The Times They Are A-Changing: What Worked and What We Learned in Deploying Ontario's Wait Time Information System

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Introduction

How many days would you be comfortable waiting if you needed cancer surgery? What would you do if someone, not as medically urgent, was able to receive an MRI or CT scan before you? Would you want to know if you could wait less time for treatment at another location or with another clinician? These are some of the dilemmas facing patients and our health system when dealing with the issue of wait times.

To address these pressing concerns, in the fall of 2004, Ontario launched its Wait Time Strategy. Two years later, Collins-Nakai et al. (2006) reported that Ontario had moved "from being a laggard to a leader" with respect to wait times. This article summarizes Ontario's work to date to improve access to care, including reviewing the need, action taken and the emerging results. Much can be learned and leveraged from the experiences described in this article and throughout this issue. They can serve as an important starting point for further discussion, improvement and action, for initiatives big and small, by all types of organizations and jurisdictions.

The Need

Wait times have long been top of mind for Canadians. We want to know that if and when we or our loved ones need care, it will be there. Canadians are increasingly anxious about growing wait lists, because we know that waiting too long for treatment can have negative consequences on our recovery and long-term health. While some waiting is unavoidable, such as the time required to confirm a diagnosis, overly lengthy waits can lead to deterioration of health, and in turn, increase demand for services in an already seemingly unsustainable healthcare system.

Under mounting public pressure, wait times rose to the top of the country's agenda in the fall of 2004 when the first ministers made access to quality care their first priority. Together, they agreed to focus on better management of wait times and on reducing waits that are longer than what is medically acceptable. Some retrospective statistics, such as the Fraser Institute's annual waiting list data (Walker et al. 2008), were available and a number of jurisdictions had already initiated steps to address wait times. The first ministers agreed to build on these efforts and committed to achieve meaningful reductions in wait times in five areas: cancer, cardiac, diagnostic imaging, joint replacements and sight restoration by March 31, 2007.

A reduction in wait times would not only lessen anxiety for Canadians, it could also alleviate pressure in other parts of the health system, which helps make the case for provin-

cial commitments and initiatives to address the issue. But while the desire and support to improve wait times no doubt existed, significant challenges lay in finding solutions that could lead to transformational improvements and that could be sustained to address the complexities in providing timely access to care. Real transformational change would require a literal "opening and emptying" to create the space for new solutions to emerge. This meant being able to step outside of the comfort zones that had a grip on our healthcare system, and separate from processes and patterns that were no longer useful to a system that was being compelled to evolve.

Wait Times in Ontario

Prior to 2004, Ontario was falling significantly behind in addressing the issue of access to care. Clinicians were managing patient wait lists on paper, in their own offices, without provincial or clinical standards, as these had yet to be established. Most hospitals were unaware of who was waiting for which service. System managers had no tangible data to identify provincial or regional trends and issues and, therefore, no means to incite improved performance. The provincial government had no objective insight into one of the most pressing public issues of the day. And the public had no reliable information to hold their government accountable for improvements.

In September 2004, with support from Premier Dalton McGuinty and the former Minister for Health and Long-Term Care, George Smitherman, the then Associate Deputy Minister for Health and Long-Term Care, Hugh MacLeod, led Ontario on an ambitious healthcare transformation agenda. The focus on improving access to care became an important component of a broad portfolio of initiatives to transform the province's health system. A Lead for Access to Services and Wait Times was quickly found in Dr. Alan Hudson and shortly thereafter, in November 2004, Ontario's Wait Time Strategy (hereafter "the strategy") was launched (Trypuc et al., 2006b).

The strategy initially focused on the time between a specialist's and patient's decision to treat, and the actual provision of treatment (referred to as Wait 2). Ontario's aim was to improve access to healthcare services by reducing wait times in five areas – cancer surgery, cardiac procedures, cataract surgery, hip and knee replacement surgery, and CT and MRI scans – by December 2006.

Early on, the wait time issue was seen as an information problem. Saulnier et al. (2004) and Webster (2004) reported that the view into wait time information was based on survey data that was inconsistent in most areas of care and not comparable across jurisdictions. There was a lack of reliable and timely information on which decisions around how to improve access to care could be made. This is where information management and information technology (IM/IT) would be able to play a critical role.

