

ProCure21+

REPEATABLE ROOMS AND
STANDARDISED COMPONENTS

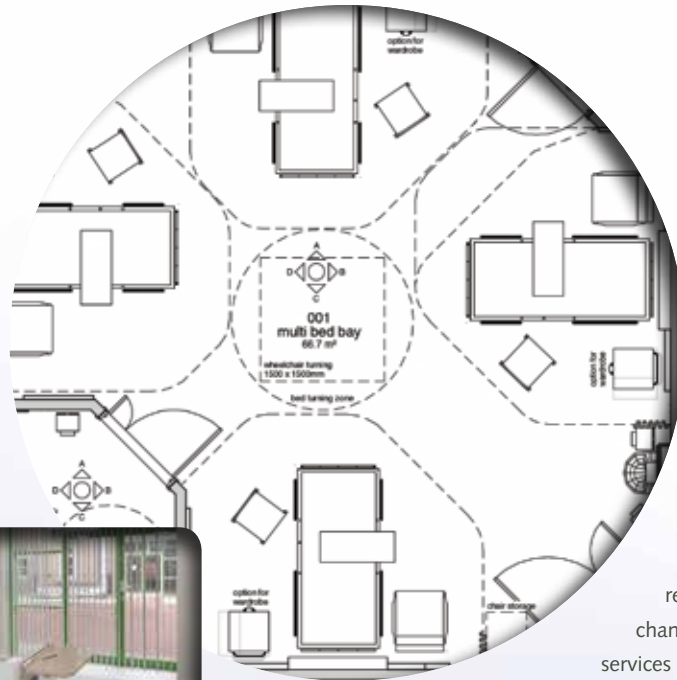
Case study

University Hospitals of North Midlands NHS Trust
Royal Stoke University Hospital



Royal Stoke nets savings and operational benefits with Repeatable Rooms and Standardised Components

Over £250,000 savings and “significant efficiency benefits” for refurbished surgical wards using Department of Health evidence-based designs



A £3.8m surgical ward refurbishment project at Royal Stoke University Hospital in Stoke-on-Trent has incorporated two Repeatable Room designs and numerous Standardised Components – saving over £250,000 and giving “significant operational efficiencies”, says Trust director of corporate services, John Simpson. “The advantages of integrating the standardisation principles into our new wards have been immense, beginning at design stage and through into the construction phase,” he says. “Now we continue to reap significant efficiency benefits with the project in its operational phase.”

The refurbishment of Lyme Ward was one of several urgent projects expedited as a result of the Trust Special Administrators (TSA)

consultation, which recommended changes in the way services were managed and delivered across mid-

Staffordshire. The new University Hospitals of North Midlands NHS Trust embarked on a process of integrating all its services between the two sites of County Hospital and Royal Stoke University Hospital. The programme began by consolidating inpatient surgery at Royal Stoke.

Urgency was a major constraint on the project, as Trust estates development manager Mark Jackson explains: “The TSA model set out a very short timescale for the work to be completed, and so we had to look at every possible way of reducing programme time.” The new Trust chose to deploy the Department of Health’s ProCure21+ framework as a way of controlling schedules and budgets, and began the consultation stage with its Principal Supply Chain Partner, Kier Health, using the Repeatable Rooms and Standardised Components principles from the outset of the project.



EVIDENCE-BASED AND TESTED

The Repeatable Rooms and Standardised Components initiative is part of the Department of Health's Cost Reduction Programme for capital schemes within the NHS. The initiative began in 2013 following a Department of Health conference at which 95% of NHS Trusts present voted to develop a set of evidence-based room designs that could be repeated across a new-build or refurbishment project.

The development process was "short but very intensive" according to programme director David Kershaw: "We began in 2013 by conducting a thorough review of the evidence-base to determine best design practice for a number of acute rooms, including a single-bed room with en-suite, a consult/exam room and a multi-bed bay that could be repeated to form a ward. An evidence matrix was drawn up, showing correlates between design parameters and patient/staff experience."

Following this, patient group representatives were invited to share their experience, and exemplars of good design from all procurement routes, including internationally, were added to the evidence matrix. Room designs were drawn up and subjected to expert panel reviews including representatives from the NHS, the construction industry, Royal Colleges and patient representative organisations, with feedback incorporated in the designs. In a rigorous test series, real-life processes were carried out in full-scale mock-

ups of the room designs. BIM models were federated and costed before the room designs and components were rolled out in early 2014. The process was then repeated for Mental Health environments, leading to two repeatable room designs for functional and organic mental health users. Development is now well advanced for repeatable high- and low-acuity treatment rooms and a chair-centric space for Emergency Departments.

