

Behind the Scenes, PROService™ Remote Diagnostics Boosts Productivity, Instrument Uptime at Mercy Hospital Laboratory

Laboratory Profile

- Mercy Hospital, Iowa City, Iowa
- Mercy Hospital Laboratory
- Operates 24 hours a day, seven days a week
- Employs 42 FTEs and 58 staff members total
- Performs 1 million tests annually
- Hematology laboratory equipped with: COULTER® LH 750 hematology analyzer, A•T diff2™ hematology analyzer

At first, Linda Andersen wasn't completely sold on the concept of remote monitoring. As Section Head for Hematology/Coagulation at Mercy Hospital in Iowa City, IA, she was looking into PROService Remote Diagnostics, a technology that allows Beckman Coulter technicians to remotely monitor instruments and proactively troubleshoot issues.

"The service would give outside technicians round-the-clock access to the condition of our instruments," she says. "I was a bit concerned that 'Big Brother' would be watching at all times."

Now, after using PROService for six months, she is one of its most ardent supporters. The proactive troubleshooting has helped the laboratory significantly reduce trial-and-error fixes as well as increase instrument uptime. Andersen's initial concern – around-the-clock access to instrument information – is now a service the lab relies on every day.

The error code simply stated, "Front door open." But when laboratorians checked, the door to the COULTER LH 750 was securely closed. With work to do and little time to spare, the lab continued using the LH 750 throughout the day, even though it meant frequently restarting the instrument to clear the error code. Meanwhile, more than 100 miles away, Hank Armbrecht was picking up a series of e-mail alarm messages.

"I received several e-mails alerting me to the error code," says Armbrecht, Clinical Technical Specialist with Beckman Coulter. "It turned out the front door sensor needed a slight adjustment. I called the lab, explained how to fix the problem and it was taken care of in no time."

The story is just one example of the way PROService is revolutionizing customer service. For labs outfitted with the technology, it's like having a "cyber" engineer on site 24 hours a day, seven days a week.

As the laboratory at Mercy Hospital has learned, this behind-the-scenes monitoring not only increases instrument uptime, it also improves productivity and helps the lab achieve its mission to deliver fast, accurate test results.

	Before PROService	After PROService
Instrument Uptime	Lab did not catch all maintenance issues in time to avoid instrument downtime.	Instrument uptime improved, thanks to ongoing monitoring. In six months, PROService caught several issues and resolved them before work was interrupted.
Lab Productivity	Because of shift changes and workload, minor maintenance issues would persist throughout the day, often slowing workflow. In addition, technologists would need to take time away from work to call service representatives and explain problems, or conduct trial-and-error fixes.	Beckman Coulter technicians constantly track instrument performance and proactively call the laboratory when problems are identified. Minor issues and routine maintenance are handled quickly, minimizing interruption to workflow. Because technicians can remotely monitor equipment, there is no need for technologists to resort to trial-and-error fixes or spend time explaining the problem to the service representative.



An Invisible Safety Net

PROService can be attached to SYNCHRON LX®20 chemistry analyzers and COULTER LH 750 hematology analyzers. Once enabled, it works in the background, constantly monitoring instrument "vital signs," such as temperature, voltage, calibration and other events. If an instrument's performance begins to trend outside normal recognized standards, PROService immediately sends an alert to the Beckman Coulter Hotline, where dedicated personnel monitor messages every day. Hotline personnel determine whether issues can be resolved over the phone or require dispatch of on-site service.

"At first," says Armbrecht, "customers are surprised to get my call. I explain that there might be an issue with an instrument, but this is often news to them because they haven't even seen evidence of a problem yet. They wonder how I know so much."

The source of this knowledge is a small device that sits at the customer's site. It continually encrypts and transmits data to a password-protected Beckman Coulter Web portal monitored by technicians and service representatives.

"Through the Web portal, I can check on instruments 24 hours a day without disturbing the laboratory," says Armbrecht. "Everything is posted to an event log, so it's easy to see if there are issues brewing."

If the Web portal picks up a possible instrument malfunction, such as rising temperature, it automatically sends an e-mail to the appropriate Beckman Coulter service representative. As a result, many issues are identified before laboratorians ever detect a problem.