A solid IM/IT solution was viewed as fundamental to the success of the strategy, underpinning the way in which wait time data would be collected and reported. While Ontario began manually collecting wait time data using an interim tool, it committed to putting the necessary processes and systems in place to electronically capture and report on wait times and set the ambitious target to provide near real-time data to the public by June 2007.

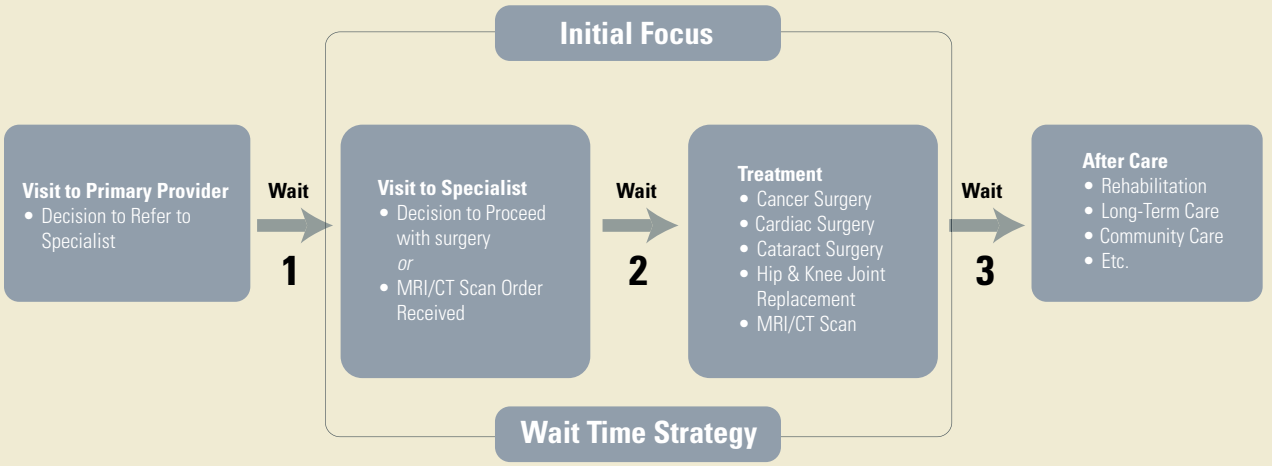
As planner and manager of the provincial cancer system, Cancer Care Ontario (CCO) had significant experience in provincial implementations. It was also authorized to provide information services to healthcare providers and to electronically share information. In addition, through its regional vice-presidents and cancer networks, the organization had well-established relationships with healthcare providers and strong stakeholder engagement and management skills. With this background, the MOHLTC appointed CCO's then Chief Information Officer, Sarah Kramer, to lead the development and execution of a Wait Time Information Strategy for the province. (Read more about CCO's role in leading the Wait Time Information Strategy in "Waiting for the Referee or Refereeing the Wait: CCO's Role in Hosting and Deploying the Wait Time Information System in Ontario" on page 20. Details on the Wait Time Information Strategy can be found in "Developing an Effective IM/IT Strategy" on page 16.)

The Wait Time Information Strategy was developed in four months, and less than two years later, the Wait Time Information System (WTIS) had been deployed and was being used in hospitals across the province. Based on this initial success, CCO's mandate was extended to expand the WTIS to capture procedures across all adult and pediatric surgical areas. As of March 2009, 86 hospitals were using the system, with data being captured by 3,300+ clinicians for more than 2.2 million surgical procedures and MRI/CT scans. The system is continuing to grow to include more of the continuum of care (see Figure 1). Functionality has already been piloted to capture the wait from the date a physician refers a patient to a specialist to the date the specialist and patient decide to proceed with surgery or an MRI/CT scan order is received (referred to as Wait 1). Under the province's Emergency Room/Alternate Level of Care (ALC) strategy, the WTIS is also being leveraged to measure the wait from the date someone in an acute care facility is designated to an ALC to the date of their discharge to an ALC (referred to as Wait 3).

