

Diagnosing a solution to managing laboratory data at scale

The Garvan Institute of Medical Research is a leading medical research institute in Australia, employing over 700 scientists and support staff.

Garvan's Kinghorn Centre for Clinical Genomics (KCCG) is a leading research centre focused on medical genomics.

Garvan researchers have recently established a cancer tumour testing service that is designed to detect mutations to help oncologists determine treatment strategies.

This vital service is run in partnership with SydPath, St Vincent's Pathology. To handle the increasingly large volumes of samples it is anticipating, a new laboratory information management system (LIMS) was needed.



The challenge

Luke Hesson is the Laboratory Head of Cancer Diagnostics at Garvan. According to Luke the challenge was to ensure that the lab would be able to cope with the sheer volume of samples—potentially 1000+ per year.

“We’ll need to know at any given point where every sample is in the testing process. Without a LIMS that would be incredibly challenging and prone to human error, which would have a flow-on effect on our clinical trials.”

Luke began the search for a LIMS that met the unique needs of his lab, one that would be accurate, scalable and robust. It needed to be able to automatically handle a range of data inputs and generate reports to go directly to clinicians and their patients in a graphically rich, user-friendly format.



The process

While Luke was a fan of off-the-shelf solutions, he knew that would not result in the LIMS he needed. While the Garvan Institute was already using a number of different LIMS, none of them was suitable.

Fortunately, he had previous experience with OnQ Software through another lab at the Garvan Institute. "They've always been incredibly responsive and helpful, so I felt they were tried and trusted," he says.

He approached OnQ Software with his ideal workflow in mind, to see how they could respond.

"It turns out they had an off-the-shelf solution called QLIMS, that met around 75% of our requirements, with the flexibility to be effectively adapted for our needs."

Luke admits to learning as he went along. "We were designing this workflow and realising we needed to tweak an aspect here or there. We'd change it and feed that back to OnQ Software. It was a very iterative process that took about six months."



The solution

The solution provided for the automated import of data from a range of sources. "We told them the names of the data points and where they were in the file and they just automated the process of QLIMS extracting that information and depositing it in the patient or sample record in the relevant place," he says.

Automatic patient report generation was a huge part of the solution.

"We can now, at the click of a button, export all of the data into a report that can go to the clinician and patient. Not only are they incredibly accurate, but the reports also look great."

It's going to a patient who's paying for the service. What they receive is intuitive, colourful, aesthetically pleasing and contains all the information that they need to know. That's an aspect which is incredibly valuable to our service."

Another key part of the solution required OnQ to design a tool that could read a Health Level 7 (HL7) file. Luke says, "HL7 is an international standard data encryption method which allows us to securely communicate sensitive patient information between labs. Because the first stage of the process involves receiving data from a SydPath pathology lab at St Vincent's Hospital, the data is encrypted before we receive it. This solution streamlined our sample accessioning, making it much more efficient."

The results

Luke is delighted that the Garvan Institute has just received National Association of Testing Authorities (NATA) accreditation with QLIMS.

“All of those key points needed to be addressed to the satisfaction of NATA so it’s reaffirmed the chain of information custody is accurate and secure. It’s absolutely critical for any clinical testing. And I believe that’s a direct result of the assistance we’ve had from OnQ in designing a LIMS that allows fidelity of chain of information custody.”

Luke is a satisfied customer of OnQ Software. “They were so responsive to all of our needs. They’ve been incredibly patient with us because we’ve changed direction more than once. If I had to go back to the beginning, I would definitely choose them again. We’ve a fantastic LIMS in operation.”





Final thoughts

According to Luke,
“I can tell you that without QLIMS
there’s no way we could cope
with a thousand samples in a
year. If somebody from another
lab asked me, ‘Would you
recommend QLIMS?’ I’d say, if it’s
to try and replicate similar things
to what we’ve done, absolutely,
hand on heart, these guys will
sort you out.”

