

Community hospital lab benefits with VersaCell™ automation

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Michele Prince, MT (ASCP)
Director of Ancillary Services
Lewis County General Hospital

The Lewis County General Hospital in Lowville, New York serves a rural county with a population of approximately 27,000 people, covering 1,290 square miles (3,341 km²). This community hospital has 54 acute-care beds and an attached 160-bed nursing home. The hospital laboratory handles the testing needs from these facilities as well as an outreach program that services 25 physicians and three outpatient clinics. The laboratory receives 80 to 125 patient samples a day for both clinical chemistry and immunoassay testing and its volume is growing between 5 and 7 percent a year.

Like many laboratories throughout the world, the hospital recognized the need to automate because of the universal shortage of skilled laboratory technologists. “There’s a big issue with tech shortages in our area,” says Michele Prince, Director of Ancillary Services. “Compounding the problem, we have several techs who may retire within the next few years. My goal was to get the lab as automated as we could because of the shortage we’re seeing.”

The hospital considered track-based analyzer systems, but found they did not fit the testing volume or available space. “The way our lab is set up, we didn’t have the space for the tracks. They were a little overkill for us because we are not a high-volume lab,” says Prince. “Because the VersaCell System is like a track system, but on a smaller scale, it was the right size and the right fit for our lab. So, we selected the VersaCell System to consolidate our chemistry and immunoassay analyzers.”

The VersaCell™ System: A case study

Lewis County General Hospital

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VersaCell™ System delivers another positive experience for a community hospital lab

Streamlining laboratory operations

The VersaCell System allows the Lewis County General Hospital laboratory to consolidate chemistry and immunoassay testing into a single system. "Two years ago, we went through a very lengthy process before selecting the ADVIA® 1800 Chemistry System and the ADVIA Centaur® XP Immunoassay System," says Prince. "We looked at different instruments and decided that those would be the best fit for us. The key issues were menu, calibration, ease of use, and reliability."



The hospital then linked their two analyzers with a VersaCell System. "Since we liked our ADVIA 1800 and ADVIA Centaur XP systems, and we knew that the VersaCell System has an impressive solution for sample management, we went with it," Prince says. "The VersaCell System was the right choice for our lab."

The VersaCell System has many features that drive workflow and productivity benefits:

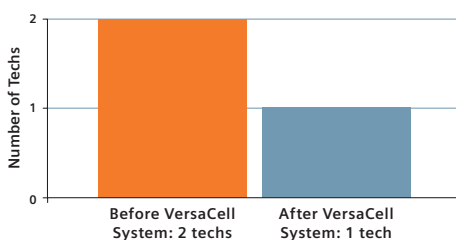
- Reduces need for sorting and aliquoting with one central loading and unloading area for up to 200 samples
- Enables quick STAT sample introduction with immediate prioritization over routine sample processing
- Eliminates time-consuming, error-prone pre-analytical sorting with automatic sample routing
- Provides continuous test processing with easy access drawers for sample loading and unloading
- Automates repeat and reflex testing without compromising throughput or TAT
- Consolidates viewing of all connected instruments with a single, intuitive user interface

Facilitating technologist redeployment

In a world where highly skilled technologists are in short supply, the VersaCell System has helped the laboratory make better use of its personnel. Before installing the VersaCell System, two technologists were dedicated to chemistry and immunoassay testing.

"Since we employed the VersaCell System, we have narrowed it down to one technologist," Prince says. "Because all our techs are generalists, they rotate on a weekly basis to the other departments. We have been able to schedule people to do other things where we need them."

Techs Required for Chemistry and IA Testing



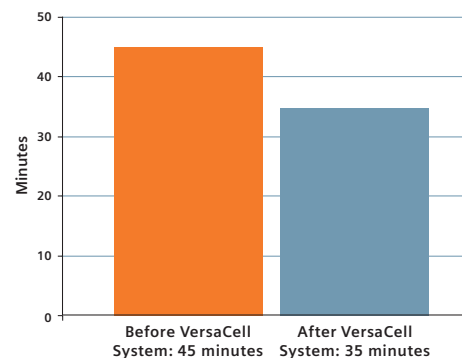
"I have a tech training in bacteriology because of a retirement that's going to occur in the near future," Prince says. "I can take that extra person who was in chemistry and have that person work where we need him or her. It's allowing us to do more cross-training."

Quicker TAT and less batching

"We used to have to frontload the two instruments," says Elsie McElheran, Chemistry Supervisor. "Testing seemed to take quite a while. Now, when we go through the VersaCell System, it bypasses all of that. It's a lot faster when we run things on the VersaCell System."

