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How site visits led to an LIS selection at Stanford

Seven gets all the attention, but five turned out to be the lucky number for a Stanford University Medical Center team charged with selecting a new laboratory information system. Visiting five installation sites in five cities in five days was “probably the most important aspect of the whole process,” says Brent Tan, MD, PhD, director of clinical laboratory informatics at Stanford.

With the goal of implementing a new LIS between 2012 and 2015, the selection team reviewed vendor responses to an exhaustive, 370-question request for proposal in 2011 and chose three vendors for further consideration. Demonstrations by the three contenders provided another piece of the puzzle, but Dr. Tan advises to take them with a grain of salt. “In our experience,” he says, “vendor demos do not always reflect what can be accomplished with an installation of the vendor’s software.”

The team had planned all along to visit installations of each vendor’s system, but this step proved especially significant when the request for proposal and demonstration scores didn’t show a clear frontrunner. Ideally, says Dr. Tan, the team would have chosen institutions comparable to Stanford for the site visits, but it didn’t always have that option. “Vendors do suggest sites, particularly those that are favorable to them,” he explains. “The most transparent approach is [for a company] to give the customer a full list of installation sites and work with the customer and potential sites to pick sites to visit in an unbiased manner.” Epic Beaker (the system selected for Stanford) was installed at very few sites in early 2012, so the team visited only one Beaker installation, at a hospital much smaller than Stanford, compared to two sites for the other two vendors. Only one institution declined a site visit, and that was because its LIS had not yet gone live. The team traveled to Michigan, Minnesota, Nebraska, South Dakota, and Virginia, Dr. Tan adds, and each visit required a one-night hotel stay.

A key factor in successful site visits is bringing a large team with diverse areas of expertise, Dr. Tan maintains. “What may not work well is if you were to only send your institution’s CIO or laboratory medical director. For example, I don’t know microbiology workflows that well, so I was sure to get an expert who understood microbiology and its operations to look at it. It is unlikely that high-level individuals, such as CIOs, or even MDs, would know all the workflows in great detail, so it’s important to get your operational folks involved.” In addition to Dr. Tan, Stanford’s site visit team included the IT project manager; laboratory administrative director; operational director for laboratory informatics; manager for the pre-analytic area; manager for transfusion services; a transfusion medicine pathologist; a pathologist trained in anatomic pathology; a pathologist trained in anatomic and clinical pathology; a manager who oversees microbiology, virology, and all esoteric testing; two lab informatics

analysts, one from anatomic and one from clinical pathology; and an IT representative from the children's hospital.

Employing a divide-and-conquer strategy, the team split up into different areas of expertise to scrutinize each system's performance vis-a-vis what was promised in the demo. The key areas were "the core lab, positive patient identification, specimen tracking, even workflows in specific areas," says Dr. Tan. "If we had a question about it—if there was something that looked maybe not so good in the demo—we wanted to see what the workarounds were." The demo of the Beaker microbiology module had initially raised concerns about how the automated comments mesh with the workflow, Dr. Tan says, but seeing that it worked well in an installation was reassuring. In contrast, Dr. Tan reports that a close-up view of the other two systems during the site visits revealed that "there was not as much integration between the AP and CP modules as was presented in the demos." In general, the group found that "what was advertised in the demos wasn't always exactly what was manageable in a real-life setting."

At most sites, the team met with a variety of staff members, including medical technologists, laboratory managers and supervisors, IT analysts and managers, and medical directors. Some questions were posed at all sites, while others specifically targeted issues that were raised in the demos. "We had a lot of meetings as a group after all the site visits and went through a lot of debriefings," Dr. Tan notes. Then, in February 2012, the team voted to select Beaker.

Stanford went live with the Beaker LIS in its two clinical laboratories this past February. Looking back on the site-visit process, Dr. Tan says he would do it exactly the same way again. Despite the time and expense involved in sending a large team across the country, he emphasizes that Stanford administration was very supportive of the effort, and it was well worth the investment.

"Site visits," he concludes, "are an important step in selecting a laboratory information system because they provide the customer with a real-world understanding of a system's capabilities, strengths, and weaknesses."

—Jan Bowers

GenoSpace making headway in genomics marketplace

When Mick Correll, CEO of the bioinformatics startup GenoSpace, talks about issues in his field, he often quotes mathematician Henri Poincare: "Science is built up of facts, as a house is built of stones; but an accumulation of facts is no more a science than a heap of stones is a house."

Because Correll believed that tremendous advances in sequencing technology had the potential to turn genomic computing into a metaphorical heap of stones, he co-founded GenoSpace in 2011. Correll and partner John Quackenbush, PhD, hoped to create a cloud-based genomic computing platform that would help lab scientists, hospitals, health systems, and research organizations leverage the power of genomic data in the clinical setting.

Today, he asserts, GenoSpace is doing just that."GenoSpace is helping clinical labs and pathologists deliver on the promise of precision medicine in a variety of ways across their operations," Correll says.

A key component of the company's products is the ability to interpret next-generation sequencing in combination with traditional assays. "Our solutions enable interpretation and reporting of high dimensional NGS and copy number assays, either on their own or in combination with traditional assays like FISH, flow, cytogenetics, and IHC," he explains.

