

# NHS 'super centre' delivered for Royal Free

The Royal Free London NHS Foundation Trust has partnered with CFES and Getinge to make its vision of an NHS-owned decontamination super centre a reality – offering the ability to improve services within the Trust, as well as other hospitals in the London area and beyond. **Louise Frampton** witnessed first-hand the scale of the operation on a visit to the state-of-the-art Enfield site.

The Royal Free London NHS Foundation Trust has built a new 32,000 sq ft decontamination super centre, capable of reprocessing 20 million instruments and 130,000 endoscopes. The £14 million state-of-the-art facility has improved decontamination services, by replacing ageing sterile services and endoscopy reprocessing departments across three hospital sites. At the same time, the super centre is opening up new sources of revenue for the Trust, by providing decontamination for other hospitals – allowing additional funds to be reinvested back into NHS services.

The existing facilities were reaching the end of their life and investment was required to maintain a compliant service across the Trust's three main complexes – including Barnet, Chase Farm and Royal Free hospitals.

"The average washer-disinfector has a life expectancy of seven years, while an autoclave has an average life span of 10 years. At Barnet, the equipment had far exceeded this and the department was having to use a collection of portable cabins. The units at Chase Farm and the Royal Free faced similar challenges, with staff working in cramped conditions," explained general manager, Mark Sibbons.

Unlike most other NHS decontamination departments, the endoscopy and instrument decontamination services operate side by side within the same unit. The sterile services department has been designed utilising the latest technology and there is an emphasis on ease of use



The NHS facility aims to win contracts from hospitals across London and beyond.

The decontamination units were also facing pressure to keep up with increasing demand. Limited space meant that on-site expansion was not an option. A long-term solution was sought, instead, that would allow the Trust to future-proof its reprocessing services and continue to ensure high quality, safe

decontamination of its instruments and scopes. At the same time, this had the ability to free up valuable clinical space at the hospital sites.

## The vision

Discussions around the concept of an NHS-owned decontamination super centre were initiated over 10 years ago, when Andrew Panniker – managing director, RFL Property Services – first shared his vision with Mark Sibbons. There was a growing trend, at this time, for decontamination to be outsourced to large, private sector companies. Andrew saw the potential for a large NHS-owned super centre to move into this space – keeping investment within the public sector.

"With private decontamination suppliers, up to 40p in the pound is profit. All of this money is being taken out of the NHS. We can reinvest this money on theatres, staff and on providing a better service," Mark asserted.

**Partnership approach**

From the outset, the Trust sought a partnership approach. They wanted to work with like-minded people who would become part of the team and the Trust’s vision to provide a world class facility. The project has been driven by a collaboration between CFES (a provider of construction, FM and engineering services), Getinge (a supplier of decontamination solutions), and the Royal Free London NHS Foundation Trust.

“The Trust had a stringent, staged approach to the tender. Suppliers could only bid for the design phase initially – a large commitment for any business. However, we gained confidence from our engagement with the Trust and they could see that we worked well within a partnership approach,” commented Rob Doubtfire, managing director, CFES.

Other tender stages included: the build, equipment provision, finance, and maintenance and management of the site. Suppliers were scored at each stage and the process was highly competitive. The successful partnership worked closely on optimising the design of the unit, with CFES providing the role of principal contractor, responsible for all construction and plant for the site; and Getinge providing a holistic decontamination solution – from washer-disinfectors, autoclaves, and automated endoscope reprocessing units, to intelligent IT and instrument tracking solutions.

**Key requirements**

“At the design phase, the key factors were energy efficiency and the size of plant, as well as the quality of the equipment providers. We set up internal tenders to ensure the best value for the Trust.

“Getinge were able to demonstrate that their solutions were cost competitive and they had the expertise to work with us on solutions such as condensate recovery for their equipment. Condensate is now being reused by the site, instead of being disposed of into the drain, thereby improving the environmental performance of the facility,” Rob commented.

The maintenance of the equipment was also a significant factor as the Trust had a very strict key performance indicator (KPI) of 95% uptime on 80% of the specialist decontamination equipment.

This was set at 80% as a proportion of the equipment is either under planned preventative maintenance (PPM) or testing and validation, each day. For the main plant, the uptime must exceed 95% uptime.

“If we fall below this KPI, there are financial penalties. CFES has staff on site seven days per week and Getinge has staff on site five days per week, ensuring this level of performance is always achieved,” Rob explained.



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**The solution**

Unlike most other NHS decontamination departments, the endoscopy and instrument decontamination services operate side by side within the same unit.

The sterile services department has been designed utilising the latest technology and there is an emphasis on ease of use, while ensuring the process flow, correct segregation and integrity between contaminated, decontaminated and sterilised areas are maintained.

Getinge supplied a total of seven 86-series washer-disinfectors for the washroom. The S-8668 high capacity chamber accommodates up to 18 DIN trays

per cycle and is easy to load, operate, and maintain, improving employee workflows for increased efficiency.