"The turnaround time was roughly 45 minutes, and now we've saved 10 minutes with the VersaCell System," says Prince. "As soon as the results are done, they automatically print in addition to going to our HIS, so the doctors don't call us much. When it's done, it's done."

Average TAT



In addition, the laboratory does not have to batch as many tests as it did before adding the VersaCell System. "We were batching our fertility, B12, folate, and rubella tests. We would run them once or twice a week, but now we're running them every day. It has obviously improved the turnaround time for the doctors, because we're not batching those tests anymore. Now, we just do HIV and hepatitis testing once a week, or a couple of times a week, but everything else we run daily."

A broader automated testing menu from fewer tubes

The majority of the lab's tests are complete metabolic profiles, cardiacs (Troponin), lipids, thyroids, HbA1cs, hormones, infectious disease, and therapeutic drug monitoring. Since installing the Siemens systems, the laboratory has added fertility, rubella, hepatitis, and HIV testing. "We run about 98 percent of our chemistry and immunoassay tests with one technologist on the VersaCell System," says Prince. "There are very few tests that we haven't put on it. We also ended up automating BNP and the rheumatoid factors, which helped us a lot. We were doing them manually before because our other instrument could not automate them."

Since the VersaCell System can run all of its tests from a single tube, the lab has considerably reduced aliquoting and the number of tubes drawn per patient.

"Before the VersaCell System, when we had a thyroid and a chemistry test, we would always draw two tubes," Prince recalls. "If we had a sendout, we would draw a separate tube. So, you're looking at big numbers. It is significant."



"Now, we've been able to combine all of our disease state panels because we use just one tube. Once you put it on the VersaCell System, it will sample for one instrument and then it'll go to the next instrument. Basically, everything we do now is just from one tube."



Fewer tubes streamline phlebotomy and improve patient care

The ability to reduce the amount of tubes has additional benefits. "It's less blood you are taking out of the patient," says Prince. "Before the VersaCell System was installed, we had a couple of doctors who didn't like how much blood we had to draw, especially with the children. So, they are impressed with our VersaCell System. **It also speeds up the phlebotomy process because there are fewer tubes to label, keep track of, and enter into the system. Fewer sample draws mean less potential for error and better patient outcomes.**"

Consolidating the analyzers has also made for simpler workflow in the laboratory. "When we had the two separate systems, before they were connected with the VersaCell System, we had to use separate bar codes for each tube because they were put on two different instruments," says McElheran. "The doctors would actually get a piece of paper with the report for thyroids and then another piece of paper for chemistry results. They were always complaining about the amount of paper that was generated. Now, everything is on one bar code and all the results come in one report. I am sure the doctors are happy only getting one piece of paper."

User-friendly operation and maintenance

There's no comparison between learning how to operate the VersaCell System and working with a typical chemistry or immunochemistry analyzer. **"I think we had four hours of training, plus a lot of practice on the chemistry analyzers," notes McElheran. "But, literally, with the VersaCell System, it took a half hour to train on it. You just put the tube on it and it goes. Most of the training was learning the software and the different screens."**



The people who work with the VersaCell System report a high level of satisfaction. "I think there was a little bit of apprehension at first, but once they got used to it, they were very happy," Prince notes. "I think they have all seen a big difference with the VersaCell System."

Maintenance of the VersaCell System is also very user-friendly. "There really isn't any effort to maintain the VersaCell System," McElheran comments. "Maintenance consists of just a daily shutdown and a weekly shutdown of the whole system and the computer," Prince adds. "The good thing about the VersaCell System is that we can still manually load both of our instruments."



Equipped for growth

The efficiency afforded by the VersaCell System allows Lewis County to expand its outreach without increasing its cost of operation. "We have plans to grow the outreach business and bring more testing into the laboratory," Prince says. "We are always looking to expand – regardless of how many more tests we bring in house – because with the system that we have, we are not going to have to increase our staff to be able to handle the additional volume. **My CEO asked me a few weeks ago, 'If we bring in X amount of tests, how much more staff would we need?' And I said 'None.'** Actually, I think the only staff we would need is in admissions to do the paperwork to register those patients.

We really would not need the extra people in the lab to run additional testing because the system that we have is very capable. He couldn't believe it. Administration was very, very happy."

"We're glad we installed the VersaCell System," Prince concludes. "The whole experience has been very positive for us."

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