



# Health conscious

FOR TOO LONG THE POOR RELATION OF DESIGN, HEALTHCARE ARCHITECTURE IS NOW DEVELOPING A CONCEPT OF THE 'LOOSER FIT'

> WORDS: MARC SANSOM

- #1 The operating theatre at St Luke's Hospital is said to be one of the most modern in London with lighting supplied by Concord
- #2 Rooms feature telephones and nurse-call systems
- #3 The hospital's chapel is situated on the ground floor



Healthcare architecture, possibly more than any other field, has forever been laden with the weight of design guidance and formulae, not to mention the fear and bureaucracy of political masters faced with the unenviable task of getting value for money from the public purse.

As such (at the risk of offending a few notable exceptions), architects and architectural schools of true imagination and creative expression have steered clear of healthcare design, which often requires a focus on function and efficiency at the expense of inspiration.

Visit Toronto, as I did recently, and you can sense a city with an emerging confidence, growing in stature, not only through the magnificence of its new architecture, but also through the application of a loose-fit approach to work-life balance.

That confidence is splendidly expressed in a recently published book, *Design City Toronto* (Stanwick/Flores, John Wiley & Sons), which sees Toronto as a place undergoing a cultural and architectural

renaissance. Perhaps the most dramatic manifestation of this is Daniel Libeskind's new structure for the Royal Ontario Museum, which interlocks five huge glass and aluminium cubes with the existing stone edifice. It's the epitome of grandeur.

In the foreword to *Design City*, Libeskind remarks that the renaissance means 'the breaking of formulae; the challenge of building something that has never been built before; the daring that goes with originality – all these speak of a new sense of identity for our city.'

#### LOOSER FIT

Elsewhere, there is a sense that healthcare is at last beginning to break free from its straitjacket to enjoy a renaissance of its own. Typically, it is a young architect from Toronto who, arguably, is leading the charge. 'Healthcare design needs to take on a looser fit,' says Tye Farrow of Farrow Partnership Architects, 'something that is more like a comfortable baggy jumper than we feel relaxed in'.

Farrow senses that healthcare is only now beginning to develop its own post-modernist

## 1 ST LUKE'S HOSPITAL, LONDON

Founded in 1892, St Luke's Hospital is a charity providing free treatment for Anglican clergy, and private treatment. Recently refurbished by Ronald Wylde Associates with extensive new lighting from Concord:marlin (now Concord), the 22-bed facility is said by the charity to offer a 'haven of peace in a busy world', with patients receiving treatment in 'peace and tranquility'. Single or twin rooms are complete with telephones, colour television and nurse-call systems. The environment includes a fully air-conditioned library and a chapel. The operating theatre is said to be one of the most modern in London. Services and facilities include surgery, homeopathic medicine, a menopause clinic, counselling, back pain, cosmetic surgery, a hernia clinic and psychotherapy.

**PROJECT:** St Luke's Hospital for the Clergy  
**CLIENT:** St Luke's Hospital for the Clergy  
**COMPLETION DATE:** August 2007  
**PROCUREMENT:** Private capital  
**ARCHITECT:** Ronald Wylde Associates  
**CONTRACTOR:** W Portsmouth  
**M&E CONSULTANTS:** Fowler Martin Associates  
**LIGHTING:** Concord



movement, as functional and formalised spaces are replaced by a more diverse style and appreciation of the healing characteristics of high quality aesthetics.

It is a philosophy that Farrow demonstrates clearly at the Credit Valley Hospital's Carlo Fidani Peel Regional Cancer Centre in Mississauga, a short car journey from Toronto.

At the outset of the project, cancer patients were asked about their priorities for the new hospital. 'Our waiting spaces should give us hope,' they said. 'We want something that is alive!' Faced with the devastating onset of cancer, responses such as these demonstrate the importance of strong connections with nature. In the harsh Canadian climate, however, therapeutic links to nature require more than views to the outdoors and abundant daylight.

