



John Muir Medical Center Recognizes the Need for a Centralized, Fully Integrated POC Data Management Platform and Implements RALS-Plus

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Barbara Brunell, MS, CLS, MT(ASCP)
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Medical Automation Systems has been installing its RALS technology throughout the United States and Canada since 1996 and now has nearly 500 sites up and running. However, when MAS sent a team to Walnut Creek, CA in September 2003 to implement a RALS-Plus system at John Muir Medical Center, it wasn't "just another install".

Unlike other institutions that started their connectivity programs with glucose data management, and added other modules to their system some time later, John Muir decided to "jump in with both feet" and planned on managing a system that included devices from five different vendors right from the start. It's a strategy that MAS knew would happen when it launched RALS-Plus as a vendor-independent information management system for POCT in 2001.

A Need to Increase Productivity, Competency and Efficiency

John Muir Medical Center is a 322-bed acute care facility, located in Walnut Creek, CA, that is designated as the only trauma center for Contra Costa County and portions of Solano County. Recognized as one of the region's premier healthcare providers, areas of specialty include high- and low-risk obstetrics, orthopedics, neurosciences, cardiac care, and cancer care. John Muir Medical Center is accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), a national surveyor of quality patient care.

Prior to implementing RALS-Plus, the POC program, although

using multiple devices, did not have an automated connectivity program in place. To gather data, a volunteer would go to all 25 nursing units at the hospital and download (or upload) test results from glucose meters to a laptop computer. Glucose reports were printed and reviewed each month and results were not sent to the LIS. Pharmacy manually captured about 60% of the glucose tests for billing as a pharmacy item. Blood gas analyzers, located in surgery, were not connected to the LIS and results were written on perfusion reports. Reference ranges were stapled to those reports and tests were charged as a surgery item. Hemoglobin analyzers were downloaded monthly with test data printed and reviewed only. The results were not sent to the LIS and tests were not billed. ACT and APTT results were manually entered into the LIS by technologists and QC was tracked on manual logs. BNP tests were also manually entered into the LIS.

John Muir Medical Center POCT Volume

Test	Annual Volume
Glucose	91,400
Coagulation	2,000
Blood Gas	6,300
Cardiac Markers	7,200
Hemoglobins	2,064

“One of our primary needs was to reduce the time that the POCC was spending each month reviewing glucose reports,” states Barbara Brunell, MS, CLS, MT(ASCP), Quality Assurance, Compliance, Safety & POCT Coordinator at John Muir. “We also needed to follow-up on critical values in a more timely fashion, something we couldn't do when the information is 5-7 weeks old. And our Medical Director is responsible for assuring competency of all testing personnel - we can't do that if we can't control or track who actually does the testing”.

The Case for RALS-Plus

Brunell first came across the RALS-Plus system at the 2001 AACC Clinical Lab Expo in Chicago. “I went to the meeting specifically looking for a way to change the way we were doing things in our program. MAS had just come out with RALS-Plus and I noticed that they had interfaced several of the instruments we were using into their system,” says Brunell. “After talking with them, I learned that RALS-Plus could control

unauthorized use of meters, track users, provide timely QC tracking, and most of all, eliminate sneakernet. I was impressed with what I saw and decided to look more into the possibility of a multi-vendor system to solve our program needs,” she adds.

Along with Theresa Todoroff, CLS, MT(ASCP), Assistant POCT Coordinator at John Muir, Brunell compiled information from a number of sources, including the AACC POCT Listserv. She contacted RALS customers at larger facilities – hearing that installations RALS of went very smoothly and MAS personnel were on-site for the actual implementations. She also learned from attending POC Group meetings what the financial advantages could be. Theresa also calculated that due to inefficiencies in her existing program, John Muir Medical Center was missing over \$1 million annually in unbilled tests.

Getting Started – Little by Little or All at Once?

“I actually never thought about connecting only one part of our POC testing. We needed to do all we could to demonstrate the benefit of having connectivity,” says Brunell. “Therefore, in addition to glucose, we could charge for all the hemoglobins done in the nursery. Reference ranges would also be in the patient’s medical record (we received a Type 1 from JCAHO because there were no reference ranges on the Perfusion Form for the blood gases), results from the i-STATs would not have to be manually entered by ER nurses into that department’s Hmed computer — or manually charged either (with duplicate billing a compliance issue), technologists would not have to manually enter ACT and APTT data from surgery, CCU or the cath lab.”

The RALS-Plus Software Modules at John Muir:

- LifeScan SureStep Pro/Flexx (Glucose)
- ITC Hemochron Signature + (Coagulation)
- i-STAT (chemistry)
- Biosite Triage (Cardiac markers, BNP)
- HemoCue (Hemoglobin)

After documenting the need for connectivity, Brunell then obtained a proposal from MAS to interface their entire program which included LifeScan SureStep Pro glucose meters (23 downloads), ITC Signature + coagulation analyzers (3 downloads), i-STAT blood gas devices (2 downloads), Biosite Triage meters (2 downloads) and HemoCue hemoglobin analyzers (3 downloads).

“We knew that all nursing units needed their own glucose meter docking stations for downloading test results, eliminating the need to visit each location on a regular basis and provide more timely information,” states Todoroff. “The connection to RALS-Plus will also tell us who is doing the test and will help us improve overall compliance. And, with the HL7 LIS interface, our billing reports will be more accurate since they reflect *all* patient testing, and will go a long way to recovering the potential \$1 million in previously unbilled tests.”

Brunell adds, “We also plan to connect our i-STAT analyzers, and possibly a cardiac monitoring reader in the ED, hemoglobin analyzers in Nursery, BNP in chemistry, and coagulation and blood gas analyzers in surgery. And that’s just the beginning.”

“The ability to scale the RALS-Plus system will enable us to link our sister hospital, Mount Diablo Medical Center in Concord, CA, into our program at a later date,” reports Todoroff.

With the documentation completed, it was time to get the proper approvals to move forward with the implementation. “No one department wants to pay for connectivity, and where the money to fund the program would come from greatly delayed the decision. However, after showing our Medical Director and Nursing Vice President that about 26% of the glucose tests at our facility were performed by unidentified personnel, it gave us the leverage to move forward and get our program on the road to reality,” concludes Brunell.

What does the Future Hold?

The RALS-Plus system was installed at John Muir Medical Center during the week of September 15, 2003, and although it’s too early to tell of the benefits gained by the decision to implement RALS-Plus for the entire POC program, hopes are high.

“Documenting the large volume of tests we do will enable us to capture a great deal of revenue once lost,” says Brunell. “And the fact that technologists will not have to manually enter coagulation and BNP results will go along way to improving efficiency and reducing errors,” she adds.

Todoroff also sees better compliance days ahead, “The ability to review and track data in a timely manner should result in quicker resolution to problems and improved compliance from the nursing staff. Only time will tell.”

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