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Service Solutions: Culturing Relationships in the Clinical Lab

Feeling shut out? Diligence and technical expertise can increase biomed involvement.

By Dana Hinesly

Most people would be hard pressed to identify any industry thriving in the 21st century that is unaffected by the continuous evolution of computers and technology. The clinical laboratory is no different.



Biomedics who share servicing responsibilities in the lab with vendor specialists save hospitals money and keep labs running smoothly with less equipment downtime.

“Several important innovations are changing what we can measure and how well we do it,” says Ron Blum, PhD, assistant vice president, marketing, for

Valencia, Calif.-based Specialty Laboratories, a full-service, clinical reference laboratory serving thousands of clients across the United States and throughout the world. “Technology is not only enhancing test-performance characteristics, but expanding the application of existing methodologies to help answer complex clinical questions.”

These changes mean that today’s analyzers are capable of performing tests of increased sensitivity with smaller sample sizes and identifying diseases much earlier than was possible just a few years ago. Improved technology—both in the equipment and in the operating systems to which they connect—takes most of the credit for these advancements.

“Probably the most significant change in the last 20 to 30 years is

how the equipment interfaces with the lab information systems,” says Stephen Maull, systems training specialist, DITEC Inc, Solon, Ohio. “Analyzers are getting faster because computers are getting faster.”

It’s become commonplace to enter a lab and see multiple analyzers linked together, performing a sequence of tests with the push of a single button. Once complete, reports are distributed instantly—a streamlined process that increases throughput and decreases turnaround times.

“Although all labs perform tests, the industry’s focus must be service oriented,” Blum says. “Turnaround must be rapid, and results must be highly accurate with superior quality.”

Automation improves the bottom line, but it doesn’t necessarily improve life for the biomedical equipment repair technicians (BMETs) tasked with keeping the lab up and running. The machines’ increased complexity, combined with the growing cost of ownership, has led to a rise in the number of leased machines, shifting areas of responsibility in many cases.

“More and more pieces of equipment are being provided to hospitals on a reagent rental basis with supplies and service included,” says J. Scot Mackeil, CBET, senior biomedical engineer, Jordan Hospital in Plymouth, Mass. The result? “The biomed tech is cut out of the mix.”

Building Trust

Arriving at the middle ground where BMETs can contribute to the clinical laboratory isn’t easy, but developing solid relationships between the biomed and the lab is a huge step in the right direction.

“One of the most important things the biomed staff can do is develop a good relationship with the lab technicians,” Mackeil says. “Build trust by properly and efficiently servicing the smaller equipment—such as centrifuges, histology equipment, microscopes. The next step [will be] lab techs calling when they need help with an analyzer.”

While there is little doubt that gaining the confidence of the lab technicians is the only way to increase the frequency of service calls to the BMET team, gaining this inroad requires an investment of time and energy—and some patience.

“Lab techs are notoriously protective of their equipment,” says Jason Condon, clinical engineering specialist, laboratory operations, TriMedx Healthcare Equipment Services,

Indianapolis. “[But] if they trust that you know what you’re talking about, and that you understand how important it is that the machine is up and running, that goes a long way toward building trust with the tech.”

In addition to protectiveness, many lab techs call the original equipment manufacturer (OEM) for all service issues with the impression that their equipment has become too technically advanced for in-house BMETs to handle. This isn’t always the case, even in labs with high-end analyzers.

“When you break it down and get into what is going on with the analyzers, the technology really [hasn’t] changed that much, which allows the biomed to get more involved than people [think they] might be able to,” Condon says.

Maull agrees that much of the work required in the lab is not as difficult as it is perceived to be and that it provides “a tremendous opportunity for service organizations to enhance and expand their offerings to their customers in the lab.”

Convincing lab techs of that fact isn’t always an easy task, but diligent BMETs can overcome any hesitance with persistence. The first step is for biomed to make themselves known to lab staff. This is as simple as designating a BMET as the primary contact for lab technicians. The next step is visiting the techs on a regular basis, learning more about each piece of equipment with each visit.

“The best way to break that barrier is to have a BMET learn how the high-end equipment works,” Maull says. Hematology analyzers are just one piece of equipment providing such an opportunity. “The BMET can learn how to do calibrations, how to make it do red blood cell counts. It will build trust ... so [the lab techs] will give them the opportunity to work on the equipment.”

Blum agrees that getting involved when the equipment is functional goes a long way toward getting a call from the lab when it’s not.

“[It’s important that biomed] understand the instrumentation and the significance of the testing,” he says. “[BMETs should] understand how important it is if the instrument goes down, what’s at stake, what it’s used for—how the end results are utilized.”

As the trust grows with the lab technicians, initial calls may not be more than requests to help with vendor-given directions, but

such instances are golden opportunities for biomed to ingratiate themselves with the lab staff.

