

## From Cost Center to Profit Center: El Camino Hospital Taps Lab Automation's Potential

### Laboratory Profile:

El Camino Hospital  
Mountain View, California  
USA

- Serves 395-bed El Camino Hospital and other institutions
- Operates 24 hours a day, seven days a week
- Performs more than 735,000 billable procedures per year, including 1.3 million individual chemistry and immunoassay tests
- Employs more than 50 full-time, part-time and per diem technologists
- Integrated Automation System: Power Processor sample-processing system connected to two SYNCHRON LX<sup>®</sup>20 Clinical Systems and one UniCel<sup>®</sup> DxI 800 Access<sup>®</sup> Immunoassay System
- Additional Instruments: Access 2 Immunoassay System, COULTER<sup>®</sup> LH 755 hematology workcell, COULTER LH 500 hematology analyzer and two ACL\* Advance coagulation analyzers



*The laboratory at El Camino Hospital had an ambitious goal: Transform the lab from a cost center into a profit center. After reviewing possible pathways, El Camino invested in an integrated lab automation system, enabling the lab to improve productivity, take on more work, lower costs and increase revenue.*

### Rethinking the Laboratory

Situated in the heart of Silicon Valley, El Camino Hospital is an acute care medical center and known for delivering outstanding service. The laboratory is no exception. Physicians particularly value the quality of results and the knowledge of the lab technologists.

While service levels were high, productivity levels were not. In fact, compared to other labs, El Camino Hospital was running at below-average productivity levels, and its cost structure was high.

The laboratory found itself at a crossroads: It could make some minor changes and improve productivity slightly, or it could make major changes and greatly improve productivity that would yield additional financial gains.

“We brought in a third-party efficiency expert, who assessed our institution’s staffing levels, productivity and financial performance,” says Pat Rossler, Director of Lab and Pathology Services. “The consultant concluded that automation would enable us to add about 200,000 new tests per year as part of our outreach efforts, bringing in revenue to the hospital. We recognized that by streamlining and automating our processes – and by increasing our volume of outpatient tests – we could change the laboratory from a cost center into a profit center.”

Don Stovall, Vice President of Clinical and Support Services at El Camino, agrees. “The managed care environment has forced hospitals to operate more efficiently by driving cost out of processes and increasing revenue,” he notes. “We believed our clinical laboratory was uniquely positioned to play a key role in the financial viability of our hospital.”

With support from hospital administrators, the laboratory created an ambitious two-pronged plan: 1) reorganize the laboratory to implement an automated core lab and 2) create an outreach program to increase the volume of outpatient tests.

### Selecting the Right Automation

The laboratory knew that most of the outpatient tests would involve chemistry and immunoassay, so automation efforts began there.

The laboratory acquired a Power Processor sample processor to automate pre-analytical steps, integrating the system with two SYNCHRON LX20 chemistry systems and a UniCel DxI 800 Access immunoassay system.



The Power Processor automates nearly every step in the pre-analytical process – receiving, sorting, centrifuging and aliquotting samples – and routes the tubes to the correct analyzers for testing. Sample tubes are automatically stored on the back end, and the system can easily retrieve samples for repeat testing or reflex testing if needed.

### Capacity Dramatically Improves

The automation system transformed the lab dramatically. Previously, laboratorians had to complete more than 20



Left, El Camino Hospital's Pat Rossler, Director of Lab and Pathology Services, and Don Stovall, Vice President of Clinical and Support Services.

manual steps to move testing from requisition through final report. Automation cut this manual work by more than 80 percent. This, in turn, reduced variability of turnaround time, which is critical to ensuring physician satisfaction.

As a result, the capacity in the laboratory increased four-fold – without any addition to staffing levels. The lab was able to bring more tests in-house, a move that saves money and

improves turnaround time. Meanwhile, laboratorians can focus on activities that made the best use of their training and knowledge.

The automated system also standardized the lab's protocols for validating patient results. No matter who is operating the system, the same protocols apply 24 hours a day, seven days a week. This improves quality and allows for predictable turnaround times.

As it turned out, the increase in capacity came just in time. Once the automated system came online, the laboratory was prepared to accommodate a steep increase in testing volume from outreach efforts.

### Outreach Strategy Delivers

One of the reasons for this increase: The lab brought dialysis testing back in-house. This move pushed testing volume up roughly 25 percent. The outreach programs then drove an additional 20 percent increase in outpatient testing volume.

"We were hit with a great deal of demand when our automation system came online," recalls Rossler. "I can't imagine how we would have absorbed this additional work under our old structure."

More growth is planned, she notes. The lab has already established a blood draw station on the hospital's campus and plans to install more in the surrounding area. It also hired a sales consultant to increase its volume of outpatient tests. Outpatient tests are more profitable than in-patient tests, and they tend to be the same 15 to 20 assays, so it's easy to accommodate them on the automation line.

### Impressive Results

In the lab as a whole, the volume of billable tests has increased more than 40 percent. And in the automation portion of the lab specifically, individual test volume shot up nearly 80 percent – from 730,000 tests to 1.3 million tests – with virtually no change in the staffing level.

Productivity levels are also impressive: a 30 percent improvement in the overall lab and a 40 percent improvement in the automation lab. In fact, overnight, El Camino Hospital's automated solution pushed the lab's productivity from below average to top-rank. And as the outpatient business grows, productivity will improve even further. The lab can process more tests per hour – and increase its revenue – without adding staffing costs.

"We are reaping the rewards of introducing automation in our chemistry line," says Stovall. "The lab's share of total hospital expense is less than 5 percent, while lab outpatient revenue is more than 10 percent of the hospital outpatient revenue."

The laboratory expects to exceed its growth expectations in less than two years. In addition, the automated system positions El Camino Hospital as a technology leader in the Bay Area.

"We are pleased with the contribution the lab is making to the hospital's bottom line," Stovall says. "We believe that we have a competitive advantage in being able to add additional outreach volume without negatively impacting our operations."

Laboratory Goals	Laboratory Results
Increase testing volume	With automation and outreach programs, the lab has increased testing volume by nearly 45 percent to date – and growth continues.
Improve overall lab productivity	Lab productivity, as measured by reportable test results per worked hour, increased 30 percent in the overall lab and 40 percent in the automated lab.
Reduce costs and increase revenue	The lab's share of total hospital expense is less than 5 percent, while lab outpatient revenue is more than 10 percent of the hospital outpatient revenue.