The centre's design draws on shapes and symbols that evoke protection, resilience and strength. The first impression is of a health research institute, rather than a processing plant for the sick. There is nothing timid about the design, however. Powerful tree-like forms soar skyward, suggesting a human-scale cathedral in the middle of a bustling hospital. Patients, staff and visitors can be seen gathered in this sheltered sanctuary to share news and talk through emotional issues.

Farrow explains: 'The overall goal was to create a high-profile civic identity that contributes to physical, spiritual and economic vitality. Wood was selected as a primary material for both aesthetic and economic reasons. The sustainably-harvested Douglas fir members cost less than equivalent steel, but provide superior aesthetic value.'

The achievement of the cancer centre is to raise public expectations of what healthcare environments can be: nurturing, human-centred investments in cultural and physical infrastructure.

**BACK TO THE FUTURE**

But it is not only in Toronto that the healthcare renaissance is taking shape. In Seattle, the Valley Medical Center (VMC) campus, first designed in 1969 by world-

renowned mid-century modernist architect, Edward Durrell Stone, is undergoing a significant modernisation and expansion plan. It both reflects these new principles for health service delivery and meets the current demands of market competition and increasing patient numbers.

Respecting Stone's original iconic design, his trademark influences of geometry, efficiency and simplicity are evident in NBBJ's three-phase masterplan, which also uses pure forms – full circles, straight lines and geometric shapes – to create continuity between the buildings. Stone's other key themes, such as daylight, transparency and water, also drove the design to help create a comfortable, healing environment.

Describing the design as a 'hotel-like environment', the architect's underlying aim was to blend state-of-the-art care with soothing, home-like surroundings to create the most conducive environment for recovery. Public waiting areas and corridors in the family centre use rich accent colours and warm materials like wood along with glass, soft indirect lighting on the walls and artwork to help minimise signs of an institutional building. In all patient rooms, geometric watercolour paintings hang above patients' beds, disguising clinical equipment.

The importance of landmarks can never be underestimated, and in healthcare they form an important healing function by minimising the acute stress associated with troublesome wayfinding. NBBJ's new main entry lobby for the VMC, created by enclosing Stone's original courtyard, leaves his distinctive slotted canopy, exterior columns and elaborate formed concrete wall intact, as an anchor for the new design.

Also restored is a commanding 36 foot-wide circular fountain. Above this, nine 17 x 17 feet pyramid-shaped skylights flood the lobby with natural light. With 687m<sup>2</sup> of glass, the lobby is easily the most light-filled building on the campus.

**EVIDENCE-BASED DESIGN**

The trend towards the creation of looser-fitting, healing environments is complemented by the increasing influence of evidence-based design. Robust clinical and



**3 BETHLEHEM ROYAL HOSPITAL MEDIUM SECURE UNIT, BECKENHAM**

Founded in London in 1247 as a priory for the sisters and brethren of the Order of the Star of Bethlehem, the Bethlehem Royal Hospital is the world's oldest psychiatric hospital. Closely associated in the past with the word Bedlam, which has long been used as a generic term for lunatic asylums, and more recently for a scene of chaos and confusion, for most of its history it has been concerned with the care and treatment of people with mental illness.

Part of South London and Maudsley NHS Foundation Trust, the institution provides mental health and substance misuse services to people from Croydon, Lambeth, Southwark and Lewisham, and substance misuse services in Bexley, Greenwich and Bromley. Considerable public resistance had been encountered securing planning permission for a new facility, leading to the appointment of Intervise through the ProCure21 framework in 2004.

Designed by social architecture firm, HLM Architects, the facility has three distinct yet interconnected environments – an administrative area, a therapeutic block and the ward areas.

Sited in a former Victorian walled garden with boundaries on three sides, it has 89 beds in six wards, including two acute assessment wards with 13 beds in each, two medium term/need care wards with 15 beds in each, an intensive psychological treatment ward with 15 beds, a rehabilitation ward with 15 beds and an adjoining three-bed semi-independent self-contained flat. The therapeutic block includes a sports hall, a music room, social space, workshops and classrooms.