The WTIS Challenge

While benefiting from the learnings of other wait time initiatives such as Ontario's Cardiac Care Network and Saskatchewan's Surgical Care Network, the development and deployment of the WTIS was a massive undertaking without precedence in the province of Ontario. (For additional information on

Figure 1. Wait times identified and defined by Ontario's Wait Time Strategy



Saskatchewan's Surgical Care Network, see Glynn et al. 2002, 2003.) To get started, the Wait Time Information Strategy Lead assembled a team of leaders with proven delivery and change management experience. This leadership team, along with resources from CCO and vendors, whose services were procured through competitive bidding processes, formed the WTIS project team. Together, they worked with hospitals and clinicians across the province to achieve the Wait Time Information Strategy's ambitious goals.

The main challenges in developing and deploying the WTIS were no different than other complex and broad information initiatives: time, scope and complexity. As a single electronic provincial system, the WTIS needed to be linked to all hospitals participating in the strategy. The application also needed to be available online so that the thousands of participating clinicians could access the system directly, thereby increasing the accuracy and timeliness of wait time data. And once entered, wait time data needed to be available at multiple levels and publicly reported to ensure transparency and accessibility for patients and providers. All of this needed to be completed so that 100% of procedures in the initial five priority areas of the province's strategy could be captured and reported in near real-time by the ambitious June 2007 target date.

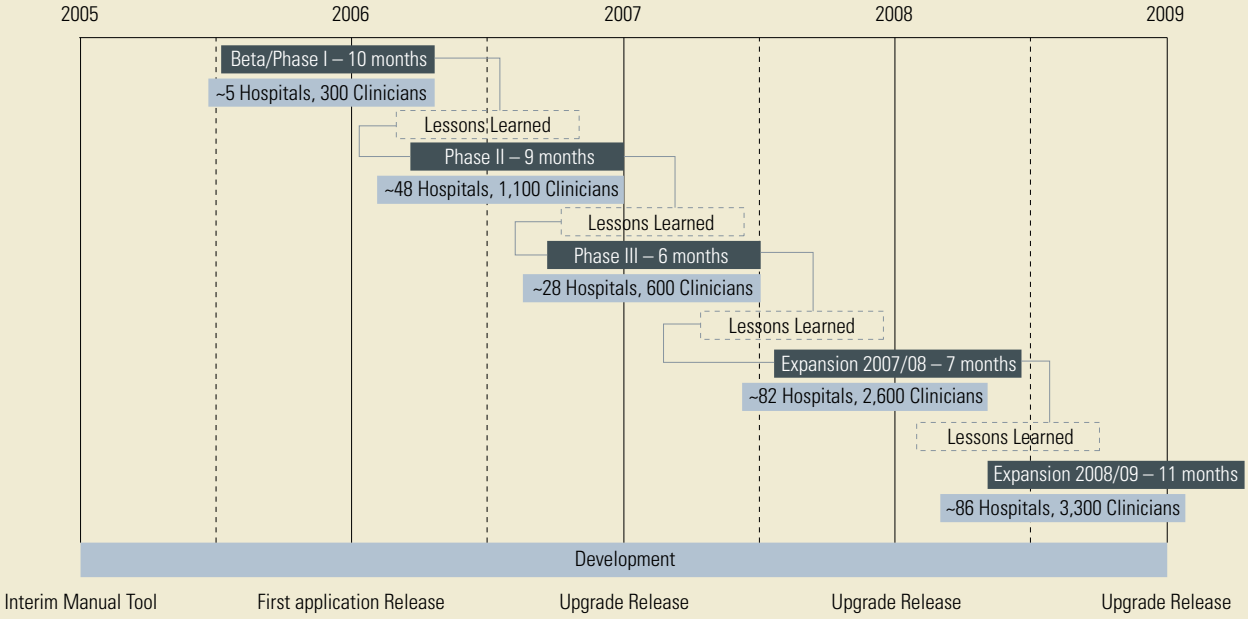
In addition to the original project scope, as the WTIS was developed, the need for a repository of patient demographic information was identified. As a result, CCO was tasked with deploying a second province-wide system, Ontario's Client Registry/Enterprise Master Patient Index (EMPI), which would store and link patient information. Under an aggressive timeline (see Figure 2), the deployment schedule for the WTIS and Client Registry/EMPI was viewed by some e-Health leaders as unattainable. The WTIS project team, however, saw this as an opportunity to deploy a critical component of Ontario's infostructure: the Client Registry/EMPI would be a cornerstone of the future electronic health record and the WTIS would be the first clinical application to use it.

