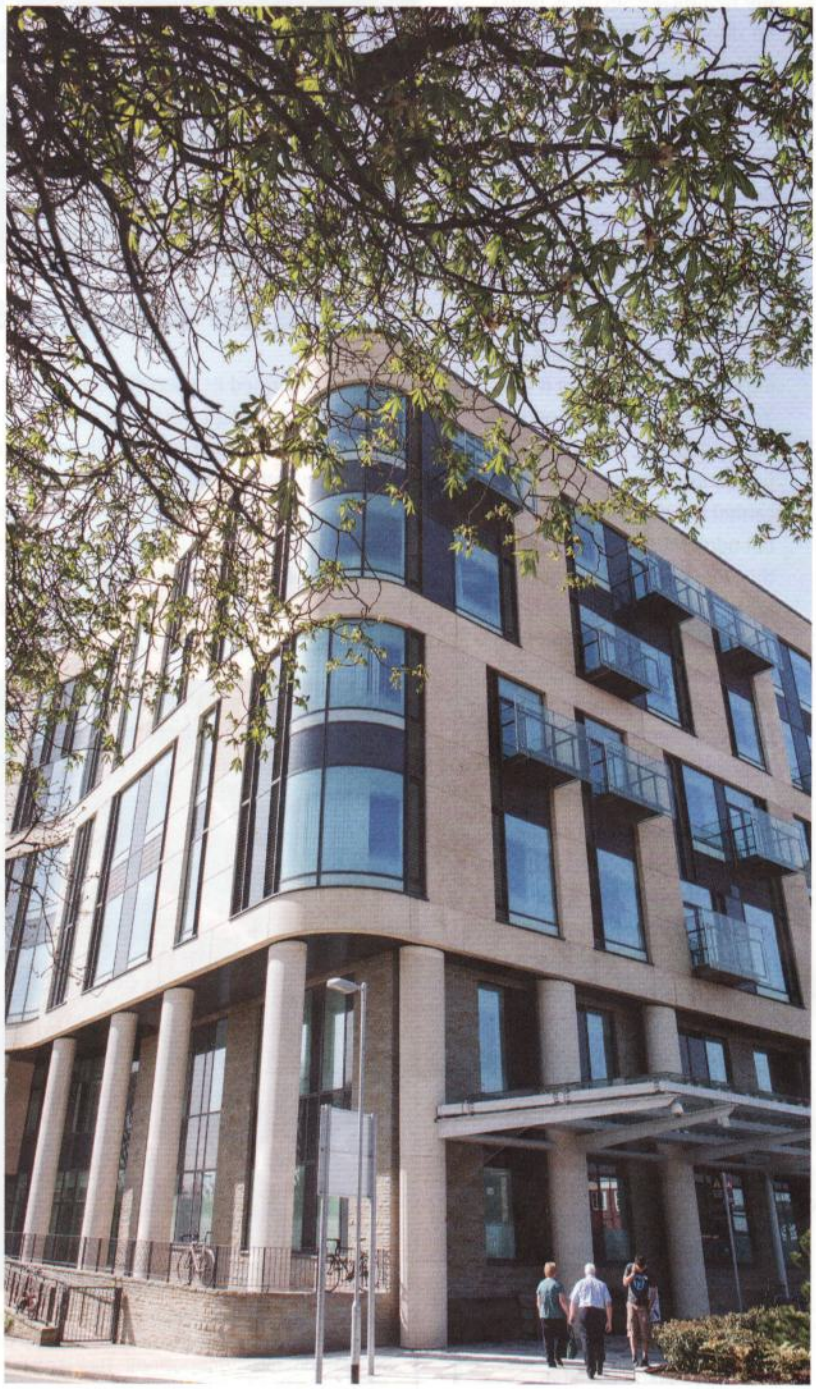
Digging your way out of trouble

The new £430m Southmead Hospital in Bristol is one of the last controversial PFI projects in the NHS, but one that arguably best represents a vision of what modern healthcare facilities should look like, as *Simon Wood*, Director of Estates, Facilities & Capital Planning, North Bristol NHS Trust, tells *Jane Renton*.



This is a hospital, but not as we know it. For a start, the new Brunel Building, the completed first phase of the £430m project, which opened in May 2014, is a world apart from the normal Victorian style workhouse, which in so many cases still provides the setting for care in the 21st Century. There are less undercurrents of anxiety and confusion because there are no labyrinthine corridors to navigate - or rather in which to get lost - and nor are there any trolleys littering the walkways with patients exposed upon them. On the contrary, this hospital looks more like an unusually laid-back airport lounge. In fact, visitors and patients are directed towards respective 'gates' after checking-in at one of the many barcode reading monitors on display. There are also receptionists and 'Move Maker' volunteers on hand to help the technophobes among us. In fact, you could park four jumbo jets nose-to-nose in the 280 metre-long three connecting atriums, each as high as Bristol Cathedral.

