

Automation Makes a Splash at Bayfront Medical Center

Laboratory Profile

Bayfront Medical Center
St. Petersburg, Florida

- Private, 500-bed level II trauma center
- 103 full-time staff members (20 automation trained)
- Operates 24 hours a day, seven days a week
- Performs 1.3 million tests annually
- Integrated Automation laboratory
- Equipped with Power Processor Pre-Analytical Automation System with CHEMExpress and Hematology Outlet, DL2000 Data Manager, SYNCHRON LX[®]20 and SYNCHRON LX20 PRO Clinical Systems and two Access[®] 2 Immunoassay Systems

Bayfront Medical Center in St. Petersburg, Florida, USA, removed manual sample handling steps by implementing an integrated automation system from Beckman Coulter. Through automation, Bayfront has achieved a seamless pre- and post-analytic process, which reduced manual steps by 75 percent.

Meanwhile, processes are more efficient, test turnaround time (TAT) has been reduced by 20 percent and technologists are able to focus on more critical tasks besides sample preparation. In addition, the lab has actually reduced its technical staff by 21 percent through attrition and reallocation.

The Case for Automation

When Bayfront lab managers started putting together a business case in favor of implementing automation, they enjoyed an edge many hospital labs can only dream about. That's because Bayfront's hospital administrators were already ahead of them.

"Our case was already made," says Donna Ward, Lab Manager. "Our administration actually approached us with the idea of automating." Earlier that year Eric Feder, Chief Operations Officer at Bayfront, had visited an automation lab in action at a northeastern U.S. hospital.

To justify automation at Bayfront, lab administrators conducted their own cost-benefit analysis, taking into account increasing demands for lab tests and the critical shortage of lab staff. The analysis pointed to the need for an automation system that would improve TAT and help handle growth without requiring additional full-time employees.

When Bayfront decided to automate, it turned to Beckman Coulter. "We knew them for their quality instruments and we knew we'd get the best advice and assistance throughout the implementation process," says Ward.

Plus, the company's automation flexibility means Bayfront could choose from a wide range of automation connections – even connections for analyzers not manufactured by Beckman Coulter.

Bayfront installed Beckman Coulter's integrated automation system in December 2003. The network features a Power Processor front-end

| Laboratory Goals | Laboratory Results |
|--|---|
| Reduce TAT. | Improved overall TAT by 20 percent. |
| Improve lab processes. | Decreased manual steps by 75 percent by eliminating 16 steps in pre- and post-analytic process. |
| Prepare for growth without adding staff. | Reduced number of FTEs by 21 percent through attrition and reallocation. |

automation system, which receives samples into the department, loads, balances and unloads specimens into a centrifugation unit automatically, decaps tubes,



“Everyone here – from administrators to technologists – loves the new automated system. I don’t think we could return to doing things the old way.”

Donna Ward
Lab Manager

and transports and loads samples directly to two chemistry analyzers via the CHEMxpress connection. The lab enjoys a chemistry testing process that’s completely hands-free.

“No one has to touch the tube; everything is sorted in its specific rack or loaded onto the LXs,” Ward says. “Now

techs can focus on critical steps, like making sure reagents are loaded and calibrated or calling critical results on patients.”

Test results are also consistent and reliable, regardless of worker expertise or the size of the lab’s workload. Opportunities for medical errors are decreased because of primary tube

sampling, tube standardization and the automated decapper, says Ward. Plus, there’s less risk of exposure to blood-borne pathogens.

The automation system also sorts hematology samples and places them in a Hematology Outlet for analysis on cellular analysis instruments.

Better Specimen Tracking & Analysis

While Bayfront enjoys seamless sample processing via the automation system, the lab also benefits from better specimen tracking by using DL2000* Data Manager.

“Thanks to the DL2000, we can track a specimen from the time it is in the chemistry department to the time it’s in storage,” Ward says.

DL2000 works with Bayfront’s laboratory information system (LIS). “Connectivity to the LIS can make or break a huge project like this,” Ward relates. “With the

DL2000, we get powerful data management – for example, a real time pending log and auto-verification capabilities.”

According to Ward, the system’s auto-verification capabilities help speed workflow. The lab now auto-verifies approximately 90 percent of chemistry tests.

The fewer tedious steps with less manual review, the better the technologists like the entire automated system, Ward says. That makes it much easier to retain skilled workers.

“Once technologists get used to automation and auto-verification, they think it’s awesome,” Ward says. That also includes people outside of the lab.

“With our integrated automation system, the lab has become more visible and more appreciated in the scheme of the hospital,” says Ward. “We get a lot of visitors both within the hospital and from our Beckman Coulter sales team using us as a demo site to look at the system.”

And when it comes to ensuring a smooth automation implementation process, Ward has some advice for other labs.

“In order to speed up the implementation process, there should be one contact person to drive the project on the customer’s end,” says Ward. “Their responsibilities should include bringing together the team from IT, plant operations and, of course, the lab, so that everyone is on the same page and knows what is expected of them. This is critical in moving the project forward and, at the same time, being able to operate a lab 24 hours a day, seven days a week.”

Overall, Bayfront’s experience with integrated automation has been so positive that the hospital is considering adding immunoassay to the line.

“The bottom line is that automation helps us keep up with growing test volume while reducing overall TAT to physicians – without compromising consistency,” Ward says. “The results speak for themselves.”

*Marketed as Remisol 2000 in some countries



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