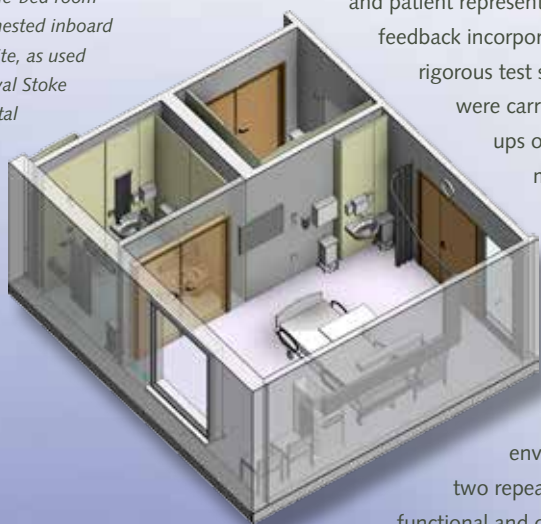
IMMEDIATE BENEFITS

At Royal Stoke, the benefits of using the repeatable rooms and standardised components were evident immediately, despite the fact that minor adaptations had to be made in order to fit the room designs to a refurbishment project rather than a new-build. Ian Swann, the Trust's senior project manager, comments: "We used the multi-bed bay and the single-bed room designs, and even at design stage, we got tangible savings. For instance, the time our clinical staff had to spend understanding, reviewing and signing-off designs was cut massively because we were able to use the 3D BIM model to do virtual walk-throughs." The Department of Health had also set an exacting target for increasing the hospital's single-bed rooms, which "realistically could only have been achieved by using the repeatable room designs," Swann remarks. "We could see that we were going to get more usable space rather than circulation area, and a greater number of side-rooms in addition. We actually got 112 new inpatient beds by using the repeatable designs."

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Ian Swann
Senior project manager
UHNM NHS Trust

▽ The Repeatable Room design for a single-bed room with nested inboard en-suite, as used at Royal Stoke Hospital





Cost-savings at design stage amounted to around £100,000, mainly achieved as a result of reducing design fee expenditure. "The use of layouts that had already been rigorously tested, combined with pre-produced room-loaded datasheets and the BIM model really helped to get this project off the ground," says Blackhurst. Staff time was also minimised: "Like all projects in a healthcare setting, access to clinicians was limited. The BIM model allowed us to virtually "walk" clinicians through the new ward layouts, which helped clinical teams to quickly visualise what the new wards would look like and reduced their time pressures during design stage."

FASTER HANDOVER

The handover process was also much faster and more efficient, says Mark Jackson. "We would normally do quite a bit of training for estates staff at handover point, demonstrating room-level systems and their operation and maintenance. That was all expedited as a result of using the standardised designs and components, because all the information was ready-populated into the BIM drawings."

Lyme Ward incorporated "as many standardised components as possible," says Jackson: "Our sanitary ware, plumbing, nurse-call systems and the paint were all sourced through the standardised components initiative, which gave us some significant cost-savings." The use of standardised componentry has also given the

Trust some accruing operational efficiencies, particularly in maintenance areas: "With our existing wards, every one is different, and it has different components," says Swann. "So if we're changing a part in an M&E system, maintenance staff have to go to the ward to check the part needed, then go off to order it. But on Lyme Ward, we had the fully populated BIM model handed over to us, so we simply check who the supplier is, order the part and take it onto the ward, which is a lot faster. And because the components are in the same place in every bay, the staff know immediately where to find them. That's all made maintenance a lot easier and a lot faster."

As integration work at the new Trust continues, the Repeatable Rooms and Standardised Components principles are being rolled out to the County Hospital site, where they will be incorporated in the refurbishment of five wards. The decision has been made partly to achieve the same maintenance efficiencies, but also some associated clinical efficiencies, explains Trust medical director Gavin Russell: "There is considerable benefit in adopting this approach at County, where the current ward layouts are all very different. Using the same designs and components across the Trust allows us to introduce efficient cross-campus working, including lean staffing models. Staff can be flexible on a week-by-week basis between County and Royal Stoke – because they will know the layout and the areas, so they know what they're coming to. There's very little downtime while they orientate themselves, and that gives us greater levels of patient and staff safety as well." ●

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Gavin Russell
Medical director
UHNM NHS Trust



Department
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