



# Why Paper-Based Surgical Wait Time Systems Often Fail

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Provincial ministries of health, health authorities, hospitals, politicians and healthcare leadership across Canada have, for years, been under enormous pressure to reduce surgical wait times. In order to first understand and quantify the magnitude of the problem, many provinces established wait time registries.



Because the obligation to report surgical cases to these provincial registries was seen as providing no immediate benefit to the individuals tasked with the burden of reporting, the information provided to the registries was often incomplete, inaccurate, late or simply not provided at all. This resulted in the failure of the registries to provide an accurate and timely picture of the state of wait times. A home-grown Canadian technology is being deployed in many parts of the country to address these problems, not as a burden to the stakeholders but instead as a net benefit.

Canadian provinces fall into three general categories: those that have established a surgical wait time registry; those that are in the process of establishing their registry; and finally, provinces that have yet to do so. In its most basic form, a surgical wait time registry is simply a database listing each surgical case in a province, using time stamps to track key events related to the surgical procedure.

With some variability, wait times are generally divided into “Wait 1” and “Wait 2”. Wait 1 is the time from when a patient is referred (perhaps from a family physician) to the time the patient is seen by the specialist. Wait 2 is the time from when the specialist and patient decide to proceed to surgery (referred to as the “date of decision to treat”) to the actual date of the procedure. The emphasis on tracking wait times in the provincial registries has initially focused on Wait 2, or the time from decision to treat to the date of the surgical procedure.

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In 2012, Ontario was one of the first provinces to expand its wait time system to capture Wait 1 in addition to Wait 2. Other provinces will likely move to capture Wait 1 in the near future. Only with accurate Wait 1 and Wait 2 data can the patient wait time and patient experience be fully understood and quantified.

If the provincial wait list registry is not maintained with accurate up-to-date information on current cases, its use to physicians, surgical management and patients is doubtful. One health authority acknowledges this challenge on its public Web site.

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The challenge for those tasked with establishing and managing provincial wait time registries has been determining how to collect and get the necessary case data submitted to the central registry. Different provinces have taken different approaches to this problem, with varying degrees of success. With the initial focus on tracking Wait 2 times, it has been necessary to find a way to capture the moment of decision to treat, which takes place in the physician offices or clinics.

One approach has been to mandate that physicians complete a paper form and submit the form to the hospital, which in turn submits the data to the provincial registry. Taking time in a busy physician’s day to complete paperwork for submission to the registry, which has no immediate benefit to either the individual patient or the physician, is seen by many physicians as a burden. In at least one province, the burden of completing and submitting this paper form was recognized by the province, which compensated physicians financially for each form submitted.

This proved to be too expensive and was eventually discontinued. The expense and burden of a paper-based system extends to the hospitals, which have responsibility for entering the data from the physician forms into a computer system. Under this system, hospitals have had to add expensive clerical staff and costs to their operating budgets during a time of financial restraint. Some provinces using this approach actually ‘start the clock’ on a patient’s wait time only once the form has been received by fax or mail at the hospital and entered into the computer system.

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“Once a surgeon sees a patient, their office submits a booking request to... Some are submitted with no date and some have the surgery date written on them. The majority of elective bookings come in without a date.”

This can be days or even weeks after the patient actually began the wait for surgery. One province describes this process for patients:

“...surgical wait time begins when you and your surgeon determine you need surgery and the booking request is received at the hospital. The wait time ends when your surgery is performed.”

Since there is little or no incentive for the surgical office to submit the booking request to the hospital months in advance of the surgery, it is reported that some physician offices frequently withhold the booking request until such time as the surgeon is ready to actually book the patient for the procedure.

The problems with paper-based data-collection systems for wait time registries are well known among those responsible for managing these systems and for delivering care. The data submitted is for a single point in time and is frequently not updated as case information changes. As a result, managers have no accurate, real-time information on those waiting, as evidenced by the following text appearing on a health authority Web site:

“Once a surgeon sees a patient, their office submits a booking request to... Some are submitted with no date and some have the surgery date written on them. The majority of elective bookings come in without a date.”

Another approach to collecting case data, which is essentially an extension of the first, has been to provide a Web site that physicians can log into and enter the necessary data for each case. Much of the same information must also be completed in the hospital paper booking package and submitted to the hospital. Again this approach is time-consuming, requires double entry and has no net benefit to physician offices.

A third approach that has been used is completely electronic. The physicians are given access to application software that enables them to enter patient case information and to submit their surgical bookings to the hospital booking offices. At the same time, the application sends wait time data electronically from the physicians' offices directly to the provincial wait time registry, opening the case. Once the surgical procedure is completed, the hospital computer system electronically reports the case closure. This approach is much less burdensome and less expensive than manual reporting.





This all-electronic approach has the most potential to be a net benefit to physicians, hospitals, wait time registries and patients. The idea is simple. Give the physicians and the hospitals access to a software system that will make managing their surgical patients easier; allow the physicians to 'eBook' their cases; and replace manual wait time reporting with automated reporting to the provincial registries. In other words, find a winning solution for all of the stakeholders, and compliance with wait time reporting will take care of itself.

