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Clinical
Case
Study

ISO Accreditation at St. James's Hospital is supported by POC Ecosystem Solutions.

RAPIDComm Data Management System helps Ireland's largest teaching hospital achieve uniform POCT compliance.

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St. James’s Hospital in Dublin occupies a city site long associated with provision of care for those in need, dating back to 1667.

St. James’s Hospital (SJH) has since evolved into the largest teaching hospital in Ireland with 1020 beds supporting over 350,000 patients annually. Care provision across a multifacility campus includes a comprehensive point-of-care testing (POCT) program overseen and managed by Felicity Dempsey, the hospital’s point-of-care coordinator.

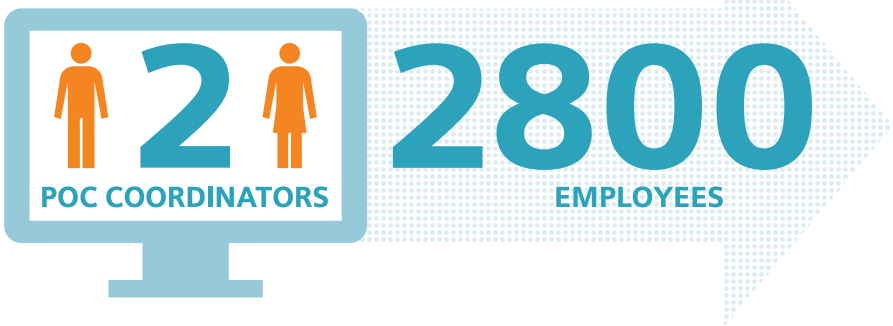
Approximately 650 physicians and ICU personnel process samples on the blood gas analyzers, and about 2200 nurses use the CLINITEK® analyzers. “My job is akin to running a business with over 2800 employees who all have to be managed and trained regularly,” says Felicity. “Risk has to be managed efficiently on a day-to-day

basis, QC and patient results have to be reviewed every day, and phone calls and emails have to be dealt with as they arrive. It is quite a task, but through the POC ecosystem that the RAPIDComm system creates, I’m able to maintain hospitalwide quality and testing compliance with just two staff.”

The scope of POCT at St. James’s

Reliance on POCT at SJH “has grown exponentially in the last few years,” says Felicity Dempsey. “The number of devices we are using is increasing all the time, along with the number of operators and the number of tests.”

POCT performed throughout the campus includes 11 RAPIDPoint® 500 Blood Gas Systems used for critical care support in ICUs, the emergency department, in surgery, and on medical wards. The hospital also utilizes 25 CLINITEK Status® Connect Systems for urinalysis and pregnancy testing across 16 discrete settings. All the analyzers are overseen and managed using the Siemens Healthineers RAPIDComm® Data Management System.



“We had our third ISO 15189 inspection for point-of-care testing in April this year, and were fully compliant. We are setting and realizing levels of quality intended for main laboratory chemistry, which is quite a feat. The RAPIDComm Data Management System has played a huge role in this achievement.”

Felicity Dempsey
Point-of-care Coordinator
St James’s Hospital, Dublin

“Our RAPIDComm system ensures that the right result is reported on the right patient by a fully trained operator at the right time,” Felicity observes. “If you don’t have that, you don’t have a quality POCT system.”

The RAPIDComm Data Management System: the heart of St. James's POC Ecosystem solution

RAPIDComm Data Management is part of Siemens Healthineers POC Ecosystem™ solutions that empower the centralized management of POCT programs. It is a key enabler for POCT coordinators, helping them to establish a healthy “ecosystem” through which testing efficiency is maximized, clinical workflow is improved, compliance is adhered to, and costs are efficiently managed.

“The RAPIDComm system lets me manage POCT in a logical and systematic fashion,” says Felicity. “It allows me to see at a glance all the aspects of POCT and the dependency of each aspect on the others. I liken the ecosystem RAPIDComm enables to a ‘hub and spoke’, where point-of-care quality is the hub and the various RAPIDComm system components feed in. No single aspect of POCT is dealt with in isolation. The quality standards we maintain rely on collective input from all of the ecosystem components.”

“The RAPIDComm system is entirely logical and user-friendly,” she adds. “When SJH was investigating suppliers for blood gas POCT, what first attracted me to Siemens Healthineers was the RAPIDComm system. Its ease of use was a huge factor in the acquisition of our blood gas analyzers. I’m not going to get more staff, so I need the best technology to help me reduce my workload and contain tasks within a reasonable day.”



Siemens' POCT Ecosystem Solution.

“The RAPIDComm system is so easy to use, in particular for the training and competency of operators.”

Complying with lab-quality standards for POCT at St. James's

The ISO 15189 standard details comprehensive requirements for quality and competence particular to medical laboratory testing. SJH is exploiting the full potential of the RAPIDComm Data Management System to help realize and maintain ISO 15189 accreditation of POCT services, and inspections in 2015 and 2016 by the Irish National Accreditation Body (INAB) demonstrated zero nonconformity issues. “Our RAPIDComm system played an invaluable role in this accomplishment,” explains Felicity.