The two systems were deployed concurrently and allowed hospitals to collect and report on wait time information in an accurate and timely manner. Following successful deployment, the WTIS was then expanded to capture all adult and pediatric surgical procedures, and Ontario's Client Registry/EMPI was available to be leveraged for and linked to other provincial initiatives.

Adding to the complexity for the WTIS was that the initiative was being deployed in the midst of the introduction of a new regional health delivery model in Ontario. The province was the most recent to establish such a model, in the form of Local Health Integration Networks (LHINs). As not-for-profit organizations governed by boards of directors, the main role of the LHINs would be to plan, fund and integrate healthcare services on a regional basis. These services could include hospitals, community care access centres, community support services, long-term care, mental health and addiction services and community health centres. LHINs were still establishing their specific mandates as a wide range of projects, including the WTIS, were initiated. Consequently, the WTIS project found itself competing for priority with its stakeholders at the hospitals, LHIN and provincial levels.

Having witnessed a history of mixed e-Health success in the province, many healthcare providers were skeptical of government projects and promises. Ontario had few provincial IM/IT projects to learn from and, as such, providers were uncertain about the WTIS' effectiveness and longevity. Funding and resourcing for the provincial program were also of particular concern for

Figure 2. Timeline for developing and deploying the WTIS



hospitals, which were under increasing financial pressure. In addition, some hospitals had already initiated plans for, or had in place, independent systems to monitor wait times.

The Action Taken

Transformational change required everyone to come on board to work towards a common vision with new shared values. This would take both courage and discipline: Courage to move out of the past "mindset and behaviour circle" that had become a comfort zone for the healthcare system – the very comfort zone that led to the system becoming complacent and cynical about transformation; and discipline to maintain focus on the shared vision, to resist knee jerk reactions and to stay the course.

Creating a Self-Organizing Process

If momentum and engagement in a far-reaching and comprehensive transformation initiative is to be generated, policy, strategy and execution often need to run in parallel. Recognizing this, the Access to Services and Wait Times Lead decided to forego the traditional route of waiting for all program policies and strategies to be developed, and instead got the initiative off the ground quickly by leveraging and capitalizing on the existing public pressure, industry interest and government support for improving access to care.

A guiding principle in the success of the strategy was to allow strategic solutions to emerge from within the healthcare system itself. This acknowledged that the system is far too complex for government to solve the issue of timely access to care on its own, and that the best way to execute the strategy would be to have the province provide leadership and support while giving local and regional experts the opportunity to determine a system solution.

Working with stakeholders in the MOHLTC, LHINs and hospitals, as well as partners such as Canada Health Infoway, the Canadian Institute for Health Informatics, the Institute for Clinical and Evaluative Sciences and Smart Systems for Health Agency (now part of e-Health Ontario), CCO had access to a wide range of e-Health/IM/IT experts and knowledge. The ability to secure expertise from within the e-Health industry, as well as from vendors and the private sector, played a significant role in delivering the WTIS successfully, in securing clinician engagement and in the emerging improvements in access to care.

Through this industry-led approach, government leaders could focus their attention on political challenges and alignment of strategies, with the field having the freedom, authority and accountability to come up with ideas on how to tackle the wait time issue. This allowed decisions to be made quickly and solutions to emerge from those who would be most impacted by the change.

New Ways of Engaging and Collaborating

To understand all facets of providing access to care and to open up all possibilities for solutions, it was important to engage individuals in a different manner of thinking. Conversations

needed to revolve around broader system and process views. This ensured that decisions and actions were focused on the bigger picture, allowing individuals across the continuum of care to be brought into the discussion and work together to ultimately come up with solutions that made sense for all.

Without any previous standardized wait time data to go by, there was no way of knowing what the wait time picture would be once data started coming in through the WTIS. Still, the commitment to publicly report wait times by LHIN and hospitals demonstrated the willingness of all stakeholders to face the same facts. With WTIS reports showing unfavourable results in many areas of the system, the MOHLTC and healthcare providers quickly set out to prove that, by supporting each other, the situation could be improved. The transparency created through the public reporting process also helped establish a sense of trust among stakeholders, who began collaborating on systemic changes that would help them stay the course and realize long-term benefits.

