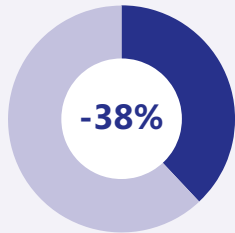# Novari Proves Its Worth During The Pandemic
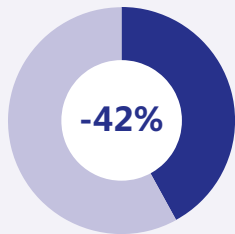
The Company's Software Streamlines Perioperative Procedures, Aiding in Swiftly Reducing Surgical Backlogs

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Ontario's healthcare system, already stretched in many areas and battling to keep up with wait times while trying to wring as much value out of limited financial resources as possible, was pushed to the brink when the coronavirus pandemic struck in early 2020.
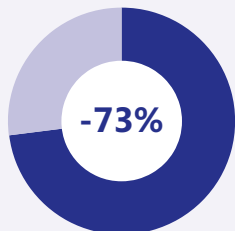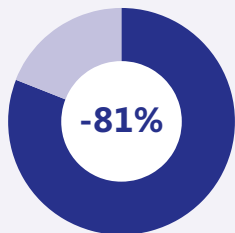
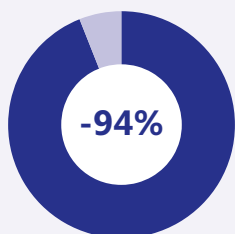**Fewer cancer surgeries**

-38%

Fewer cardiac surgeries

-42%

Fewer vascular surgeries

-73%

Fewer transplant surgeries

-81%

Fewer pediatric surgeries[2]

-94%

Nowhere was the pressure greater than on the province's hospitals. A province-wide halt to elective surgeries was declared in March and operating rooms shut down across Ontario. This was a significant blow to a system that ordinarily struggles with wait times and surgical backlogs.

Surgical Backlogs Begin To Grow

While emergent surgeries were still being conducted on a case-by-case basis, all electives were cancelled and patients hung in limbo, wondering when they would be seen. During the period from March to September 2020, the Ministry of Health reports that 187 thousand surgeries[1] had been postponed in Ontario. By as early as April, the halt to elective procedures was breathtaking:

- 38% fewer cancer surgeries
- 42% fewer cardiac surgeries
- 73% fewer vascular surgeries
- 81% fewer transplant surgeries
- 94% fewer pediatric surgeries[2]

The Ministry of Health estimates it will take up to two years to clear the backlog[3] of cancelled surgeries. The enormity of the problem cannot be minimized; as hospitals work their way through the numbers, they face the risk of the impact of a second wave, one that is, in fact, occurring as this document was being prepared.

1   https://www.theglobeandmail.com/canada/article-ontario-addresses-two-year-backlog-of-surgeries-hospital-capacity/

2   https://www.cmaj.ca/content/192/44/E1347

3   https://www.theglobeandmail.com/canada/article-ontario-addresses-two-year-backlog-of-surgeries-hospital-capacity

Technology Solutions That Work

What methods are available to hospitals to maintain a clear picture of their individual surgical caseloads and provide a way of triaging efficiently? Novari Health, a healthcare software technology firm based in Kingston, Ontario has been providing solutions that manage the entire patient journey through the healthcare system – from first contact with a primary provider to after-surgery care following release from hospital.

One of the great strengths of Novari lies in the company's surgical wait list and patient prioritization technology, called Novari Access To Care or ATC. A number of Ontario hospitals use the technology and have seen amazing results in surgical wait time reductions, overtime reductions, and improved OR scheduling, the result of having a complete and clear picture of surgical caseloads.

But how well could Novari's technology function during a pandemic? John Sinclair, President of Novari Health, puts it this way: "The Novari team has been working for years on designing, building and implementing software technologies to help healthcare systems battle COVID-19. We just didn't know it. We didn't know that our surgical wait list and patient prioritization technology would be put to use to help improve surgical wait times worsened by a global pandemic. We didn't know that our referral management and workflow technology would be put to use to track and manage patients needing COVID testing. We didn't know that our virtual care technology would be put to use to safely allow patients to see physicians inside a virtual walk in clinic."

Novari ATC At Work

The Erie-St. Clair Local Health Integration Network (LHIN) has been a Novari client for many years. The LHIN is linked with five hospitals that serve the communities of Sarnia, Erie Shores, Chatham-Kent and the city of Windsor (through Windsor Regional Hospital's two campuses). Rosemary Petrakos, V.P. of Surgery and Perioperative at WRH says the hospital's two campuses had a backlog of elective procedures of between 2,000 and 3,000 cases, due to the pandemic. The hospital also conducts an eye clinic five days a week that performs 5,000 cataract surgeries annually. These eye surgeries were cancelled as well, forcing the total number of backlogged cases even higher. Given that WRH performs a total of 30 thousand surgical procedures on average each year, any backlog can grow exponentially, posing great challenges and difficulties for OR scheduling staff.

