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Patient care and accreditation with the RAPIDComm 4.0 Data Management System.

Helping Royal Free Hampstead NHS Trust Achieve Accreditation for Point-of-Care Testing

Answers for life.

"The system doesn't just streamline workflow and reduce expenditure. It helps improve patient care by standardizing procedures, assuring quality, and reducing risk, regardless of where the testing takes place."

Gillian Hall
POCT Manager & Clinical Biochemistry Quality Manager
Royal Free Hampstead NHS Trust, London, UK

London's Royal Free Hampstead National Health Service (NHS) Trust realizes some of the best clinical outcomes in the UK. This demonstrable quality of healthcare generates thousands of referrals from around the world, including patients from countries as far as Australia. About 5,500 staff and 900 beds support care provision that includes a major accident and emergency (A&E) unit, all branches of surgery and medicine, a renal service for all of North London, and a high-security infectious diseases facility.

The Importance of Clinical Pathology Accreditation at the Royal Free

With a worldwide reputation for maintaining clinical excellence, the Royal Free Hampstead NHS Trust measures and demonstrates its care provision by adhering to stringent standards. For Gillian Hall, point-of-care testing (POCT) manager and clinical biochemistry quality manager, a key objective is to ensure that the Trust's POC testing services meet Clinical Pathology Accreditation (CPA) guidelines. "Achieving CPA is extremely important for the Royal Free," says Hall. "Service users and patients can be confident that our POC testing is safe. What's more, we can lower our insurance premiums to the NHS Litigation Authority. If we can move to the next NHSLA level by demonstrating CPA compliance, it will equate to significant savings for the Trust."

The need to demonstrate compliance across a range of POC testing services was a major driver behind the Royal Free's decision to upgrade to version 4.0 of Siemens Healthcare Diagnostics' RAPIDComm® Data Management System.

"Siemens had installed the RAPIDComm 3.0 system back in January 2011," says Hall. "That put us in control of our blood gas testing, but version 4.0 goes further. It gives us the connectivity to control and troubleshoot our urine chemistry and diabetes care analyzers, too."

The initial focus of the RAPIDComm Data Management System when released in 2006 was to provide point-of-care coordinators with real-time oversight of multiple Siemens RAPIDSystems™ blood gas analyzers from a single location. Wide-ranging blood gas capabilities include the ability to remotely access and troubleshoot connected instruments, set alerts, manage operators, view live screens, generate QC reports, schedule and record maintenance activities, and to even take direct control of RAPIDLab® 1200 and RAPIDPoint® 400 and 500 series blood gas analyzers from the laboratory or office. Siemens has continued to expand the functionality of the RAPIDComm system with version 4.0, which also supports CLINITEK Status® Connect urine chemistry analyzers and DCA Vantage® HbA1c diabetes care test instruments.

First Observations at the Royal Free: Blood Gas Testing

Initial experience of the RAPIDComm system at the Royal Free following the January 2011 installation was "very positive," with the Trust observing significant improvements in uptime and productivity on connected Siemens blood gas analyzers. "Before RAPIDComm system installation, we didn't have the remote troubleshooting we required," observes Gill. "Operator management wasn't straightforward, and we couldn't access information on reagent levels, which often resulted in a trip to

the analyzer and then another trip to the lab to collect consumables. Crucially, we couldn't reconstruct an audit trail for a processed sample."

"The RAPIDComm solution lets us address those issues proactively," she enlarges. "Previously, ward staff would call to alert us of a problem. Now we can monitor the overall status of our blood gas analyzers remotely, spot potential problems in advance, streamline and prioritize maintenance, and comply with essential record keeping for audits."

The RAPIDComm system is helping Gillian Hall achieve Royal Free's goal of becoming paper-free. Maintenance activities for the POC devices can be scheduled, alerted when due, and then recorded when completed. Event History provides easy access to search, review, and confirm if maintenance has been completed. Maintenance reports can also be generated as proof of when tasks were performed, and by whom. "These are very important details for accreditation audits," observes Hall.

Stock control and reagent usage audits are also easier with the RAPIDComm system. Device Event History can be used to confirm the stock a particular ward or individual analyzer used over a specified time. This is important functionality for the Royal Free, as the Trust cross-charges for consumables used.

Extending Testing Oversight to Urinalysis and Diabetes Care

Urinalysis and diabetes care tests are other essential components of POC testing services at the Royal Free. Thirty-five CLINITEK Status

analyzers from Siemens are deployed across multiple locations for hCG and urine chemistry testing. A DCA Vantage analyzer in the Pediatric Outpatients Diabetic Clinic helps to drive diabetes care compliance with clinically proven HbA1c, Albumin and Creatinine tests, and Albumin-to-Creatinine ratio results. With the upgrade to version 4.0, Gillian Hall and her team were able to connect and remotely monitor and control this DCA Vantage analyzer – as well as a the CLINITEK Status Connect urine chemistry analyzer located within the main lab – through the RAPIDComm system. Expanding the connected POC instruments to include urinalysis and diabetes care devices is critical to the Trust's long-term plans.