There are plenty of people bustling about but the atmosphere is one of calm, airiness and light, with distinctly un-hospital-like artworks and installations, including the vast light sculptures, which collectively double up as a binary clock and which can be seen clearly by both visitors and in-patients alike.

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Robots

Perhaps the most outstanding feature of this hospital is the extent to which it has introduced the use of robotics, and not just to help surgeons with their operations. There are 12 high-tech automatic guided vehicles (AGVs) in operation. These smart trolleys, about 90cm long and 30cm high, are busy at work in the staff corridors to the right of the new Brunel building ferrying heavy items, such as medical supplies, clean and dirty linen and delivering catering supplies and meals to where they are needed by means of invisible sensors. They have their own dedicated lifts and will politely stop if you happen to plant yourself directly in their path.

Their introduction led to the loss of 12 portering roles, something that was agreed in negotiation with the unions and managed by natural wastage over the years leading up to the move into the new hospital, thus avoiding any redundancies. Importantly, these Swiss-designed vehicles, controlled by a PC, undertake all the dirty, heavy work, freeing up the remaining 72 porters to do the front line human interface with patients, something that cannot to-date be replicated by a machine. And of course, a machine does not answer back, gossip in the corridors, or demand time off for holidays and sickness.

Progress

For Simon Wood, who heads both the estates and facilities management side of the Trust, an enterprise turning over £42m a year and involving some 850 staff, the new building, the new hospital and its second phase, due for completion next year, is the culmination of almost 10 years of hard work as well as a certain degree of pride.

"We have built a 21st Century hospital - or at least the very best one that we could currently envisage," he says of the new hospital which groups together all the acute care, including accident and emergency services that were previously based at Frenchay Hospital.

He constantly walks the corridors, monitoring his services with the fastidious eye of a well-trained maître d', knowing that the real challenge is to ensure the new hospital functions as one. But that will very much depend on the Trust's 9,500 staff and how they adapt their mind-sets to the hospital's ground-breaking design and technology. It also necessitates a cultural shift in gear by much of the public who will use the new facility and who tend to take a somewhat traditional approach to "their NHS", warts and all, even on occasion lamenting the loss of Victorian-style facilities.

"It all boils down to the people in it," says Wood, "and how willing they are to rise to the challenge of change."

As Wood explains, this is a project borne out of service-restricting crumbling old facilities and a financial crisis and growing acknowledgement that one new hospital was better than two obsolete ones. Frenchay and Southmead Trusts actually merged into one NHS Trust in 1999, when hospital chiefs began to realise that without radical change not only would their respective financial positions continue to deteriorate but the already poor patient environments would continue to threaten both the level and safety of services required by the community which they served.

On the Estates side, Wood and his colleagues had been fighting a war of attrition at Frenchay and Southmead on several fronts for many years, but things came to a head in 2003 when the medical side of its operations were pulled into the frame as part of plans to come up with a further £48m of targeted cuts. The scale of the problems they faced was becoming so apparent that something more radical than mere sticking plasters was called for.

Parallel to this a comprehensive review of healthcare provision across Bristol resulted in the Bristol Health Service Plan. This concluded that one rather than two acute hospitals was

needed to serve the north part of the city, and that resources should be freed up to create new and better community healthcare services.

"We needed to build our way out of past service duplication problems and by doing so we could in theory achieve very considerable savings by not running two very old hospitals separately," recalls Wood.

A survey of the combined Trusts' property portfolio revealed that a significant proportion of the combined Estate - 55% - couldn't be repaired or renovated, but rather needed to be demolished. (Condition CX and DX)

"It was a bit like fighting a war every day. It was a daily, weekly, monthly ongoing struggle to keep these very tired old facilities going," says Wood.

Paying for it

It was also very costly. Even as the new PFI project got underway, it was apparent that three existing Frenchay wards would need to be virtually gutted and rebuilt because of the ever-present threat of legionella and other waterborne bugs. The project absorbed over a million pounds and the Trust just had to spend it, even though those wards would shortly be closed as the new hospital was less than two years off its completion date. It simply couldn't afford to close down 80 hospital beds in the city.