Services and space have been allocated for a further four washers, to allow the Trust to ramp up capacity in the future. There are also two transfer hatches and ample space for operators, with 16 workstations available. A centralised dosing unit for liquid chemicals has been installed to enhance staff safety and improve efficiency.

The company has also installed six HS69 28cu ft pass-through sterilisers for the inspection and packing clean room. Once again, extra capacity has been planned for the future, with services and space provided for





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a further two autoclaves.

For the endoscope reprocessing unit, Geringe has supplied six ED-Flow endoscope washer-disinfectors (EWDs). With 12 chambers and short cycles, the EWDs allow the site the capacity to reprocess up to 12 large flexible endoscopes in a 23 minute full cycle and benefits from a quick and efficient loading process, allowing a faster, more versatile and efficient flow of flexible endoscope.

Provision has been made for a further two EWDs, when required in the future. A total of seven drying cabinets complete the installation.

### Decontamination intelligence

Tim Bryant, director of commercial strategy at Geringe, explained that an important aspect of the efficient management of the unit is the intelligent IT solution, which lies at the heart of the operation. With T-DOC software, the unit can achieve full traceability of instruments, endoscopes, pre-sterile and non-sterile goods to ensure regulatory compliance and high levels of quality assurance and patient safety. In addition, by ensuring each important step in the reprocessing cycle is monitored and enforced, the system provides the unit with auditable and historical

documentation for regulatory compliance.

“After spending a lot of time with the Trust to understand their needs, we have developed 12 reports tailored to their requirements. It was important for the Trust to be able to measure performance and volume. In addition, as they take on more third-party work, they will need clear visibility of turnaround times, information for fast tracking sets, and clear data on how the instruments and scopes have been reprocessed. If a customer needs to know about a key set, they can identify exactly where it is in the cycle in real-time,” commented Tim.

The instruments are scanned at various steps, so each stage of the process is monitored. This also allows the Trust to gather information on productivity and efficiency.

“If one operator is packing five sets per hour, and another is packing 20, one explanation may be the complexity of the sets. However, T-DOC allows the Trust to drill down into the data and identify the potential reasons for any issues and whether additional training or support may be required,” continued Tim.

Access to T-DOC allows theatre and endoscopy staff to see where their sets are at any time in the cycle, giving them confidence in the system and visibility. In addition, as ►



each set is scanned into the theatre, it is also possible to identify when the instruments have been taken for use and for which clinic. This allows the system to pinpoint the location of sets, with a high degree of accuracy.

Furthermore, because T-DOC tracks washing, packing, sterilisation, handling and instrumentation costs, plus the cost of prioritisation and inventory, it can provide a true picture of the cost of sterile supply production for the unit. This will prove invaluable when invoicing third-party Trusts – a bill is automatically generated based on the accurate data.

### Capacity planning

Capacity planning is also facilitated using T-DOC. Combined with Getinge Online (an artificial intelligence programme for central sterile services departments), the software provides data on current capacity and how many cycles have been performed. This will ultimately help calculate spare capacity when the Trust takes on work from other Trusts. It will also help the Trust understand when additional machines need to be added to the unit to meet increasing volumes.

“The unit has been built to take 20 million instruments and 130,000 scopes. At the moment, we are reprocessing 3.6 million instruments and 40,000 scopes. We are operating at 25% of our capacity with the current installation, but if we extend this further with extra washer-disinfector and autoclaves, and more staff, the sky is the limit,” commented Mark.

The unit is taking a cautious approach to taking on third-party contracts, allowing time to manage and embed the transition to the new facility. However, some third-party reprocessing work is already passing through the Trust’s new Enfield site.

“The aim is to provide decontamination services for other Trusts within a 50-

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mile radius – around London, Essex and Hertfordshire,” Mark explained. “For Trusts that do not have the funding to invest in updating ageing, inadequate facilities, this offers the ideal solution.”

“We have been showing potential customers around the premises – including virtually every major London hospital,” added quality and production manager, David Dodd. “In just three months, we have already secured our first major customer – one of the biggest contracts in the South of England. We will be increasing our team to meet the requirements of new customers. There is already a lot of interest in the facility and, in the future, we will look at taking on large-scale business from other Trusts,” David continued.

Ensuring the confidence of other Trusts will be key to securing long-term contracts. Accreditation of the facility, combined with reliable uptime, will be crucial to building this confidence.

“The unit received JAG accreditation in September 2019 and we passed ISO 13485 with flying colours. The IHEEM audit, which is very in depth, gave us a full bill of health,” added David.

The site has also been built to ensure exceptional levels of resilience and reliability, from an engineering perspective – the facility is completely self-sufficient, with N+1

redundancy (a form of resilience that ensures system availability in the event of electrical component failure), its own backup power generation and independent water supply.

“We have built contingency into the site,” David explained. “There is enough chemical in the pipe work to last 17 hours, if the barrel ran out, and the water tank contains 33,000 litres of water so if there was a burst water main, we can continue to operate.”

