InterSystems Australian Laboratory Management Systems Market Survey 2015

Executive Summary
The nature of the laboratory business is changing dramatically. Industry consolidation, advances in automation, genomic testing, and the increased use of point-of-care testing are driving major shifts in where, when and how testing takes place. To survive and thrive, laboratories require a new generation of informatics solutions, designed to manage the lab as an agile, knowledge-driven business in an increasingly interconnected world.

Seeking to gain market insights into the changing requirements for laboratory management systems, InterSystems surveyed 60 professional staff representing 29 public pathology laboratories, 18 private pathology laboratories, and 13 related organisations including government. Over half (53%) of those surveyed were Biomedical or Clinical Scientists and 19% were Laboratory Managers or Head of Department.

Main Findings
1. 75% of survey respondents cited cost savings and efficiencies as drivers of change in their laboratory, with 63% pointing to automation.
2. 65% of respondents said a key change was that their laboratory will operate as part of a multi-site laboratory network; among public laboratories the figure was 83%.
3. 75% said complete visibility, control and accountability over the testing process were important to the success of their laboratory in the future.
4. Only 29% of respondents at public laboratories said that their current information management system is able to support the changes they are undergoing.
5. 65% of respondents indicated that their current systems do not have the ability to analyse which tests are running at a profit and which at a loss.
Data and Analysis

Key drivers transforming laboratories

The clinical laboratory market is in a period of rapid growth. Driving this growth is an aging population and the increased prevalence of chronic diseases like obesity and diabetes. Pathology is involved in around 70% of all diagnoses and there is an upsurge of new testing methods such as genetic testing and automated slide scanning.

Advances in automation, genomic testing, and point-of-care testing are all driving changes in the laboratory market. Other drivers include healthcare industry consolidation, with increased economies of scale expected to deliver more test results at lower cost.

The survey results support this analysis. There is pressure to meet demand using fewer resources – to increase efficiency while driving down costs – and the use of automation is rising. When asked to select the drivers of change in their laboratories, three quarters (75%) of respondents cited ‘Cost savings/efficiencies’. More than three in five (63%) also selected ‘Automation’, and one third (33%) ‘Patient-centred care’.

There were differences between the drivers for change at public and private laboratories. ‘Automation’ was a more common driver at private laboratories (78%) compared with public ones (59%), as was ‘Competition with other laboratories’ (39% vs 21%).

Consolidation of laboratories’ or ‘Formation of laboratory network’, on the other hand, were more prevalent drivers at public laboratories, both cited by 38%, versus 22% and 17% at private laboratories.

Transformation through information

Extending laboratory information management capabilities across the healthcare enterprise is an important enabler for transformational change in clinical laboratories.

The formation of multi-site laboratory networks allows high-volume testing to be performed closer to patient locations, while specialised testing is performed off-site in laboratories that service a number of healthcare organisations. This also ensures maximum return from expensive specialist equipment.

Models like this work best when supported by a flexible laboratory management system that enables information and workflows to be shared and integrated across multiple locations – giving clinical directors and business managers visibility, control and accountability over business processes wherever they occur.

When asked what described how their laboratory was changing, 65% of survey respondents said that ‘The laboratory will operate as part of a multi-site laboratory network’. The second most common response,
chosen by 60%, was that ‘The laboratory will continually analyse and improve its processes’. Significantly, a higher percentage of public laboratories cited these changes (83% and 66%) than private labs (50% and 56%).

**Labs to become a data-driven business**

In the future, laboratories will be able to implement their workflow protocols (or standard operating procedures) and cost every procedure. Clinical directors and business managers will run a fine-tuned, data-driven business, with laboratory management systems giving them the visibility, control and accountability over business processes now seen in the best enterprise resource planning software.

Laboratory throughput and turnaround times will be constantly monitored. Software will pinpoint workflow bottlenecks without the need for custom analytics. Each laboratory or group will be able to easily configure relevant key performance indicators and/or service-level agreements and monitor them through dashboards and alerts.

When laboratory systems can capture and access relevant information along every step of the testing process, they will also deliver unprecedented ability to predict and manage variable workloads. As a doctor completes a pathology test order, the data will feed into the system, improving the predictability of workloads before they need to be resourced.

The survey results strongly support this analysis. When asked ‘What laboratory system capabilities are important to the success of your laboratory in the future?’ three quarters (75%) of respondents cited ‘Complete visibility, control and accountability over the testing process’. Three quarters (75%) also indicated ‘Support for laboratory workflows occurring across a number of sites’. The figures were even higher at public and private laboratories.

The ability to predict laboratory workloads and pinpoint bottlenecks was selected by more than three out of five (62%) respondents and over 83% of public laboratories, although it was not as important for private laboratories (44%). Three in five respondents (60%) also wanted ‘Configuration and management of Key Performance Indicators (KPIs)’; at public and private laboratories the figure was 72%.

Most respondents also indicated that the ‘Maintenance of a Patient Pathology Record (PPR)’ (chosen by 55%) was important to the success of their laboratory in the future, as was ‘Support for offsite point of care testing equipment and test results’ (53%) and ‘Enforcement of protocols / standard operating procedures’ (50%). In the case of public laboratories, all these figures were greater than 60%.
New laboratory systems required

Many of today’s Laboratory Information Management Systems (LIMS) do not meet the requirements of this changing laboratory environment. Instead, modern, agile information systems that enable the lab to capture, share, analyse and act upon vast amounts of detailed data will be required to run laboratories like a business. This is necessitating a new breed of system, which InterSystems calls a Laboratory Business Management System (LBMS).

In Australia, private laboratories are far more likely than public laboratories to believe that their current systems are up to the task. When asked “To what extent do you agree with the statement: ‘Our current laboratory information management system is able to support these changes’”, only 29% of public laboratories agreed or strongly agreed, compared with 45% of private laboratories. More than a third (36%) of public laboratories disagreed or strongly disagreed, compared with only 17% of private laboratory respondents.

The survey also asked about four key laboratory management system functions – all of them important to the future success of respondents’ laboratories – to see whether their current Laboratory Information Management System supported them. Nearly two thirds (65%) of respondents said their current LIMS could not provide ‘Analysis of which tests are running at a profit and which at a loss’. And more than half (51%) indicated that their current systems did not have ‘The ability to predict laboratory workloads and pinpoint bottlenecks’. The figure was even higher at public laboratories (59%).

On a positive note, more than four in five (82%) of respondents thought their existing systems could support ‘Laboratory workflows occurring across a number of sites’. And while seven in ten (71%) of private laboratory respondents said their systems could support ‘Enforcement of protocols / standard operating procedures’, at public laboratories nearly two thirds (64%) said they did not have this support.
About the Survey

The survey was conducted from 25-27 September 2015 at the 53rd Annual Australasian Association of Clinical Biochemists conference in Sydney. InterSystems surveyed 60 professional staff representing 29 public pathology laboratories, 18 private pathology laboratories, and 13 related organisations including government. Over half (53%) of those surveyed were Biomedical or Clinical Scientists and 19% were Laboratory Managers or Head of Department.