“Once you start building that relationship of trust, and show that you know what you’re doing and that you can operate in the environment, you will make incremental progress—doing more and more in the lab,” Mackeil says.

Train in Vain

While service for many analyzers and smaller pieces of equipment hasn’t changed significantly in recent years, there are undoubtedly cases where burgeoning technology demands ongoing BMET training. Unfortunately, many biomed eager to stay up to date are finding training difficult—or, in some cases, impossible—to obtain.

“With some [vendors], if you’re not with them, you’re against them,” Maull says. “They’ll send an operator’s service manual, which basically shows you how to change fuses but nothing more.”

While most BMETs feel cooperation would benefit everyone, they find it is not always easily accomplished.

“The lab equipment companies often make it difficult for us to acquire parts and technical manuals,” Mackeil says. “The service departments in these companies are often challenged to be profit centers, so they don’t want competition.”

Frustration on the part of biomed is often compounded by the fact that most have no desire to push vendors out of the clinical laboratory. In fact, while much of the equipment is straightforward enough to tackle, some certainly is too complicated, and that’s when calling the OEM is the first choice for everyone, including the BMET.

“With blood-gas analyzers, hematology analyzers—if you know one, you have a really good idea of how they all work,” says Maull. “With chemistry analyzers, that’s not the case. If you go to a school for one chemistry analyzer, that’s the only one you know.”

“[A lot of] lab equipment is a lot more complex than it once was,” concurs Mackeil. “Unless a biomed engineer has a lot of lab-specific experience or training, the reality is to leave it to the OEM experts.”

Most biomed departments are not competing with vendor engineers, but instead are aiming for a balance in which on-site

engineers handle smaller service issues, thereby freeing vendor specialists to handle the more involved ones. This combination of service ultimately eliminates unnecessary facility costs and lessens lab downtime.

“Working with the vendor when on-site is a win-win for everyone,” Condon says. “The vendor looks better in the lab’s eyes, and BMETs get to work on systems they haven’t been able to in the past. The ultimate goal is for the lab to get a better response time and improved service.”

In fact, solid and continual interaction with vendor engineers is almost as vital as communication with lab techs—and sometimes exposes biomedes to the elusive training they seek.

“If an engineer comes in, [biomedes should] spend time with them, shadow them,” Condon says. “Be close by and ask questions, develop that relationship on a local level, and build from there.”

An Ounce of Prevention

As any BMET knows, repairing and servicing machines is only half of the equation. With consistent and attentive preventive maintenance (PM) work, BMETs can go a long way toward decreasing the overall number of service calls.

“You can eliminate a lot of service problems by keeping up on PMs,” Condon says. “Paying attention to getting [them] done right and on time is one of the staples of our programs and one of the reasons we’ve been as successful as we have.”

While the application of preventive maintenance is as individual as the labs themselves, it boils down to one simple factor: doing it. While the general rule is that the equipment’s owner is responsible for carrying out and recording regular maintenance, who does the work isn’t always as critical.

“[Unlike some areas in the hospital], it’s almost guaranteed that the manufacturer-required user maintenance is getting done in the lab,” Maull says. “Lab techs know their equipment, and they take care of it really well.”

In such cases, BMETs should work with lab staff to verify when and how the preventive maintenance was done and to confirm that all related equipment records are updated accurately.

Regardless of who conducts the actual PM, Mackeil recommends BMETs meet with the lab manager each year to review the date of and requirements for the College of American Pathologists (CAP) system inspection and establish areas of responsibility to

ensure nothing slips through the cracks.

“One of the best things a biomedical engineering department can do is define the responsibility of the engineers, [making it clear] which pieces the department is responsible for and which analyzers are serviced under OEM agreements,” he says.

“You need to make sure [leased equipment] passes the electrical safety portion,” Maull agrees. “But you don’t have to be quite as diligent about maintenance records because the OEM is responsible for [that].”

While the responsibility for maintaining equipment records of leased machines may technically fall to the OEM, some biomed departments choose to keep copies of all vendor service records, with other benefits in mind.

“[Keeping records] is helpful, whether it’s a CAP or Joint Commission on Accreditation of Health Care Organization inspection,” Condon says. “If there’s going to be one source that the lab is comfortable going to for service records, we want to be that source.”

For facilities choosing this route, Condon suggests placing a folder in the lab and asking technicians to fill it with copies of any service documents they receive from the vendor’s engineer. Biomedics can collect the forms weekly and record the information into their own tracking software.

As technology advances, it seems BMETs must become as expert at maintaining relationships as they are at maintaining analyzers. In the end, however, providing exceptional service continues to matter most.

“You have to show [lab techs] you know what their environment is and that you can function in their world,” Mackeil says. “If you can’t cross that bridge, there are a lot of other bridges they won’t let you cross at all.” 24x7

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