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The Central East Local Health Integration Network (CE LHIN) in Ontario covers a large population of 1.4 million Canadians living in Scarborough, Ajax, Oshawa, Cobourg, Lindsay, Peterborough, Campbellford and other communities. While trying to understand wait times in the region, LHIN leadership was made aware that the seven hospitals (at 11 sites) within the LHIN did not have a standard electronic tool for reporting and tracking surgical wait times. The LHIN and the individual hospitals also identified other aspects of surgical case management that were inefficient and needed addressing. These included:

1. How cases were being submitted from physician offices down to hospital booking offices. As with many hospitals across the country, physician offices must complete and send by fax or mail multiple pages and forms in order to book each patient for surgery. While most industries have abandoned the fax machine, healthcare, and in this case specifically the booking of patients, still relies heavily on the use of fax and paper. On the receiving end, the hospital booking clerks were dealing with large volumes of faxes and documents and having to manually enter all this information into hospital computer systems.
2. How cases were being monitored and tracked as patients waited for surgery, commonly referred to as "wait list management". Each physician's office in the LHIN was left on its own to manage its list of patients waiting for surgery. They were not provided with any tools to help ensure patients received surgery based on their individual "urgency score" in order to meet provincial targets.

*The Novari Access to Care physician office wait list tool*

**“You cannot manage what you cannot measure.”**

Paul Barker, Senior Director, Performance Contracts and Allocations, Central East LHIN

Some provincial funding for hospitals is tied to wait times performance and meeting provincial wait times targets, so the impact on hospitals can be significant. Furthermore, compliance with physician offices reporting patient unavailability for surgery, known in some provinces as Dates Affecting Readiness to Treat (DARTs), was less than optimal. Failure to report these dates artificially decreases wait times performance.

3. The problem of the hospitals not having easy, real-time access to a list of all the patients queuing for surgery in the individual physician offices. The hospitals and the LHIN share responsibility for allocating sufficient resources to meet the volume of surgical cases in the pipeline, but did not have this information at their finger tips in real time.
4. The reporting of wait times at most of the hospitals in the CE LHIN required that physician offices log into a provincial wait time Web site and manually complete the necessary information. This process reportedly takes five or more minutes per case and, as described above, represents an added burden for physicians, with no immediate benefit to them. The same compliance issues identified above pertaining to reporting Dates Affecting Readiness to Treat (DARTs) were resulting in artificially poor wait time performance.

After identifying these four areas of weakness in the system, the LHIN, hospitals and physician leaders understood that all four were inter-related and any solution should provide improvement across all areas.

With participation from the individual hospitals, the CE LHIN published a Request for Proposals (RFP) to procure a wait times, eBooking and wait list management system. The competitive procurement process resulted in the selection of the Web-based Novari Access to Care(tm) software system, originally designed at Kingston General Hospital by surgeons and hospital leadership.

The Novari Access to Care system (Novari ATC) was installed at Lakeridge Health in Oshawa and deployed at all 11 hospital sites and approximately 380 surgical offices across the CE LHIN. The Novari solution delivered:

1. Automated Provincial Wait Time Reporting: The physicians see the software as an integral part of how they manage their case load, not as an additional imposed workload burden.

“We deployed the Novari Access to Care solution across our LHIN to provide all of our surgeons with a single Web-based solution for wait list management and Operating Room bookings that allows a real-time, transparent view of patient progress from decision to treat to procedure (cut time). From a regional perspective, we benefit from the ability to access comprehensive, aggregate, quality data on wait times in real time that significantly improves our ability to optimize capacity to minimize time waited, and support planning for improvements in the delivery of surgical care.”

Paul Barker, Senior Director,  
Performance Contracts and  
Allocations, Central East LHIN

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In the background and almost unknown to the users, the Novari ATC system electronically reports both Wait 1 and Wait 2 (opening, changes and closure) of cases in the provincial wait time registry. Physician offices no longer have to submit additional paper forms or log into a provincial Web site to enter case data. The information the surgical offices automatically send to the provincial registry is now timely, complete and accurate because the surgical office is using the same information to manage its cases so it has a vested interest in the accuracy of the information.

2. Wait List Management: For the first time, physicians and their medical secretaries were given a modern tool that is intuitive to use and helps them manage their list of patients. The software highlights patients whose wait times are over or approaching provincial targets. Hospitals and surgical leadership have access to the same data and can isolate individual patients or whole groups of patients whose wait times need attention.
3. eBooking: To the immediate benefit of the both physicians and hospitals, the physicians were supplied with a tool to electronically submit their bookings to the hospital booking offices, without the need for paper or fax machines. With a few mouse clicks, the hospitals are now able to receive bookings electronically, including such case documents as patient consent forms and histories and the results of physical exams. Because of the tight integration between the Novari ATC system and the various hospital scheduling and surgical systems, the booking clerks can simply accept the eBookings, and all systems and databases are automatically updated.

A holistic approach to wait times that provides benefits to all stakeholders, as opposed to imposing a burden, has proven itself to be highly effective and beneficial for the CE LHIN and elsewhere in Canada. The off-the-shelf and Web-based Novari ATC solution complements the provincial wait times registries, ensuring that the registries are supplied with accurate data, while at the same time providing significant benefits to stakeholders.