

# Healthcare design & build

including mental health & care homes

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A new approach to healthcare that embraces the local community

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**Jacqueline Fergusson, Design Manager at Hallmark Care Homes**

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Cover: Royal Hospital for  
Children, Glasgow  
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## Editor's letter

Welcome to our *Design in healthcare (including mental healthcare)* supplement looking at progressive architectural and interior design in this demanding area, with a focus on dementia care.

As the country faces up to a steadily ageing population and ever-growing tide of dementia diagnoses, healthcare is proving to be one of the most rapidly changing and challenging areas of modern design.

Medical buildings, particularly those connected with mental healthcare, have been experiencing something of a quiet design revolution in recent years. Now, the design of dementia care facilities is being given greater attention, too.

In this issue we look at the crucial role architects, designers and specifiers are playing in improving peoples lives in the health sector.

There's an exclusive commentary on dementia care design from Dr June Andrews of the highly influential Dementia Development Services Centre at Stirling University, while specialist developer Jitesh Patel argues that the UK could learn a lot from the Japanese experience.

We explore the architectural approach taken at Atherleigh Park Hospital, a new dementia care and mental healthcare facility in the North West designed to sit comfortably within a lose-knit community.

And an in-depth feature by Jess Unwin reveals the architectural challenges and innovations behind the flagship Spire private hospital destined to benefit the people of Greater Manchester.

Moving to Scotland, the spotlight is on the way architects resolved the inherent conflict between technical and aesthetic requirements in the design of the hi-tech Lanarkshire Beatson cancer treatment centre, a place that will help save many people's lives.

Elsewhere, our experts offer guidance on the smart selection of lighting, furniture and flooring and how timber and paint finishes can make a major contribution to better healthcare.

There's certainly plenty of food for thought.

**Ray Philpott**





June Andrews

# How dementia-friendly is your building... really?

Poor research and verification means newly-built healthcare facilities are often wrongly claimed to be dementia-friendly, argues Professor June Andrews, director of the influential Dementia Development Services Centre (DSDC) at the University of Stirling

Architects make a difference to how people live their lives, and they care about quality of life and how their art and science contributes. The importance of architects for people who have dementia cannot be overstated.

Dementia is the name given to the set of symptoms appearing when people become less able to care for themselves because of gradual cognitive deterioration, usually in old age. It is often described as a memory problem, but research shows that people with dementia and their carers are more concerned about agitation, wandering, aggression, distress and practical problems like nocturnal disturbances and incontinence.

The majority of people with dementia live at home in the UK, about half of them alone. With adaptations and support they can stay home until the end of life. Designed features in the house help. The cost is high; often the family has to give up work, or pay someone to provide home care.

Moving to a care home is even more expensive, though the local authority or the NHS sometimes cover the cost. People say they'd prefer to stay at home as long as possible. Government policy wants that as well, not least because of the expense. There is not enough money and there are too many affected people.

Nevertheless, around 400,000 people live in care homes. Unsustainable old-style adapted care home buildings are closing because of changes in regulation and rising costs. New care homes open every week and should be

designed with dementia in mind – up to 90 per cent of care home residents already have the condition.

## Fashion

When journalists call the Dementia Services Development Centre (DSDC) for comment on whether a new care home is 'dementia friendly' or built on 'dementia principles' it can be embarrassing. Developers frequently make these claims when they've only adopted a few superficial, unproven ideas – 'colour coded corridors', a mocked up 'pub', and an 'olde sweetie shoppe' are recent examples. In reality, they are following fashion not science, while trying to give the impression they are making a difference to dementia. Even if they're challenged, others copy them. Some buildings have won design prizes when they would not reach bronze level in the Stirling dementia design audit process!

## Why does it matter?

Real dementia-friendly design reduces the lifetime cost of running a care facility by reducing adverse incidents and staff burden. It improves quality of care and staff morale by ironing out predictable dementia-related problems in the building. That gives staff more time for interactions that matter. If the research-based principles are ignored, cost and quality benefits will not be achieved. Colour coding a facility to help wayfinding requires a resident to learn a

new 'language' at a time when their capacity to learn is much reduced. Why would you? Instead, research supports well-designed, well-positioned signage.

Incontinence is really expensive in laundry, cleaning and staff time, not to mention the discomfort for the person affected. The right lighting, flooring, signage, and design of toilet spaces can reduce the problem. That's truly dementia-friendly design.

## How can dementia-friendly design be verified?

There is as yet no regulatory standard for dementia design. The DSDC has 25 years of experience in this area, but can't check every claim that a building is based on Stirling principles. The website offers free advice and low-cost publications and courses at [dementia.stir.ac.uk/design](http://dementia.stir.ac.uk/design), including a virtual dementia-friendly care home [dementia.stir.ac.uk/design/virtual-environments/virtual-care-home](http://dementia.stir.ac.uk/design/virtual-environments/virtual-care-home). People can self-assess or can use the Stirling design tool, but Stirling has no capacity to check every assertion that is made in their name, so caution is needed about claims.