"The RAPIDComm 4.0 solution integrates oversight of blood gas, urinalysis, and diabetes care testing and helps drive compliance in all of these areas," says Hall. "We can generate audit trails, process QC data, record patient results while maintaining patient privacy, and limit instrument access to only trained and certified operators. All of this happens on a common platform that supports different types of point-of-care test equipment. The benefits of integrated connectivity also make it easier to build a case for funding to connect more analyzers. Ten of our 35 CLINITEK® analyzers are capable of connectivity, pending the installation of network points."

Comprehensive Connectivity and Support from a Full Service Provider

The Royal Free Hampstead NHS Trust is the first healthcare provider in the UK to take advantage of the full suite of POC connectivity solutions from Siemens. In addition to allowing POC coordinators to monitor and support decentralized instruments, the RAPIDComm system also serves as a conduit for increased support provision for connected devices from Siemens personnel via Siemens RealTime Solutions™ (RTS).

The RTS remote monitoring solution provides N3 Internet-based connectivity, enabling dedicated Siemens Helpdesk staff to remotely access the RAPIDComm system and connected point-of-care analyzers. Using the RAPIDComm system at the Royal Free as the interface, Siemens staff can view the information that Royal Free users are seeing to help expedite issue resolution. Remote access to the instruments, confirmation of configuration settings, and the ability

> "Without the RAPIDComm Data Management System, Clinical Pathology Accreditation would be difficult to achieve."
>
> Gillian Hall

to review communication log files allow Siemens Helpdesk staff to troubleshoot and support the connected devices when necessary.

Gillian Hall observes that RTS connectivity is "extremely beneficial. Remote troubleshooting lessens the workload. It eliminates the need to download and manually email an error log to the support team, and return advice is always prompt.

"In fact our overall experience of Siemens support is excellent," she adds. "When we upgraded to version 4.0 of the RAPIDComm system, the installation team faced a few problems with the server. The team stayed late and didn't leave until the upgrade was successful."

Siemens' support for POC testing at the Royal Free extends to on-site training, event hosting, the provision of e-learning materials, and even assistance with audits. A urinalysis audit completed by Siemens resulted in a report that was "comprehensive, providing me with exactly the information I needed in order to suggest improvements on the wards," says Hall. "Not having to carry out the audit personally freed up my time to focus on other aspects of the service."

A Siemens Process Improvement Team hosted a rapid improvement event for the Trust in February 2011. This three-day

> "RAPIDComm 4.0 allows us to manage our blood gas, urinalysis, and diabetes care analyzers and process QC results through a single interface. The software is straightforward and easy to use, which simplifies training of end users and administrators."
>
> Gillian Hall

meeting "helped us to learn best practice for POCT processes and left us with an action plan to achieve further improvements," Hall remarks.

The Way Forward: Accreditation and Outreach Care

Point-of-care testing compliance at the Royal Free Hampstead NHS Trust is soon to be assessed with a forthcoming inspection for Clinical Pathology Accreditation. "I believe that without RAPIDComm and the support we have had from Siemens, CPA would be extremely difficult to achieve," states Hall.

"In the case of a blood gas sample, the RAPIDComm Data Management System provides a full audit trail for CPA purposes. With any given sample, we can easily show which reagent cartridges were used and which operator ran the sample, along with full details of IQC results, calibrations, maintenance records, and results of proficiency testing. Excepting maintenance management, we can audit urine chemistry and diabetes care samples in the same way."

POC testing at the Royal Free will continue to expand over coming years as the Trust extends its community-based outreach services. "The remote monitoring capabilities that the RAPIDComm Data Management System provides will become even more important," concludes Hall. "The system doesn't just streamline workflow and reduce expenditure. It helps improve patient care by standardizing procedures, assuring quality, and reducing risk, regardless of where the testing takes place. We are moving toward an even safer, accredited POCT service that spans multiple test types, diverse sites, and meets the same high standards that apply in the central laboratory."

Siemens Healthcare Diagnostics, a global leader in clinical diagnostics, provides healthcare professionals in hospital, reference, and physician office laboratories and point-of-care settings with the vital information required to accurately diagnose, treat, and monitor patients. Our innovative portfolio of performance-driven solutions and personalized customer care combine to streamline workflow, enhance operational efficiency, and support improved patient outcomes.

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