**PROJECT:** Bethlehem Royal Hospital Medium Secure Unit  
**CLIENT:** South London and Maudsley NHS Foundation Trust  
**COMPLETION DATE:** December 2007  
**PROCUREMENT:** ProCure21  
**ARCHITECT:** HLM Architects  
**CONTRACTOR:** Intervise Project Services Ltd  
**BUDGET:** £26m



**2 ST MARY'S MEDICAL CENTER, TENNESSEE**

St Mary's Health System opened its new state-of-the-art hospital in August 2007 at the St Mary's North campus in Powell, Tennessee. The £32.6m full-service, acute-care facility was designed by Nebraska-based, HDR Architecture, which also provided consulting, interior design, land planning and signage/wayfinding services.

Employing evidence-based design concepts, the HDR design team was able to achieve its three primary objectives: improving patient wellbeing; increasing patient safety; and making greater operational efficiencies and flexibility for the facility.

The 19,000m<sup>2</sup> hospital includes 72 private patient rooms (12 intensive care beds and 60 acute-care beds); an emergency department with two trauma rooms and 10 emergency exam rooms; a surgery department with five operating rooms, six post-anaesthesia care beds and 18 preoperative and recovery beds; and a surgical services unit. BarberMcMurry Architects served as the architect of record for the project.

**PROJECT:** St Mary's Medical Center, Powell, Tennessee, US  
**CLIENT:** St Mary's Health System  
**COMPLETION DATE:** August 2007  
**PROCUREMENT:** Design Bid Build  
**ARCHITECT:** HDR Inc and BMA  
**CONTRACTOR:** Johnson and Galyon

In the UK, evidence-based design concepts have been slower to come to the fore, but an appreciation of the value of the healing environment is gaining ground fast



#4 Social spaces in London's new Bethlehem hospital is designed to minimise an institutionalised feel



#5 The Bethlehem is to be situated in an old Victorian walled garden  
 #6 The reception for the St Mary's Medical Centre in Tennessee is dominated by a vaulted, coffered ceiling  
 #7 A warm colour palette has been used at St. Mary's to suggest comfort and openness  
 #8 Wards have been designed at St Mary's so that they're the first truly patient-safe healthcare environment in the US



#9 #10

scientific research supports the contribution of a psychosocial-supportive physical environment to the improvement of health and wellbeing.

In recent times, the concept of evidence-based design is perhaps best demonstrated at the St Mary's Medical Center in Powell, Tennessee. Designer HDR Architecture's main objective was to improve health by embedding patient and family-friendly features into the facility. Larger private patient rooms, dedicated family spaces, and in-room sleeping arrangements help accelerate patient recovery and discharge by involving family members in the care process.

'The impact of the building's design parallels the St Mary's brand image in the market,' says Rick Abbott, HDR's principal in charge. 'It reflects the hospital's core values of compassion, comfort and leading-edge care.'

Upon entering the six-storey facility, explains Abbott, patients and families are welcomed in a spacious lobby featuring a vaulted ceiling with sunken panels. A clerestory floods the space with abundant daylight, while such natural materials as stained wood and a warm colour palette are used to complement its openness.

Interior design elements used throughout the facility were also designed to reflect the mountains and lakes of Tennessee. This theme is reinforced, continues Abbott, with a unique art programme that includes many original paintings, fine art prints, photographs and sculptures depicting the spiritual comfort of the natural environment.

While the colour scheme is soothing and timeless, and the furniture comfortable and home-like, Abbott insists that no compromise was made on the durability of the materials used or their ability to withstand intense hospital use.

At the same time, economies and flexibility have been generated through a considered approach to ergonomics, clinical adjacencies, universal patient room concepts and decentralised nurses stations. These increase staff satisfaction, quality of care and operational efficiency, while also providing flexibility for future growth.