## What should architects do?

Architects and developers need to take greater care when making claims, particularly if the operator has not followed the advice. This is about science, not style. Failure to ensure this is unprofessional.

*Continued overleaf...*



All designs should work on the assumption that people with dementia will have difficulty in working things out, so making the space easy to read is very important. Which way do I turn when I leave my room? How do I find my way back? How does this shower work? What time of day or night is it? Where do I go for exercise and daylight? How can I get away from noise and stress? Do I belong here? Can I eat something now? Assume their eyesight is poor and they tire easily. Try to make life interesting and rewarding. Use classic design and don't assume anyone is frozen in a particular time warp.

The Stirling principles are laid out for all to see, but in truth, any architectural solution that would help to answer these needs would be in line with the fundamental idea.

The DSDC is a registered charity, if you wish to support its vital work please send a donation to:

[www.justgiving.com/dementiaservices](http://www.justgiving.com/dementiaservices)

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## PLANNING APPROVED

## ‘Xylophone’ building for children with cerebral palsy gets go-ahead in Haringey



Working on behalf of the London Centre for Children with Cerebral Palsy (LCCCCP), pH+ architects has received planning permission for an extension to its new premises, in the London Borough of Haringey, which will transform the way the charity works with children and the wider public. The children, young people and wider community will benefit from a range of new services and facilities, including a hydrotherapy pool, which have been funded by the generosity of private foundations.

Through a lengthy consultation process, the architects have worked with the charity to develop a centre with an inclusive design; one that helps children in particular develop in a series of differing environments designed to stimulate the senses through sounds, smells, light and varying surfaces. The architecture therefore becomes a tool to nurture young children. For example, ramps and lifts are important for accessibility but stairs will be employed at various key moments as part of the children's walking programme. An external walkway wraps around the building, offering views out to the woodland landscape and allowing for movement through the fresh air. This walkway is enclosed by a timber screen which itself becomes a giant xylophone for children to play with. Sections of the cladding will be reflective so that children can observe their own movements.

Inside, the hydrotherapy pool, flexible-use therapy and meeting rooms, and a community hall space will provide new facilities for the local community, as well as the charity. There will be a dedicated Hub where parents and carers can access vital information, meet to support each other and receive

training courses on a range of relevant issues, such as navigating the Special Educational Needs (SEN) framework. In addition, LCCCCP will continue to share its expertise in the wider community, by supporting children in mainstream schools and training the professionals that work with them.

The landscape, designed by BD Landscape Architects, is as important as the classrooms for providing spaces for learning. The gardens around the Centre have been designed, at their core, to capture children's imaginations. The outdoor spaces will be divided up into different accessible play areas including a woodland adventure garden, a sensory garden, a mud kitchen, growing gardens, a dragon mound and an amphitheatre. Two of the Centre's roofs will be transformed into upper level sensory gardens.

Andy Puncher, director, pH+ said: "Working with the LCCCCP has been a long and enriching process. We have worked closely with the Centre and its pupils to develop a series of spaces that will provide the optimum learning environment. We're so proud to work on a project that shows how design can directly affect lives."

Jo Honigmann, chief executive LCCCCP said: "The new Centre will be an vibrant and harmonious space, the perfect new home for expanding our services and life-changing work. Its fusion of science and nature complements the work of Conductive Education, where the body's natural ability to learn is supported through specific, practical techniques. We are very grateful to Haringey Council and all our funders who have supported our capital appeal to-date."



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## HOSPITAL REDEVELOPMENT

## Chase Farm Hospital starts on site

Construction of the £150 million redevelopment of Chase Farm Hospital in Enfield, North London is due to start in the spring 2016 following the granting of Planning Consent by Enfield Council's Planning Committee. Enabling works are under way, with completion of the Healthcare Building planned for summer 2018.

The major capital redevelopment, delivered by Integrated Health Projects with healthcare architects IBI Group, TB&A, Thomasons in their design team provides the Royal Free London NHS foundation Trust with a new build five storey acute hospital including an urgent care centre, inpatients, eight theatres, day surgery, outpatient ambulatory care zone, imaging, diagnostics and supporting facilities.

The design has been developed with consultation with all departments and clinicians, allowing the design team to lead the way with innovative healthcare design, comprising of a number of flexible options to allow the Trust to embrace service change in the future.



IBI Group has reviewed the whole estate to provide the Trust with a value added, future proofed solution. This includes releasing funds from land sale and integrating housing and a new school into the plans to support the local

community's infrastructure. Working in collaboration with the Trust, the design team has also allowed for the future development of a new energy centre and multi-storey car park.

## ISG underway with £14 million Spire healthcare scheme

ISG is underway with a £14 million project to upgrade and extend Spire St Anthonys Hospital in Surrey, delivering state-of-the-art surgical facilities, along with a refurbishment of the existing hospital building.