The WTIS project also engaged "champions" at each level of the healthcare system to draw support for the program among their peers. The passion, leadership and participation of these champions helped attract those "on the fence" about the initiative and eventually fuelled momentum that would overwhelm the nay-sayers.

The use of Clinical Expert Panels was particularly important and effective in driving adoption of the program and the WTIS among clinicians. These panels represented the clinician community and included clinicians, administrators, researchers and other recognized healthcare leaders who saw the need for change (Trypuc et al., 2006c.) Through the voluntary efforts of these champions, adoption efforts began well before the system was even delivered, soliciting clinical input throughout the process as a way to involve clinicians in the project. The panels continued to evolve as the WTIS expanded to address the needs and views of the diverse clinician community.

Generating Momentum

In building momentum for the WTIS, transparency, accountability and communications all became critical in ensuring stakeholders at all levels understood and were prepared to influence change.

The government's commitment to publicly report wait times on its website (www.ontariowaittimes.com) was significant in establishing transparency – between healthcare providers and the public, and between government and hospitals and clinicians. For the first time, the public and providers could compare wait times for key procedures by hospital across the province and within regions. Reporting of wait time data was another example of the courage it would take on the part of both hospitals and the government, who were willing to face the consequences of openly sharing long and widely disparate wait times.

Hospital Accountability Agreements

An important part of Ontario's Wait Time Strategy is the Hospital Accountability Agreement. The government puts forward funding for hospitals participating in the Wait Time Strategy. In return, hospitals are held accountable for maintaining a base volume of cases through their budgets, for performing additional cases through incremental wait time funding, and for managing the waits for *all* cases (Trypuc et al., 2006a). Hospitals implement and maintain the provincial WTIS and Client Registry/EMPI and provide wait time data through the WTIS. In increasing surgical capacity, the additional wait time cases must not negatively affect volumes in other service areas or any other hospital services. Each hospital's performance is audited regularly, and if conditions are not met, funding is reclaimed.

Initially faced with public concern expressed through the media, hospital leaders eventually came to appreciate the introduction of the public reporting process, which now gave them the data that had been lacking to effect necessary changes. Other efforts to ensure transparency throughout the project were also made, including tools and tactics to regularly share project status with all stakeholders to help keep momentum going and head off any potential risks and problems early.

Prior to the strategy, it was unclear where the accountability rested for ensuring patients had appropriate access to care. The strategy used accountability as a catalyst for performance improvements (more details provided in "Achieving Accountability" on page 22) and put the onus on hospital boards to manage access to services in their organizations. The commitment, however, to achieve the challenging yet attainable goals set by the strategy cascaded through and was instilled at all levels of the healthcare system – from the MOHLTC to hospital CEOs and operating units, with hospital CIO's at first and eventually LHIN e-Health Leads eventually becoming involved as part of the WTIS Project Steering Committee.

Accountability was also built into the government's investment in the WTIS project in the form of Hospital Accountability Agreements. Hospitals were expected to meet a series of conditions to obtain funding for wait time cases, including implementing and using the WTIS. In meeting these conditions, hospitals were able to increase surgical capacity for selected services to unprecedented levels. Over time, levels of accountability grew to include factors for productivity, such as ensuring WTIS data was in near real-time by having cases entered within two business days.

The third critical component in generating momentum for the WTIS was communications. From the start of the project, communication vehicles and channels were established to provide regular updates to all stakeholders on progress being

made and challenges to come. Ongoing communications helped engage and encourage stakeholders – particularly those in the field – to share input with the project team and kept attention on the strategy and the WTIS. The communications approach is further discussed in "An Integrated Approach to Stakeholder Engagement" on page 62.

Gaining Traction and Delivering Early Results

While timelines set for the WTIS project were extremely aggressive, there is no substitute for urgency as a driver for making change happen. With public commitments made by the MOHTLC, project deadlines and deliverables were firm. Sophisticated risk management techniques would be essential to keep the ambitious project on course and ensure all milestones could be met. Wait Time Strategy and WTIS project leaders were also conscious about factoring in the provincial election cycle, which increased pressure to demonstrate results before the October 2007 vote.

