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BI enhances turnaround time in pathology reporting in Kitchener

BY DIANNE DANIEL

Waiting for pathology test results doesn't only create anxiety for patients. It can also cause strain in the hospital laboratory, particularly when it seems clinical staff can never get ahead of the reporting backlog and really don't understand why it's there in the first place.

But what if it were possible to pinpoint exactly where things were breaking down? What if staff members could identify problem areas at a glance and make real-time changes to increase workflow while reducing errors and ensuring high quality results and service delivery?

At Grand River and St. Mary's General Hospitals in Kitchener, Ontario, that what-if scenario is quickly becoming an evidence based reality.

The combined pathology service for both hospital sites is the first in Canada to use a business intelligence and analytics solution from San Francisco-based Viewics Inc., to augment workflow as part of a comprehensive "leaning" or six sigma exercise.

Designed with the requirements of a busy laboratory environment in mind, the innovative software-as-a-service is supporting ongoing efforts to shorten the service's turnaround times and improve productivity and overall efficiency.

"We were not consistently meeting our patients' needs in terms of reporting our pathology testing results," says Vince D'Mello, administrative director, laboratory medicine, who spearheaded the lean project. "It was quite obvious to all of us that our current state was not sustainable."

"Staff were eager to move away from

the status quo and support value-added process changes in the interests of improved patient care," says Shelley Owen, manager of pathology. "Without their involvement and dedication we could not have achieved this level of success in such a short time frame." There is now a clearer understanding of the relationships between the pre-analytical, analytical and post-analytical phases of the operations.

As part of its leaning exercise, the pathology service began to rely on visual measurement techniques to improve workflow, performing manual calculations each day and posting them on large white boards. The visual control of performance metrics is important, says D'Mello, because it alerts staff to react quickly to potential problem areas and variances in meeting desired targets.

After implementing Viewics' software-as-a-service, those manual updates will soon be replaced by digital dashboards. "The dashboard will have a combination of operational indicators, productivity indicators and quality indicators, which will help us

Left to right: Dr. Dimitrios Divaris, Shelley Owen, Vince D'Mello.

to design or modify our workflow so that we're meeting our benchmarks," explains D'Mello, who operates under the mantra: "God we trust. Everyone else, bring data."

The Viewics' solution is a good fit for the laboratory, he adds, because it doesn't require any additional hardware or software, and most of the measurements on the lab's wish list are already provided in standard reports. It also removes pressure from the internal IT department, which would have had to develop custom reports in order to provide the same information on a daily basis. The operational team will have an authoring tool which allows them to easily slice and dice the data and perform root-cause analysis in the areas that matter most to them.

Viewics, on the other hand, operates as a third-party service. Rather than relying on back and forth queries with a hospital's existing information system, the analysis takes place in Viewics' proprietary cloud architecture using information "pulled" from the hospital database on a nightly basis. Although the company can pull any data from their system, they are aware of Canada's privacy legislation and therefore only rely on test-level data that is in no way linked to a patient's identity.

"What we do is very low touch on hospital IT departments and systems," says Viewics co-founder Tim Kuruvilla. "Given the SaaS model, Viewics takes the hosting, support, maintenance, and other heavy lifting off of IT. When a user runs an analysis, it hits our cloud computing architecture which is optimized to perform data analysis; it's not hitting their hospital information system and slowing it down."

Another advantage is that the user interface provided by Viewics is extremely user friendly. It incorporates drag and drop features and identifies variables using language that is familiar to the laboratory staff so that they can quickly create custom reports that interest them. For example, they can gain a better understanding of physician ordering patterns, quickly identify turnaround times that fail to meet a pre-set threshold, or examine health trends within specific patient populations.

"You can slice and dice through the data that matters most to you," says Kuruvilla. "When someone comes into the office in the morning, we want them to quickly see the five priorities they need to spend time on."

From the outset of its lean exercise, the pathology service at Grand River and St. Mary's set a goal of having 90 percent of all case types reported within five days and eliminating all backlogs. Prior to implementing the Viewics business intelligence solution, it was already well on its way to meeting both objectives and is now looking forward to setting even stronger performance targets based on the new information it will be able to glean once the service is fully rolled out.

"We typically receive from 150 to 170 pathology cases each day and in the pre-lean model we would have a minimum of 20 cases left over each day," notes D'Mello. "That backlog went down to zero."

The service is currently reporting 88 percent of its workload within five days, a number that used to hover at 52 per cent. And, in pre-lean days, 30 percent of reports were taking 10 days or more to leave the lab, a statistic that is now down to two percent.

Moving forward, the goal is to drill down to a more granular level of data to deliver even richer information so that further improvements can be achieved while raising the quality bar. According to D'Mello, the Viewics service is extremely knowledgeable about the inner workings and parameters of a lab environment; so much so that he and his staff will be able to innovate and measure things they haven't even thought of yet.

"When Viewics did the demo, we recognized they were ahead of the curve," he says. "…My vision is if this could be broadcast on every screen in real-time or as close to real-time that staff uses in the pathology department, we would all be aware at the click of a button where things stand."

While Grand River and St. Mary's Hospitals are the first to use Viewics in Canada, Kuruvilla has received significant interest after speaking at the Executive Edge Conference in Toronto last fall, and is also in discussions with other Canadian healthcare institutions.