatives, including SHIN, were introduced during the mid-1990s. Each of these initiatives was striving to be a leader in some aspects of health infostructure development. As these initiatives have progressed, most of us involved now better appreciate that developing a regional or provincial health infostructure to support an effective and higher quality health system is a major undertaking; it cannot proceed in isolation in our increasingly interconnected world. In Saskatchewan, active discussions and early stages of collaborative

information sharing with Alberta led to the development of the Western Health Information Collaborative with the endorsement of the western premiers. As one can discern from the Western Health Information Collaborative website (www.whic.org), the four western provinces and the three territories have openly shared their plans and experiences leading to an active array of projects. Similarly, collaboration among the Maritime provinces has led to the establishment of Health Information Atlantic. What is also apparent is that collaboration can occur at various levels (regionally, provincially and inter-provincially). Collaboration often progresses from the early stages of information sharing through to collaborative pilots and even common applications, such as the Western Health Information Collaborative Provider Registry. A request for proposal was just issued for a multi-jurisdiction systems solution. The above diagram (Figure 1), adapted from the Western Health Information Collaborative, illustrates the different levels through which collaboration can develop and progress over time as relationships develop between those involved and after some initial successes.

CHALLENGES AND OPPORTUNITIES OF COLLABORATION

Our experiences in Saskatchewan are not unique; I hear of many similar examples when I converse with IT leaders in the health sector across Canada. One common thread through all five themes highlighted above is collaboration. On a personal level, this has become particularly poignant over the past year

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through the opportunity to work with other colleagues through forums such as the Western Health Information Collaborative, the Canadian Institute for Health Information Partnership and the Advisory Committee on Health Infostructure. As we look forward to an accelerated pace of IT development in the Canadian health sector with the new Canada Health Infoway Inc. coming online later this year, I would like to conclude by reviewing some of the challenges we face in working together. Collaboration is not easy, quick or inexpensive — especially at the outset. However, it will be key to our success in collectively unlocking the great promise that information technology holds as our health system moves into the 21st century.

Most of us have had experience in collaboration at the project level, but for the sake of discussion, I would offer the following observations on the challenges (and the opportunities) of collaboration.

Time and Resources

Most of our IT units are already over-taxed with the number of projects the business units we each serve would like us to undertake. In addition to a legacy of under-investment in IT across the health sector, how often does a new health program initiative not have a significant IT component? Collaboration requires an investment of scarce staff time in assessing opportunities, understanding the perspective of others, and developing the necessary relationships and levels of trust. It will be difficult to divert resources away from short-term priorities to collaborative project work. Our ability to deliver some “quick wins” and to effectively convince our staff and clients of the

longer-term benefits of working together will be key. Successful collaboration can indeed significantly expand the virtual base of skilled resources we can each draw upon at the local level.

Travel and Participation Costs

Many jurisdictions are already concerned about the costs and public perception associated with public sector staff travel. Similarly, the opportunity cost to individual jurisdictions that provide highly skilled staff to work on multi-jurisdictional projects and standards development could be a major impediment. In addition to being able to demonstrate the benefits of participation (i.e., knowledge gained, reduced IT investments by being able to share systems down the road, etc.) to senior decision-makers, we will need to find ways to reimburse those jurisdictions and organizations contributing disproportionate amounts of staffing for collaborative projects.

Trust, Understanding and Common Vision

While we are all fundamentally in the same business, each jurisdiction has approached health infostructure needs somewhat differently in terms of business priorities, technology and environments. Establishing a shared long-term vision of the end state is something that the Advisory Committee on Health Infostructure and its working groups are now just beginning to address. As individual players, each of us will need to embrace a common vision and be prepared to re-visit our IT strategies if we are to better align our efforts. This will require a good deal of common understanding of our business needs and technology environments, plus a high level of trust if we

are to ultimately depend on solutions that others may develop. This does not mean that we all have to be at “the same place at the same time” in terms of our IT implementations. It does mean that we need to have repeatable processes so that collaboration can occur between those who are ready to move forward (e.g., in a common systems solution or interface development), yet still involve other players who have a future interest at different levels of collaboration (e.g., at the information sharing or standards levels).

Private Sector Involvement

To date, as public sector organizations, we have had limited experience in engaging the private sector in anything but traditional vendor/licensor relationships. In a truly collaborative environment we need to find ways to more fully involve private sector resources in the planning as well as the execution stage of pan-Canadian health IT initiatives. The Canadian Institute for Health Information Partnership has succeeded in opening the door through the involvement of private sector experts in some of the more recent information standards developments. With Canadian systems and information technology suppliers in particular, we need to find ways to also engage experts in high-level system architecture planning and decision-making as well. Clearly ways can be found to do this that do not convey undue competitive advantage to private sector firms through open processes of collaboration.

Adaptability of Infostructure Solutions

Canada is a large and diverse country. While more difficult and complex, we need to design standardized solutions that are re-usable without being unduly rigid. This will place a premium on solutions that allow different systems to be readily integrated, that will support not only institutional but community-based programs, and that respect differences in perspectives between professional groups and population groups. Fortunately, there are promising new technologies such as XML, wireless communications, and the new version 3 of the HL7 standard — all of which promise

to make it easier to both adapt and interface systems solutions.

Funding for IT Investments

It will continue to be difficult to garner the need for investments in IT solutions, given the serious and immediate financial pressures the health system faces. Health system operating cost issues will continue to make it difficult to sustain increases in capital investment, especially given pressures for medical equipment and physical plant investments. Here, we are fortunate to have an initial commitment of \$500 million for health infostructure investment in addition to our ongoing IT funding. We have a great responsibility to deliver sufficient early and publicly visible results that are sufficiently compelling to assure continued IT capital investment flows into the future.

In conclusion, I am very excited about the opportunities we have in moving forward at all levels (regional, territorial, provincial and national) in building a health infostructure that will support improved health services into the future. A key ingredient in our collective success will, in the end, be our ability to work together. Healthcare is a people business, and the same is no less true for those of us who work in the IT field. While the challenges in working together in a collaborative way are not insignificant, I am confident, based on experiences over the past year, that we can do it. **e**

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SHIN website: www.shin.sk.ca

Check out the Internet’s portal
containing resumes of recently
laid off technology talent
www.hiretoptalent.com