Such in-depth monitoring is a powerful tool for laboratories, but it often prompts the question: What about privacy?

Some worry that PROService will allow outsiders access to their laboratory's computing network. Others labs express concern about patient confidentiality.

To address these issues, PROService provides multiple layers of automatic privacy protection. In addition, information only flows in one direction: out. Beckman Coulter representatives receive instrument performance data, but they are blocked from accessing any information – patient data or otherwise – on the laboratory's network.

"My privacy concerns have been put to rest," says Andersen. "I like knowing that there is a technician somewhere monitoring our instruments around the clock. As shifts change and different technologists work on the equipment, I know warning signs will not slip through the cracks."

Payoff for the Lab

While remote diagnostics has been available for several years, many diagnostic manufacturers employ it reactively. When an instrument goes down, the lab contacts the service representative who may dial into the instrument over a modem line to try and diagnose the problem.

In addition to being time consuming, this process requires the lab to dedicate a modem line, hook up the modem and pay for any associated costs. In addition, once the service representative connects via modem, they usually take over the entire instrument, halting workflow in the lab.

PROService, on the other hand, links into the laboratory's existing computer network and does not interrupt work underway. Beckman Coulter service representatives can proactively monitor trends to identify potential issues, order a part, and arrange for an on-site visit, all before contacting the laboratory. And by identifying issues early, technicians can often preclude potentially costly and time-consuming problems that may otherwise fester.

"Every problem identified by PROService has reduced downtime in the lab," says Andersen. "Most of the time, PROService keeps our instruments running uninterrupted. If a service representative does need to visit, we know ahead of time so we can plan to use the backup instrument."

In addition, with PROService, the lab avoids wasting time on troubleshooting, telephone calls and trial-and-error fixes. This allows laboratorians to zero in on tasks that demand their analytical skills, which helps the lab complete a heavy workload with fewer technologists.

Andersen notes that remote monitoring not only improves productivity, it also helps laboratorians become more comfortable with the instruments. With easy access to the instrument data, Beckman Coulter service representatives can explain over the phone how to fix many minor glitches and how to conduct preventative maintenance.

"It's like an ongoing, virtual class for us," says Andersen. "Talking to the service representative really helps the technologists feel more confident using the instruments. In fact, everyone in the lab feels more comfortable now that we have this helping hand behind the scenes."

Taken together, all of these benefits keep the laboratory running smoothly and at an optimum level. By removing maintenance obstacles, PROService helps Mercy Hospital's laboratory deliver accurate results quickly, without interruption. This fast turnaround time often translates into faster treatment and potentially shorter hospital stays.

"PROService gives us peace of mind," says Andersen. "And by protecting us from major work interruption, the service frees us to focus on delivering high-quality, medically relevant information that improves patient care."

"My privacy concerns have been put to rest. I like knowing that our instruments are being monitored around the clock."

Linda Andersen
Section Head for
Hematology/Coagulation
Mercy Hospital
Iowa City, IA



SIMPLIFY • AUTOMATE • INNOVATE

Eastern Europe, Middle East, North Africa: Switzerland, Nyon (41) 22 994 0707. Australia, Gladsville (61) 2 9844 6000. Canada, Mississauga (1) 905 819 1234. China, Beijing (86) 10 6515 6028. Hong Kong (852) 2814 7431, 2814 0481. France, Villepinte (33) 1 49 90 90 00. Germany, Krefeld (49) 2151 33 35. Italy, Milan (39) 02 953921. Japan, Tokyo (81) 3 5404 8424. Latin America (1) (305) 380 4709. Mexico, Mexico City (525) 575 6805. Netherlands, Mijdrecht (31) 297 230630. Singapore (65) 6339 3633. South Africa/Sub-Saharan Africa, Johannesburg (27) 11 805 2014. Sweden, Bromma (46) 8 564 85 900. Switzerland, Nyon 0800 850 810. Taiwan, Taipei (886) 2 2378 3456. Turkey, Istanbul (90) 216 309 1900. UK, High Wycombe (44) 01494 441181. USA, Brea, CA (1) 800 352 3433, (1) 714 993 5321.