It is, in large part, for this reason that PathGroup, one of the largest physician-owned pathology groups in the United States, became a GenoSpace client in 2013. "A lot of the vendors we spoke to were very good at taking NGS data, but we wanted to be able to incorporate all types of data," says Pranil Chandra, DO, medical director of molecular pathology services at PathGroup. "Utilizing a complementary approach actually leads to [finding] a higher number of alterations."

According to Dr. Chandra, PathGroup's complementary approach to genomic analysis often leads to discoveries

that would have been missed had only one form of testing been employed. “We have found FGFR1 amplification in refractory breast cancers by CGA [cytogenomic microarray] that were negative by next-generation sequencing. FGFR inhibitors are being actively investigated in this context,” he says, by way of an example.

One of GenoSpace’s flagship products, FullView, is a knowledge-management system that displays data from multiple assays in a single view. “FullView provides PathGroup with a portal that integrates the salient results and allows us to produce these reports in an organized way,” says Dr. Chandra. “For instance, it includes a template manager system that allows us to compile reports [automatically] when we see a common disease with a common alteration. This allows us to scale up the clinical interpretation component of the testing.”

GenoSpace also offers a set of population analytics tools. “Our population analytics platform enables the aggregation of data across cases and combines molecular data with detailed phenotypic information, including clinical, laboratory, treatment, and outcomes data,” Correll says.

The tools have helped PathGroup’s clients run large-scale clinical trials and identify the frequency with which certain mutations appear in aggregated genomic data sets. “When we take certain genes, such as calreticulin, and look at them at the population level, we see that although the published literature identifies it to be mutated most frequently in MPN [myeloproliferative neoplasms], it’s also mutated in a number of other disorders,” Dr. Chandra explains. “These discoveries that lead to better understanding of the molecular biology behind different disease states can potentially translate to novel therapeutic strategies directed against such genomic aberrations.”

—Charna Albert

Xifin enters partnership with Translational Software

Xifin has signed an agreement with Translational Software to integrate Translational’s pharmacogenetics knowledge base and interpretation platform with the Xifin LIS Anywhere lab information system. The partnership is intended to help molecular diagnostic laboratories transform raw genetic testing data into actionable reports.

The integrated offering, which is powered by Xifin’s Health Economics Optimization platform, includes features for test ordering and interpretation, laboratory workflow management, pharmacogenetics tailored reporting, billing, and financial management.

The Translational Software platform automates the reporting process by matching test results to a knowledge base of evidence for clinical genetics. The knowledge base includes treatment guidelines based on curated data gathered from such sources as consortia and professional society recommendations, regulatory filings, and literature reviews. The reports focus on genetic factors that affect the efficacy and toxicity of many drugs, as well as risk factors relevant to the patient’s health, in order to guide clinical decision-making.

***Xifin**, 858-436-2995*

Illumina to buy GenoLogics

Illumina has signed an agreement to acquire GenoLogics Life Sciences Software, a developer of laboratory information management systems.

GenoLogics markets Clarity LIMS, which is tailored to the needs of clinical and research laboratories. The recently released Clarity LIMS X functions as a component of the Illumina SeqLab solution to address population-scale genomics workflows.

“Illumina and GenoLogics have had a longstanding partnership,” says Michael Ball, GenoLogics’ CEO, “and this acquisition will enable us to widen our distribution, accelerate our product development, and provide even greater support to the Clarity LIMS community.”

Upon close of the purchase, which was expected at CAP TODAY press time, GenoLogics will become part of Illumina's enterprise informatics business.

***Illumina**, 800-809-4566*

AP-Visions debuts middleware

AP-Visions LLC has added three instrument connectivity middleware solutions to its line of xSeries laboratory products.

The software offerings are xEmr-Core, which provides connectivity between clinical instruments and the EMR system; xEmr, which offers all the functionality of xEmrCore plus such features as a user interface for reviewing results before data are sent to the EMR; and xEmrPlus, which contains all the functionality of xEmr, as well as such features as bidirectional EMR interfacing for orders and results.

The middleware solutions use the same technology as the company's xLab laboratory information system, which is designed for physician offices and small rural hospitals and clinics.

***AP-Visions LLC**, 714-306-0996*

Haemonetics launches connectivity software

Haemonetics has introduced HaemoCloud, a software platform designed to connect all Haemonetics devices and software.

HaemoCloud allows the company's blood-management devices to connect to hospital information systems and provides real-time data for service and support, Haemonetics reports.

The HaemoCloud platform includes HaemoCommunicator, which is designed to format and transfer data from diagnostic and cell-salvage devices.

***Haemonetics**, 800-860-1512*

RMT offering remote-control functionality for microscopes

Remote Medical Technologies' Remote Robotic Control functionality for controlling distant microscopes via the Internet allows pathologists and other practitioners to manage and dynamically control the XYZ axes of distant microscopes.

Users of the technology can control the stage, change objectives, and auto-focus distant microscopes. The functionality is an extension of the company's browser-based, high-definition imaging telepathology system.

Features of the remote-control offering include up to seven objective controls, including a 100× oil objective control; the ability to include five concurrent participants in each telepathology session, which can be increased in increments of five users to a maximum of 25 participants in the extended version; functionality to capture and store high-definition snapshot images during each session, as well as high-definition movies with audio narration; the ability to push stored images to shared folders; and customizable thumbnail display modes.

The Remote Robotic Control functionality integrates with most browser-based applications.

***Remote Medical Technologies**, 855-867-3040*

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