Secure access for authorized operators of Siemens' POCT devices at SJH is centrally

managed through the RAPIDComm system. “We can record their names, ID, level of security, certificate date, and their trainer,” says Felicity. RAPIDComm system Version 5.0 allows Felicity to record the name of the operator's trainer, the name of the assessor, and the date of assessment. “This is a useful feature upgrade from Version 4.0,” Felicity notes. “ISO 15189 requires a witnessed test to be carried out as part of proper operator competency and training. I can easily provide evidence of this now.”

ISO 15189 accreditation requires evidence of routine QC and external quality assessment (EQA) being reviewed. “I can do this using the Comments section in the QC reports,” Felicity points out. “I review instrument

QC in conjunction with the comments made. Reports are scrutinized in quality meetings with our consultant chemical pathologist, who can see at a glance any instrument's QC performance along with the explanatory notes I have made.”

RAPIDComm system software allows Felicity to report interdevice comparisons for EQA. She regularly compares blood gas results among all RAPIDPoint 500 analyzers and with results generated on the hospital's laboratory analyzer. “We can collate these comparisons using the RAPIDComm Report Log,” says Felicity. “We can investigate and document percentage differences, as the ISO 15189 standard expects of us.”



Managing the challenge of POCT workflow to improve patient care

"I have to manage POCT workflow on 30 Siemens Healthineers analyzers used by more than 2800 operators," says Felicity. "St. James's occupies a large campus, and the analyzers are in place in over 25 locations.

The RAPIDComm system software allows Felicity to ensure that proper workflow is followed on all devices for every operator running POC tests in each and every hospital location. "I can follow progress of a patient sample from handling of the result on the test device through to correct storage on the electronic patient record," she observes.

"I can also remotely review an operator carrying out a test and advise over the phone as to the correct actions to be taken if there is a problem. I can provide instant instruction on when to change measurement and AQC cartridges, and importantly, I can easily identify and track down 'rogue' operators who are using inappropriate

patient IDs or incorrect medical registration numbers. These operators contravene hospital policy and potentially compromise patient care by not following proper procedure. Rogue operators are deactivated pending further training."

RAPIDComm system software provides a full audit trail of all operator actions and patient results. "I can choose what I want to review by filtering device and operator criteria from a bank of options and can then take action to improve subsequent workflow accordingly," Felicity points out.

"The full audit trail available through the RAPIDComm system helps us to improve patient care. We can identify and then take steps to minimize risk at every stage of testing and reporting. We can even export a Patient History Log and email a timely report to the medical team, if need be."

"I simply could not optimize workflow and maintain the quality standards that optimal care delivery depends on without the oversight our RAPIDComm system supports."



Reducing the cost of POCT at St. James's

The Device Workload Report in the RAPIDComm system has helped Felicity to lower the cost of point-of-care testing at SJH. "The Workload Report keeps me up to date on the most efficient use of device measurement cartridges. I can save on running costs by matching the size of the measurement cartridge to the workload in each area for most efficient use," she explains.

Switching from a 400- to a 250-test blood gas measurement cartridge has reduced the cost per test in SJH's respiratory ward by 33%. Changing to a 750-test blood gas measurement cartridge in-theater has realized a 5% cost-per-test saving.

With the Material Use Report, Felicity can see if a cartridge has been discarded before its on-board expiry date. Investigation of the analyzer Trace Log and comparison with the Event Log the RAPIDComm system generates allows her to pinpoint the cause of a failure. "If the cause is anything other than operator error, I can obtain a cartridge refund."

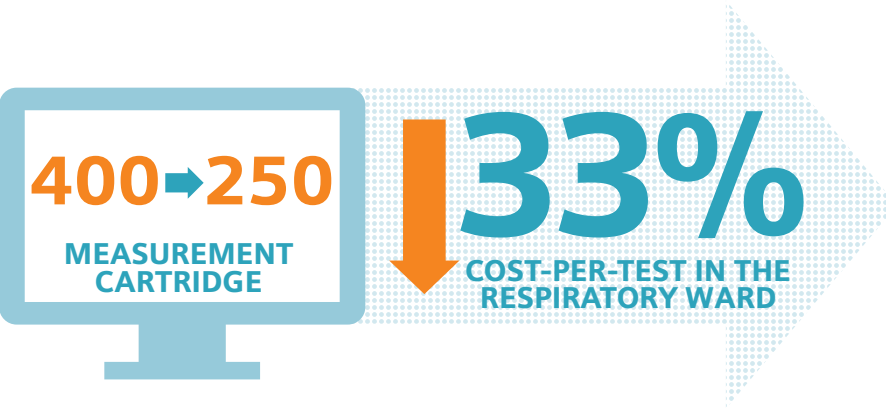
"The inventory-management capabilities available in RAPIDComm Version 5.0 have helped me more efficiently manage consumables and certainly reduce running costs," Felicity concludes.

Summary

The functionality provided by Siemens Healthineers RAPIDComm Data Management System has helped St. James's Hospital establish and maintain an institutionwide POCT ecosystem that supports critical

care testing to the ISO 15189 standard of quality and competence set for medical laboratories.

The RAPIDComm Data Management System assists the management of the hospital's entire POCT program by just two staff and is helping SJH to improve patient care through better testing efficiency, improved clinical workflows, reduction of risk, and an overall level of proficiency in testing that adheres to a rigorous standard of excellence.



"Inventory management capabilities have helped me more efficiently manage consumables and reduce running costs."