The decision to financially structure the new hospital on a £430 million PFI deal, with equity provided by both multi-services provider Carillion and a consortium of banks and other lenders was controversial. There were the usual complaints that funding an NHS hospital in this manner was akin to paying for it with your Barclaycard. There were also fears among support services staff that bringing in PFI contractors would inevitably result in job losses, or job transfers and inferior employment and private pension arrangements.

Unusually, this particular PFI excluded soft FM support services jobs, which were to be retained in-house and as Wood points out, while many moan about the expense of PFI deals, they include the cost of upkeep over the lifetime of the project unlike many publically-funded NHS hospitals. The facilities should still be in Condition B at the end of 30 years. The old Frenchay and Southmead hospitals were a typical example of intermittent and inadequate life cycle funding. Effectively backlog and routine maintenance funding was insufficient to de-accelerate the pace of deterioration in its Estates.

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There are of course criticisms about PFI being too expensive. "My observations are that this criticism rarely considers the NHS's traditional approach to life cycle maintenance in non PFI settings which is generally very much lower and can lead to premature failure or poorer quality buildings over a longer period. I do accept that there is of course a consortium to be paid for the facility in addition to this. In theory our new building should still be in great condition to care for patients in 30 years' time, because the life cycle costs are built into the contract and will be better protected than traditional capital funding," argues Wood.

Recognising the additional costs, he says no-one seriously expects to acquire a mortgage to purchase a house without paying the bank interest on the underlying loan.

Automatic Guided Vehicles do a lot of the heavy portering around the hospital

Future-proofing

Trying to predict what healthcare will look like in 30 years time, however, is no easy feat, which is why a high degree of flexibility has been built into the original hospital design. There are some 20 standard room settings in the current hospital configuration, made up of the usual hospital requirements intending that these can be used for different functions. Engineering services common to and suitable for, treatment rooms, theatres and imaging suites have been installed to a common level and standard so that conversion from one to another has a reduced impact and cost than traditional alterations. The intention is that if requirements were to change in 20 years' time, leading to a need for less invasive surgery, existing theatres could be converted, without major demolition and at relatively little expense.

Similarly, bidders for the PFI project had to demonstrate how a further 200 beds could be added to the existing building, again trying to future-proof the Trust's options.

One of the interesting facets of the new design is that 75% of the new hospital beds are in single rooms and surprisingly spacious ones with large windows and their own ensuite bathrooms, all of which make it far easier for patients to enjoy a decent night's sleep as well as privacy. The design allows the duty nurse to view patients in four rooms at any one time. This development, however, has not been without controversy as patients in some of the rooms overlooking the atrium can be seen by the public. They may draw their curtains, but this can result in them feeling isolated and while there is free Wi-Fi available there is no access to bedside television or radio yet. However, this is being installed in the autumn. The layout is also demanding for staff as the very spaciousness of the design involves many of them having to walk literally thousands of metres each day, something that has been hard on legs and feet and which the Trust is currently seeking to address by investigating new, more cushioned forms of shoe wear.

Hiccups along the way

Redesigning healthcare facilities on this scale has also involved a number of steep learning curves. The original design of the hospital and its services was the result of several years of careful planning as well as visits to other 'best practice' healthcare facilities in the UK and in other parts of the world. But no matter how carefully things were arranged on paper, reality often necessitates revisions. Medical supply, an area under Wood's domain, was one of those issues that had not gone entirely to plan. The desire to be as 'lean' as possible with the hospital supply chain had resulted in on-site facilities which were inadequate. As a result a warehouse was obtained off-site to ensure a slick and smooth-running operation. One of the benefits of this revision to the original plan is that stock ordering management and shelf re-stacking has been removed from nursing responsibility. This has freed up valuable time for additional patient care.

The original plan did not include an on-site sterile services unit in the first phase of the hospital development, something that had to be hastily addressed by Wood who took over responsibility for sterile services in 2012. Wood and his team created a temporary off-site decontamination unit in just 160 days, a race against time that gave him, he says, many sleepless nights. There has also been controversy about the temporary park and ride arrangements in place to deal with current car parking shortages, but these should be readily resolved once the second phase of the hospital PFI project is completed next year.

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"Arguably you can change your buildings faster than you can human behaviour" says Wood, "and there has inevitably been a degree of grief, pain and confusion and sometimes a few mistakes.

"But people have been here for a year now and are saying to each other, 'Okay I planned it this way, but it is not working or it is working differently to how I envisaged it and are re-considering how to get the best out of the new facilities."

It is about adaptation and being open-minded enough to do what is in everyone's interests, he argues, and that involves the creation of a new and sustainable acute healthcare system that will not only help resolve the Trust's previous financial difficulties but one that is truly fit for patients in the 21st Century.