Danesbury upgrade brings plenty of colour

Ian Nunn, associate building surveyor at integrated architectural, property, and construction consultancy, Pellings, discusses how the company designed and project managed an innovative £520,000 refurbishment of Danesbury Neurological Centre, part of Danesbury Hospital, in Welwyn, Hertfordshire, for the Hertfordshire Community NHS Trust.

The goal of the refurbishment was to benefit patients at Danesbury Neurological Centre by delivering an enhanced environment. The Hertfordshire Neurological Service treats conditions including acquired brain injury, acquired spinal injury, adult neurological conditions present at birth, Motor Neurone Disease, Multiple Sclerosis, Parkinson's, and stroke. A carefully planned construction programme at the Danesbury Neurological Centre ensured both that the facility remained in operation while the refurbishment works were undertaken, and that construction work made a real difference to the patient environment and met tight budgetary requirements.

The upgrade to the centre, which has 25 bedrooms, covered all internal areas, including bedrooms, communal areas, reception spaces, and administrative facilities. A key objective was to improve the surroundings for patients by minimising stress levels, and providing a welcoming environment throughout treatment and to aid recovery. This was achieved through in-depth design consultations with staff including specialist occupational therapists, physiotherapists, and psychologists.

'DigiPan' digital panoramic tuning software was used to enhance the mood board images.

Colour-coded wings

One result of the consultation process is that the centre's different wings are colour coded, enabling patients to easily identify their location, and navigate their way around without the fear of getting lost. The colour coding particularly benefits patients with head injuries, and those that have suffered strokes, who can easily become confused. In addition, the centre's wings mirror each other, so the different colours are important in distinguishing the wings. This also benefits people visiting patients, who can also easily find the right room, in for example, the 'red' or 'yellow' wing.

A series of floor-to-ceiling 'mood boards' that aided the design decision-making process were worked up. Pellings' design team played an important role in obtaining a significant number of panoramic images that could potentially be used for the mood board. A series of in-depth meetings was then held with hospital staff to ensure that the images selected would create the right environment for patients. 'DigiPan' digital panoramic tuning software was used to enhance the mood board images.

Minimising bed loss

Minimising bed loss while refurbishment work was undertaken was another key requirement. The construction team liaised closely with the centre's staff and doctors to devise a programme that enabled works to be delivered over three phases, with each phase in turn being completed so as to enable full operation, allowing patients to be moved in before work began on the next phase. This enabled the centre to remain in operation, and work to be safely segregated to minimise disruption to staff and patients.

Originally the brief stipulated that 12 out of Danesbury Neurological Centre's 20 beds needed to remain in occupation at all times during the refurbishment works.

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However, construction was being carried out at a time when a widespread influenza epidemic was predicted by experts. It was decided that, should this event occur, the level of reduced bed space that had been included within the programme would be unacceptable. The occupational requirement was changed to 15 beds, which threatened to cause issues by significantly prolonging the construction programme. Pellings devised a solution where storerooms were converted into temporary bedrooms to address the situation.

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The Danesbury Neurological Centre.

Doors are colour coded, enabling patients to distinguish between bathrooms, bedrooms, and non-patient areas.

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Decanting process

Storage containers were stripped out, and sanitary appliances and curtains installed, ensuring that fully operational bedrooms were delivered to the required medical standard. This enabled patients to be decanted from their existing rooms while refurbishment work was undertaken, and satisfied the client's need for 15 beds to remain in occupation.

Consistently liaising with Danesbury Neurological Centre's lead nurse, Charlotte Reynolds, was fundamental to making sure that the construction process did not interfere with the centre's operations. Her knowledge of the building and the day-to-day running of the centre meant that adequate plans could be devised with the construction team. For example, a strict sequence and timeline were put in place to ensure that specific rooms were refurbished at pre-planned times. This was key to managing the construction programme, and planning for the intake of any new patients.

Pellings also developed a series of drawings that detailed how the refurbishment works were progressing. These were continuously updated and discussed with the centre's staff, further helping to plan refurbishment works, keep staff informed, and enable the centre to remain in full operation. Health staff and the construction team also worked closely together to manage the reoccupation of refurbished rooms, including overseeing 'deep cleans', and the installation of equipment that made sure that all rooms met the health standard required.

Robust project management

Robust project management, planning, and value engineering, enabled the upgrade to be completed £20,000 under budget, with the use of innovative materials and construction methods that did not impact upon the finished quality of the refurbishment. Hygienic Trovex wall cladding was installed throughout – being selected for its 'easy clean' and resilient surfaces, as well as its quality appearance.

Significant savings were achieved by reducing the amount of cladding used on the centre's doors. Rather than being 100% clad, doors were only 50% clad, but were decorated to match the surrounding wall cladding, ensuring that there was no negative visual impact, and that the quality feel of the refurbishment was not compromised. The original specification had been to clad 100% of the door frame and architraving with a high quality plastic product known as Yeoman Shield. However, Pellings re-assessed this, and reduced the scope of Yeoman Shield and only applied it to the sides of the doors.

Funds freed for extra works

This freed funds to undertake extra works that were not specified in the original brief. For example, when it became clear that costs savings had been achieved, a decision was taken to renew more flooring than had originally been planned.

Pellings and the client also worked closely together to produce a funding application to the Friends of Danesbury charity. The application was for enhanced television and audio equipment for patients, and Pellings led a submission that detailed costs and benefits to patients, and successfully achieved the funding required. A key reason that funding was granted was because refurbishment costs had been well managed throughout the construction process, leaving sufficient funds available.

Danesbury Neurological Centre's patients and staff have indicated their satisfaction with the refurbishment. Charlotte Reynolds, lead nurse at the centre, commented: "The refurbishment's design meets the specific needs of our patients, and this was enabled by the

successful consultation process with the construction team that began early on.

Easier navigation

"Prior to the upgrade works, colour coding had not been in place, but it really helps patients with neurological conditions to differentiate between certain areas, and to navigate their way around. In addition to the centre's corridors, doors are colour coded, enabling patients to distinguish between bathrooms, bedrooms, and non-patient areas. Improved signage, such as bedroom doors that display large room numbers, has also benefitted patients and visitors.

"In addition," Charlotte Reynolds continued, "specific features in patients bedrooms and bathrooms take account of their medical conditions. For example, shelving is placed on both sides of the bathroom sinks, addressing the fact that patients may have one-side neglect following a stroke or injury. Wheelchair access has also been improved, and the patient dining area is now on the same level as bedrooms for ease of movement.

"Feedback from patients, visitors, and patient focus groups, has been highly positive. It is often said that Danesbury Neurological Centre does not have the feel of a hospital because of its homely atmosphere – patients arriving from hospital wards frequently comment on its welcoming environment."

About the author

Ian Nunn is an Incorporated Member of the Chartered Institute of Building, and holds a degree in Building Surveying. He joined Pellings in 2008, and is a primary surveyor for its work in the healthcare sector. He has extensive experience acting as a contract administrator and lead surveyor with regard to the preparation of planned maintenance programmes, architectural design, and pre-acquisition surveys. His highly developed IT skills enable him to establish robust project management processes.

Ian Nunn's healthcare project experience includes working at Potters Bar Hospital on an internal decoration and external landscaping project. He also worked on the refurbishment of an NHS health centre that remained in operation for the duration of the building programme, and the refurbishment and renovation of an NHS PCT child day centre. He was also involved in a project involving the demolition of existing buildings, and the construction of a new car park, on the Tooting site of St George's Hospital in south-west London.