But perhaps the unique aspect of the facility design is the use of evidence-based design concepts to create what Abbott describes as 'the first truly patient-safe healthcare environment in the US'. The threat of healthcare-associated infection is ever increasing, says Abbott. However, the reduction of patient injuries, trips and falls has been achieved through the application of patient-safe principles, such as same-handed room concepts, medicines and supplies at the bedside, and work stations immediately outside patient rooms that allow caregivers to closely monitor patients.

#### THE HEALING JOURNEY

In the UK, evidence-based design concepts have been slower to come to the fore, but an appreciation of the value of the healing environment is gaining ground fast. The quality of the UK's mental health facilities has been neglected for too long – reflecting a less than progressive attitude to the way we care for this patient group. But while there is still a long way to go, there are signs that healthcare providers, supported by engaged and innovative architect firms, are beginning to think differently about the role of the therapeutic environment in mental healthcare.

Historically associated with the term 'bedlam' – a generic term for lunatic asylums – the Bethlehem Royal Hospital is due to complete on site in December this year. Considerable public opposition to the redevelopment of the unit led social architecture firm, HLM Architects, to design not just a building, but a site plan that was community-facing and addressed the 'not in my backyard' concerns in the local area. 'We met both demands of the brief: to design the best possible mental health building, and meet the need for a unit that would be a good neighbour in the community,' said Chris Liddle, HLM's chairman.

Set in a metropolitan country park near Beckenham, the unit has been discreetly located, says Liddle, allowing it to live in harmony with the community at the same time as benefiting from the healing effects of the natural environment. 'We devised a garden of change concept that allows the



#9 Geometric shapes are used at the Valley Medical Center, Seattle, to create continuity between buildings  
#10 The surgery centre at VMC has been entirely renovated  
#11 A 'hotel-like environment' was specified for patient rooms by the architect

### 3: VALLEY MEDICAL CENTER, WASHINGTON

The urgent need to modernise in the face of new healthcare demands and care philosophies led to the development of an extensive three-phase masterplan that entirely re-engineered Valley Medical Center's service provision. Designed by NBBJ, the first two completed phases include a new main entry lobby, surgery centre renovation/expansion, and remodelling of its family centre. The third phase, which breaks ground this autumn, is a new emergency tower, which adds almost 18,600m<sup>2</sup> to the hospital site. The three phases will renovate and expand 77 per cent of Valley's medical campus.

The project includes:

- A new main entry lobby
- 17 high-tech universal surgery suites
- 26 private pre-operating/post-operating rooms
- 36 new labour/delivery/recovery/postpartum (LRDP) rooms
- Two C-section rooms
- 13 private neo-natal intensive care units (NICU); some units can expand to two or three units for twins or triplets
- Two NICU suites (with four stations each)

**PROJECT:** The Valley Medical Center Modernisation and Expansion  
**CLIENT:** Valley Medical Center  
**COMPLETION DATE:** Family Center-January 2006; Surgery Center and New Lobby-June 2007  
**ARCHITECT:** NBBJ  
**CONTRACTOR:** Family Center-Lydig Construction; Surgery Center and New Lobby-Absher Construction  
**BUDGET:** £19.6m (Construction Cost)

HEALTHCARE



#12 Architects consulted with patients at the Carlo Fidani Peel Regional Cancer Centre in Canada, and they said they wanted the building to be 'alive'.  
#13 Powerful tree forms suggest sanctuary and grandeur in the Peel Cancer Centre.



#13

**3 THE CARLO FIDANI PEEL REGIONAL CANCER CENTRE, CREDIT VALLEY HOSPITAL, ONTARIO**

The facility was struggling to cope with an increased demand for beds in the region, creating the momentum for this new hospital, which is Ontario's first fully integrated ambulatory care and cancer treatment centre. The primary objective was to contribute to the physical and spiritual growth of the individual and the community. The design creates a nurturing, human-centred investment in the cultural and physical infrastructure. Indicators to date suggest this has been successfully achieved with increased staff morale, reduced staff absenteeism and accelerated healing times, resulting in long-term cost savings.