While self-organizing processes offer target stakeholders the advantage of shaping their own solutions, there is a risk of introducing competing demands. With multiple perspectives and needs, project teams faced with this scenario run the risk of trying to "boil the ocean." For the WTIS project, a core set of goals had been clearly articulated at the outset. The challenge for the project team was to be extremely disciplined about staying focused on these priorities, while also responding to valuable ideas and issues that surfaced through the collaborative process among healthcare experts.

This focus enabled the project to deliver results quickly and allowed the WTIS to gain strong traction in the field. The reporting of timely wait time information, which also highlighted early signs of improvements in wait times, demonstrated "quick wins" and caught the attention of cautious and resistant stakeholders. The project team had also established a strong process for managing change requests and identifying risks early that allowed the team to quickly course correct. This ensured the project did not lose valuable momentum and proved the responsiveness of the project and system to stakeholders.

Quick wins began with Beta/Phase I of the WTIS project, where deployment was tested in five hospitals. The Beta/Phase I experience proved extremely valuable in pointing out areas where improvements needed to be made to ensure subsequent phases ran smoother. Importantly, it also demonstrated that the ambitious project goals were indeed achievable, helped create new champions for the system, and highlighted the critical need for a cohesive programmatic approach to deployment (further explained in "Taking it to the Streets: Delivering on Deployment" on page 30).

The Emerging Results

In a short period of time, change is evident on a number of fronts. First and foremost, wait times in Ontario are decreasing with results in the initial five areas of care, showing that patients are receiving treatment faster.

- Not only are wait times down in these areas, but the number of surgeries and MRI/CT scans being performed are up. Hospitals have been able to use the wait time information that is now available to find efficiencies to get more people treated. LHINs and the MOHLTC have also been able to use the information to make better decisions around resource allocation and system planning.

Analysis of wait time data (from August/September 2005 to February 2009) shows that Ontarians waited less time between the decision to treat and the actual treatment using the 90th percentile as the measure of wait time (i.e., the point at which 90% of patients received their treatment). More importantly, wait times are also moving closer to the provincial access targets developed by the Clinical Expert Panels. Figure 3 shows the impact to procedures, using fiscal 2003–2004 as the baseline year.

Second, the strategy and its application to the WTIS have provided data that allow the system to focus on accountability and performance, which has begun to change the way healthcare is being delivered.

- All clinicians participating in the strategy are using the same standards to assess how quickly a patient should receive treatment for an MRI/CT scan. With a consistent methodology, clinicians across the province – in urban and rural communities – are guided to prioritize patients in the same way, supporting equal access to care.
- One province-wide system is now being used to capture wait time data electronically from all clinician offices. As of March 2009 the WTIS is capturing wait time data from 86 hospitals, and is being used by more than 3,300 clinicians to capture more than 2.2 million procedures. The WTIS has enabled consistent reporting of wait time data so that direct comparisons can be made and benchmarks set. The Ontario government has already used the data to set wait time guarantees, beginning with cataract surgery in 2009, which will ensure patients have access to this procedure within the 26-week access target.
- With few exceptions, all hospitals are meeting the terms of their accountability agreements. Based on regular audits, hospitals are maintaining the base number of procedures, performing additional funded volumes, submitting required wait time information to the WTIS and meeting efficiency conditions.
- Public reporting of wait time data through the province's website makes it easy to identify the hospitals and LHINs with the shortest and the longest wait times in all service areas.

Figure 3. The WTIS impact on the number of procedures performed and the change in wait times for procedures

Procedure	Impact on # of Procedures Performed	Impact on Procedure Wait Time (Aug/Sept 2005 – Feb 2009)	Meeting Access Target
Cancer Surgery	13% increase	22.2% decrease (18 days less)	Meeting 84-day target
Cardiac Procedures	35% increase	15.9% increase (8 days more)	Meeting 182-day target
Cataract Surgery	32% increase	65.6% decrease (204 days less)	Meeting 182-day target
Hip and Knee Replacement Surgery	51% increase	56.4% decrease (198 days less) in hip replacement wait times 58.2% decrease (256 days less) in knee replacement wait times	Hip replacement surgery meeting the 182-day target Trends indicate that the 182-day target for knee replacement will be met in the near future
CT and MRI scans	12% increase for CT scans 87% increase for MRI scans	56.8% decrease (14 days less) in CT scan wait times 11.7% decrease (46 days less) in MRI scan wait times	CT and MRI scans are not yet meeting the 28-day target

CT = computed tomography; MRI = magnetic resonance imaging

While there is still work to do to raise awareness of this information and its use, its availability means that Ontarians are now empowered to engage in discussions with their providers about choosing where to get care (Trypuc et al., 2007).

