St Luke’s Phase 2
Cheltenham General Hospital

Creating a new facility dedicated to critical care and rehabilitation at Cheltenham General Hospital turned out to be exemplar of ProCure21 partnership.

Overview

In 2006, Gloucestershire Hospital’s NHS Foundation Trust selected Costain as its Principal Supply Chain Partner (PSCP) to develop a £13.3 million three-ward block extension of St Luke’s Hospital in Cheltenham. Accommodation includes a 12-bed Critical Care Unit (CCU), with Rehabilitation and Stroke wards on the floors above. The unit includes two isolation beds, two single bays and an open area that can be configured in response to clinical needs. This allows the Trust to consolidate services now provided by separate intensive care and high dependency units.

The Rehabilitation and Stroke wards have four six-bed bays and eight single rooms. The wards offer privacy and dignity to patients with the potential for social interaction as they recover. Bed space was maximised through intensive design revisions and allows for bedside therapies.

In addition to providing three efficient and modern wards, the design provides an effective link to existing buildings to create a ‘single hospital’ block. This enhances the operation of adjacent buildings and gives shape and cohesion to the wider hospital campus.

Successful innovations/technology

- Establishing clear sight lines to all CCU patient heads resulted in a centralised dual aspect nursing base with full glass walls fronting isolation and single ward bays. Computer modelling was used to test visibility.
- Integral blinds in glass walls and windows provide maximum infection control, while maintaining balance between patient privacy and effective clinical monitoring.
- Windows were designed to give natural ventilation to both the Rehabilitation and Stroke wards. Computer modelling to define maximum summer temperatures meant the Trust can stay within NHS energy targets.
- In order to maximise daylight, bedrooms were pushed to the outside of the envelope with inboard en-suite bathrooms on single bed wards.
- Incorporating a central courtyard within the upper wards created a light well for the CCU below.

- By using CodeBook software, the equipment database was linked to both the 1:50 C-sheets and the ADB activity sheets. This meant the equipment schedules were continually updated in line with drawings as the design progressed.
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Principles and objectives

David Smith of Davis Langdon, Cost Manager for Costain, said, “The major challenge of the scheme was the Trust looking for far more ward accommodation than there was physical space for. This meant working very closely with the user groups and clinical staff to optimise the use of the available space.”

The partnership approach meant the Trust took a key role in the design process. Direct access to the market for accurate cost advice gave the Trust confidence in their decisions and helped the value management process toward agreeing an affordable Guaranteed Maximum Price (GMP).

Stuart Douglas, from Douglas Management Consultants, the Trust’s project managers, said, “We had some really difficult challenges to overcome from the word go. Relationships were quite strained in the early stages, and we had to invest a lot to make this work. I would say we now have a really good partnership and we are all reaping the benefits”.

The project’s risks were addressed by the team and managed promptly. Early Warning Notices, as required by the NEC Contract, identified issues that threatened the success of the project. Approved building inspectors and the Trust’s fire officer were included from an early stage.

Achievements and benefits

Initial cost models based on the Trust’s Design and Construction Requirement document showed a £700,000 budget overrun. This was reduced through involving clinical planners in the design process. Every aspect of the Trust’s requirements was subjected to Scope Analysis to find out if it was absolutely necessary.

- Ward layout options were investigated to see if design changes could reduce costs. Particular care was taken to avoid duplication of functions between wards.
- Cost savings were made by repositioning service areas, stairs and light wells.
- Corridors linking the facility to Accident and Emergency, operating theatres and medical wards were kept to the back of the building, enabling a rational flow of staff and patients through the whole hospital.
- Services in adjoining buildings were identified and capitalised on.
- £50,000 was saved by analysing the existing low voltage network and determining that a new electrical substation was not required.
- The partnership process identified areas where it was more economic for the Trust to arrange projects ‘in house’, for example, removing a modular building from the site.

Major issues

- Disruption caused by construction had to be kept to a minimum in the live hospital environment.
- Design constraints had to be met within the whole Site Development Control Plan for the Cheltenham Hospital. St Luke’s Phase 2 had to be prepared for the time it will be linked with Phase 15 of the development – the construction of surgical theatres behind the new unit.
- The linked-in construction had to be integrated with the standalone building St Luke’s Phase 1 wing and the College Road building.
- As an infill building, the project presented specific obstacles regarding maximising light and ventilation. The correct floor level had to be established to minimise ramping between three adjoining buildings with differing floor heights. The service ducts of these buildings meant some cantilevered construction was required.

“The Trust’s ongoing plans meant it needed these wards operational by 1 April 2009. Without using ProCure21 it would not have been possible. The selection process and partnering approach adopted saved at least six months on traditional timescales.”

Graham Marsh, St Luke’s Phase 2 Project Director, Gloucestershire Hospitals NHS Foundation Trust.