One of Novari ATC's strengths is that it can provide average times for OR procedures, an enormous benefit to maximizing availability of OR rooms. "When the [surgeons'] offices were able to submit their bookings electronically through Novari and we were able to view them electronically, it took a lot of the guesswork out," explains Kelly Shepherd, the OR booking clerk at WRH.

Outdated Processes Impede Caseload Performance

Prior to the implementation of Novari ATC at WRH, the hospital's surgical wait list systems were paper-based, for the most part. Shannon Nicholls, former Senior Application Analyst for Transform Shared Services in the Erie-St. Clair LHIN and later Manager of Operating Room Systems at Windsor Regional, helped to bring Novari into WRH and saw immediately how Novari supercharged patient scheduling.

"Essentially the offices would fax in a list of patients for surgeries. They would literally write it out on a piece of paper, or they would print it out from their systems, and fax it in. Then we would have to go and chase down all of the documents. We required a history and physical and a consent to the procedure. Some days the documents came, sometimes they didn't. Our staff spent lots of time trying to follow up on the missing documents, lots of time rejecting patients because the surgeons were way over their allotted time or they didn't know how much time they would take. So when we actually inputted it into our scheduling system, they could have two patients over that didn't fit in their block. So we'd have to go back to them and say, 'These patients don't fit.'"

Further compounding scheduling issues was the fact that none of the surgeons' offices were able to see their own procedure times to accurately balance a surgical block, a classic example of siloed data. Shannon explains that the scheduling office would have to fax the surgeons their own list of procedures with their physician-specific average times. Even though each physician would only receive their own pages, the lists for all the specialists could run three or four hundred pages. "Now, as soon as they enter a patient into the Novari system, they can see their average procedure times and they know exactly how many patients they can do," she says.

How Integrated Systems Offer More Benefits

Jen Trkulja, Director of Perioperative Services at Windsor Regional, says the hospital's surgical scheduling system works seamlessly with Novari. "Novari ATC doesn't replace a hospital's scheduling system (e.g. Cerner, Epic, Meditech, Picis, etc.) but rather compliments it. "With Novari, Procedure times are examined for the last 10 surgical cases; the longest and shortest times are eliminated and the remaining 8 are averaged. So the system is always updating itself," she says. Each night, Novari imports the rolling times from the scheduling system. This is of tremendous help to OR schedulers like Kelly Shepherd who can more efficiently schedule procedures and avoid cancelled surgeries or unnecessary overtime. By leveraging average procedure times, including set up and clean up times, Novari helps to ensure the physician offices' scheduling requests do not exceed available block OR time. The percentage of OR utilization is visible and highlighted to the surgeons' offices for each block of time.

In this way, Novari also makes it difficult for surgeons to overbook operating room time in order to add extra procedures. In the past, this has often led to cancelled surgeries or increased overtime costs.

"It's like a self-monitor," Jen Trkulja explains. "With any system, people can try to bend it for their benefit. Novari constantly monitors that."

No Patient Left Behind

When the province shut down elective procedures in March, hospitals faced an immediate challenge: locating the names of all patients waiting for procedures at the time. Shannon Nicholls remembers how easy that was with Novari. She pulled the entire wait list from the Novari system and was able to see what each patient had been scheduled for, how long they had been scheduled and if they had already been cancelled. "So, as soon as the ORs started coming back online, we could look at our list and see who'd been waiting the longest and schedule them in first."

Each hospital in the province was asked by the Ministry of Health to submit a detailed plan outlining how they would

tackle the backlog of surgeries. For WRH, it was easy with Novari ATC. Had WRH not had the Novari platform running at the time of the surgical shutdown, Windsor Regional "wouldn't have had a clue," says Nicholls. The hospital wouldn't have known which patients were scheduled or when they were scheduled. Going back to the surgeons for data wasn't an option, either, because their offices were closed because of the virus. "We could have gone through the Ministry's Wait Time system but not easily. It may have taken a fair amount of time to process the request because of the enormous demand on the system from other hospitals. This information at our fingertips enabled WRH to react and plan quickly and efficiently."

Having a list of patients and their surgeries has also been vital in allowing WRH's operating room schedulers to triage based on procedure and wait time. "We looked at what cases were actually needed to be done from an ethical standpoint, as well as the patients' wait times," says Jen Trkulja, WRH's Director of Perioperative Services, another pandemic-specific benefit of Novari ATC.

The hospital is making good progress in reducing the backlog of procedures. Its operating rooms are back up and running but with an eye on the second wave of the virus. It's being more cautious with staff to ensure they remain healthy and able to work, which has the added benefit of avoiding surgery cancellations due to sickness or self-isolation.

A Stable Future Ahead

WRH and, by extension, the entire Erie St.Clair LHIN, is now positioned to move forward with surgical caseload reductions. If the second wave results in another suspension of elective procedures, the hospital knows it can pick up where it left off when surgeries resume, without leaving a single patient behind.

Shannon Nicholls sums up the positive impacts of Novari ATC this way: "Communication was improved tenfold. We enabled the offices to see what their situation was. They didn't have to go through stuff to find things. The fact that the OR schedulers could open up a program and everything's there. They didn't have to worry about missing data or overbooking because it's all set in the system. They open it and they see what they need."

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