- Public interest in Ontario's wait time information appears to be high. From the time the provincial wait times website was launched in October 2005, to February 2009, the website has had approximately 10 million hits and receives an average of 8,000+ hits a day.
- While it is still early to measure objectively or quantitatively, all indications and anecdotal evidence suggest that wait time data is being used to increase efficiency and effectiveness of clinical practices.

Prior to the WTIS, reliable wait time data were largely unavailable. Where they did exist, they were captured using manual and time-consuming processes. The WTIS enables clinicians and their office staff to capture data electronically through one system, saving time, increasing accuracy of data and allowing active management of wait lists. In addition, with near real-time data, hospitals and clinicians can ensure patients with the highest priority are cared for first. Today, 100% of wait time funded cases are being captured in the WTIS.

- Anecdotal information also suggests that data are being used for performance management, resource allocation and planning within the healthcare system. For example, some hospitals have begun to block periods of OR time to get through wait lists for specific procedures. Others are reviewing wait time information with their patients so that they can decide how to best proceed with treatment.

Third, the deployment of the WTIS is influencing the way other healthcare information initiatives are designed and executed.

- The WTIS experience has benefited several other provincial measuring and reporting systems by demonstrating what can be delivered and achieved through IM/IT. The Critical Care Information System, Emergency Department Reporting System, Surgical Efficiency Targets Program and Peri-Operative Improvement Expert Coaching Teams have leveraged the strategic and tactical IM/IT approaches used for the WTIS to quickly secure support to develop and deploy their initiatives (MOHLTC 2009).
- Through the WTIS project, more than 500 clinician offices across the province were set up with new Internet connections. With more clinicians now connected, hospitals and LHINs have been able to leverage this access for other IM/IT initiatives aimed at improving clinical practice.
- The WTIS project has established a strong methodology for provincial IM/IT programs. The project's infrastructure for governance, performance management, stakeholder management and execution are being leveraged for other deployments. Programs such as Colon Cancer Check are also applying lessons learned through the WTIS approach in the execution of their provincial IM/IT initiatives.

- In the WTIS project, two provincial systems were concurrently implemented to track wait times and retrieve and link patient demographic information. (See details on the development of the WTIS in "Building a Sustainable System: The Making of the WTIS" on page 43.) Together, the two systems gave Ontario the unique ability to collect data in near real-time, directly from clinicians' offices. As the WTIS expands, it will provide more Ontarians with better access to care.

Conclusion

For the first time in Ontario, wait time data and the improvements they support are transparent to patients, clinicians and healthcare planners. The accessibility, standardization and public reporting of this data has created the accountability among healthcare providers to reduce waits and improve access to care. (Performance management as a result of the WTIS is discussed in "Turning Data into Meaningful Information" on page 73.) For patients, public wait time information empowers them to be more active in managing their own care. For clinicians, manual processes are reduced and better data means they can now make the case for increased capacity to manage wait lists more effectively. For hospitals and health system planners, better information and analysis allows better decisions to be made around managing operating room times and resource allocation to reduce waits. And for the public, better information provides the means to hold decision-makers accountable for improving access to care.

While there are many lessons to be learned from the WTIS experience, transformation success cannot be reproduced by using a recipe-book approach. Transformation is based on attitude, understanding and behaviour. It requires a common vision, shared values, and the discipline and courage of everyone to separate from old patterns and processes and create new ones. Through the use of industry champions and other strategies described here, the WTIS project was able to engage stakeholders in a new conversation and move them and the government out of comfort zones. In the end, real transformation requires everyone to be on board with a sense of pride in doing the right thing, a clarity of purpose, alignment of effort, credibility of leadership and a clear accountability for performance.

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