### Challenges

Managing change and integrating staff from the three different hospital sites into one large team, at the new super centre, also required careful consideration.

“Change is never easy, but we are making exceptional efforts to retain staff and ensure they feel valued. We have had to integrate three sites and three different cultures, in just 12 weeks,” Mark commented. “We were worried that the different sites would take the view that ‘this is how we do it’, leading to potential conflict, but I’ve never seen them happier. At Barnet, the changing rooms were so small that male staff had to get changed in the shower, while at Chase Farm, staff had to sit in a freezing portable cabin during tea breaks. Now the staff have plenty of space and pleasant facilities for changing, as well as a modern, comfortable staff room. We have given them the very best that we can.”

Theatres and endoscopy staff also needed to come on board with the move to an off-site decontamination service, however, and there was initially some trepidation.

“Chase Farm and Barnet already had ‘offsite’ services, so they were accustomed to the idea that instruments and scopes needed to be transported to another location and delivered. However, the move to the supercentre meant a change in working practice and culture for the Royal Free – the sterile services department was previously adjacent to the theatres; as the sets came out of the sterilisers, theatre staff would take them off the racks. We had to build confidence in the new system, so that the theatre staff learned to trust that their sets would be delivered on time, when required,” David commented.

Managing this transition was crucial to



the success of the project. Staff were nervous about the service being off-site, leading to some challenging practices – including the stockpiling of sets. Porters were finding sets ‘hidden away’, but T-DOC was able to show that the reprocessed sets had been delivered back to the theatres, the time and the exact location, which proved useful when dealing with complaints over ‘missing sets’.

“We were able to demonstrate that the decontamination service was performing correctly, in these instances, and the reporting tool helped increase confidence in the system,” Mark explained.

“I think one of the issues was the fact that some staff had previously had bad experiences when using other providers of off-site, decontamination services – instruments were late or went astray. They expected this to be the case with us, but by investing time and effort in delivering efficient services, backed by a dedicated quality and production manager, staff now realise that this is the future and they have confidence in the system.”

He added that a team is on hand to deal with any issues at the Royal Free – comprising three porters, customer liaison and quality personnel. This has helped ensure a smooth transition and has brought staff on board with the changes.

“Now that the theatre staff have been here to see the facility, they can see for themselves the scale of the operation – everything is new and moving through the process faster. We have faster washer-disinfectors, faster autoclaves and faster drying cabinets. In addition, there are more pick-ups and drop-offs than they have ever had. In the past there was a delivery every two hours. Now, there are deliveries every 90 minutes,” Mark continued.

### Managed services

All of the maintenance, weekly testing, validation, cleaning and security is undertaken by CFES and Getinge, as part of a managed service approach.

“The Trust’s staff can simply focus on the core function, that they do well, of providing decontamination, without having to worry about all these other areas of the operation. They have a single point of contact who will deal with any issues that arise. It is all about risk transfer for the Trust,” Tim explained.

A team of dedicated engineers, along with CFES FM manager, Steve Rice (who was present throughout the build of the facility), are on hand to deal with any issues that may arise in relation to the plant and facilities – seven days a week, 12 hours per day. Getinge also provides on-site support, five days per week, 12 hours per day for the decontamination equipment. As the unit becomes busier, with external contracts and expansion of the Trust’s theatres, this service level may be increased even further, in the future.



“Given the uptime required by the unit, we felt that mobile engineers would not be appropriate. If this unit goes down, three hospitals stop operating. There is a lot of redundancy built into the design and the site is very self-sufficient in terms of utilities. The Trust were very stringent in their requirements – they wanted to work with partners with ISO 41001 accreditation, which focuses on managing critical plant. We are running a BMS system that allows us to monitor the performance of the equipment at all times and everything is alarmed and linked to our mobile phones,” said Rob.

The site’s high demands on uptime and equipment utilisation make analytics essential. Based on data provided by the plant and equipment, CFES and Getinge can foresee when a component needs replacement in order to avoid a breakdown. Scheduling a service intervention before a breakdown occurs, eliminates the downtime associated with out-of-service equipment, and the associated costs of this.

As the Enfield site has signed a fixed price, managed service contract for 10

years, there are no ad hoc costs. This clarity on costs for the decontamination equipment enables Trust to know, with certainty, what it will cost to provide the service required – not just for now, but for the length of the 10-year contract. This enables complete visibility and control of their cost base – a level of granularity that has not been seen before by other NHS Trusts.

### Conclusion

The Enfield site first began reprocessing instruments for the Trust’s three hospitals in the Summer of 2019. Although the site has already taken on some third-party decontamination business for other Trusts, the first major contracts are expected to commence later this year. Ultimately, the partnership has paved the way for one of the largest NHS-owned decontamination centres in the South of England, providing state-of-the-art facilities that are future-proofed for capacity expansion.

“The super centre has exceeded my expectations,” Mark concluded. “To get the facilities, the investment and the staff, has been a dream come true.”

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