**PROJECT:** The Carlo Fidani Peel Regional Cancer Centre  
**CLIENT:** Credit Valley Hospital, Mississauga, Ontario, Canada  
**COMPLETION DATE:** June 2005  
**PROCUREMENT:** Stipulated Sum Contract  
**ARCHITECT:** Farrow Partnership Architects  
**CONTRACTOR:** PCL Constructors  
**BUDGET:** \$42m

patients to feel the progress they are making as they move around the unit at various stages of their therapeutic journey.'

Associate architect for HLM, Leigh Lenaghan adds: 'The way plan has been designed so that the journey around the facility is part of the recovery process. There are four wards connected on the floor plan, creating a racetrack that connects the wards with large open space in the middle.'

'This has become known as the healing courtyard, because it is surrounded by buildings so the outside world cannot look in and is designed to be a place of safety and a place of calm.'

A typical mental health ward has a nurse base in the centre with good views down the wings, and a cellular design with a day room and a quiet room connected through a series of corridors. Lenaghan explains that this approach can create an institutional environment with tunnel corridors and a series of doors opening out on each other.

'The challenge was to improve daylight, privacy, safety and dignity for patients and safety for staff by creating a more therapeutic environment through the interior design work,' says Lenaghan. 'The idea was to splay the corridor walls outwards, ensuring doors didn't open out onto each other and developing the social space for consultation at the same time.'

'Instead of a TV room and day space on a cellular model, one communal space facing onto landscaped gardens was created, thereby increasing opportunities for health and wellbeing.'

**LIGHTING DESIGN**

One often undervalued aspect of the healing environment is lighting. At this year's World Congress for Design and Health in Glasgow, organised by the International Academy for Design and Health, the role of neuroscience was highlighted in understanding more about the human condition's response to its physical environment. For example, lighting can be understood in respect of its visual, emotional and biological effect on human function, explained Sjeef Cornelissen of LiDAC International in the Netherlands.

The adoption of a human-centric

approach to lighting design was at the heart of Ronald Wylde Associates' recent refurbishment of St Luke's Hospital in London. The 22-bed facility, which provides free treatment to Anglican clergy and private patients, incorporated extensive new lighting from Concord:marlin to create a non-institutional environment that projected a high quality ambience.

'High quality lighting is much more than simply providing task-based illumination,' explains David Neale, Concord:marlin's marketing product manager. In the critical, task-focused areas of St Luke's, a crisp high-tech focus was employed. In other areas of the hospital – for example, where patients are recovering, public spaces and even in the consultancy rooms – softer lighting was used to create a more domestic and homely environment.

So, in the operating theatres where infection control is a priority Sylvania Sylclean 4 x 18W IP65 recessed ceiling units were installed for ease of cleaning and superior visual function.

But in the patient rooms, custom-designed bedhead lighting units, based on an existing linear luminaire, but fitted with 2 x 21W T5 lamps and incorporating a switch-dim component, were used to create a softer, more friendly ambience.

Central to the hospital facility is the chapel, and here too, a distinctive lighting design has been employed, with the use of a matt brass Limburg pendant and matching table lamp. A similar approach was also taken in the consultant rooms, where bad news may sometimes need to be broken. A calm environment can help remove some of the stresses for both patients and their families.

From lighting design and innovative use of materials and aesthetics to entire architecture projects and masterplans, a trend is gathering momentum to apply evidence-based design principles combined with looser-fitting healthcare environment.

It isn't simply healthcare architects finding greater room for expression. Patients are now demanding it, too – and the scientific evidence is in their favour. *Design City Toronto. Stanwick/Flores, 2007, John Wiley & Sons, £39.99*