Comprising the construction of a two-storey, circa 27,000 sq ft, extension at the private hospital in Cheam, the scheme sees ISG create six new operating theatres. The hospital already offers Level 3 critical care, with specialist provision for cardiac, thoracic and complex orthopaedic procedures. The project will extend this capability and add three new ultra-clean theatres, a hybrid theatre and a physiotherapy department.

The new operating theatres will be housed on the first floor of the concrete frame extension, with consulting rooms, administrative areas, and a physiotherapy unit,

including hydrotherapy pool, at ground floor level. All six theatres will be constructed to operate under positive pressure with air locking doors, and ISG is responsible for the comprehensive fit out package, including surgeons panels that control door locks, lighting and temperature.

The three ultra-clean theatres will include HEPA filter canopies above the operating area to deliver up to 500 air changes per hour, with one theatre adapted for laser surgery procedures, featuring non-reflective surfaces throughout. Facilities have been carefully designed to enable the hospital to quickly adopt the very latest surgical techniques and advances, with a state-of-the-art Siemens scanner installed in the hybrid theatre, enabling patients to be scanned during procedures.

## HEALTHY NEW TOWNS

*'It is a very important project for Fylde as it puts us at the forefront of designing towns for the future'*

Allan Oldfield, Fylde Council  
chief executive

## 225-acre Blackpool development to become healthy new town

A 225-acre mixed-use scheme on the outskirts of Blackpool is one of ten developments selected to be part of a pioneering 'Healthy New Towns' initiative with NHS England.

Architectural and planning consultancy, Cassidy + Ashton, successfully secured a resolution for planning permission to be granted at Whyndyke Farm in October 2015 and today the mixed-use urban extension was awarded Healthy New Town status by the King's Fund.

The 1,400 home scheme, which straddles Fylde and Blackpool Council boundaries, includes a primary school, two shopping areas, a health centre and a community centre, together with employment; and will be developed with healthy living in mind.

The initiative sets out to address

major healthcare problems including obesity and dementia by encouraging people to exercise more, eat better and live more independently into old age.

One of the scheme's healthy proposals being considered is to use technology to keep residents mindful of activity levels, with electronic waymarkers in lamp-posts calculating how many calories are burned while walking.

Other elements of Whyndyke Farm include sports pitches, allotments, cycle paths and walkways, as well as natural habitats such as ponds and watercourses.

The Healthy New Towns programme attracted 114 applications from local authorities, housing associations, NHS organisations and housing developers, with 10 sites initially chosen following a rigorous selection process.

City firm, Cassidy + Ashton, was the

only private sector organisation to be involved in the bid, with work on site expected to take around 15 years before fully developed.

Alban Cassidy, chartered town planner and environmental consultant at Cassidy + Ashton, said: "Whyndyke Farm is unique because it straddles both Fylde and Blackpool Council boundaries, meaning there's greater opportunity for public and private sector organisations to work together towards achieving healthy lifestyles amongst local residents.

Allan Oldfield, Fylde Council chief executive, added: "We've worked very closely with Cassidy + Ashton for some years now on this site and their expertise has helped immensely in putting this bid together.

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## INTERNATIONAL AWARD

# Glasgow hospitals celebrate international property award

All eyes were on the Queen Elizabeth University Hospital (QEUH) and the Royal Hospital for Children (RHC) last night, as they scooped the prestigious international MIPIM award for Best Healthcare Development. The MIPIM Awards, launched in 1991 is the highlight of an annual event held in Cannes, France that brings together over 21,000 influential property players to honour the most outstanding and accomplished global projects from around the world.

The landmark £842 million Glasgow Hospital designed by architects, IBI Group and constructed by Brookfield Multiplex in collaboration with NHS Greater Glasgow & Clyde Board, was one of four shortlisted entries that was voted for by event delegates and a judging panel made-up of prominent property professionals.

IBI Group's Neil Murphy said: "It took a considerable time to plan, design and construct this world-class hospital, which is a beacon for wellbeing in the local community.

"For all the doctors, nurses, patients and staff, in addition to the vast design and build team that were involved in delivering the hospital, this internationally-renowned award is testament to their collaborative effort."

Robert Calderwood, chief executive, NHS Greater Glasgow and Clyde, said: "I am delighted that the design of the new QEUH and the RHC have been recognised internationally as one of the most outstanding healthcare projects across the world.

"We were a long time in the planning and construction but the results are now providing the residents of Greater Glasgow and Clyde and beyond state-of-the-art facilities at the forefront of the latest advances in healthcare."

The iconic 14-storey, 170,000m<sup>2</sup> hospital is amongst Europe's largest and most advanced medical campuses and is a catalyst for wider regeneration in and around Scotland's largest city.

The judges agreed that the hospital establishes a new benchmark for healthcare design and delivery. Set in a therapeutic set within therapeutic parklands the design uses excellent standards of natural light, space, height, materials and technology, which create a 'hotel like' adult acute environment and a science inspired, interactive and colourful children's facility.

Providing 100 per cent single adult bedrooms and virtually 100 per cent single children's bedrooms all with stimulating views, the hospital's design helps improve infection control and heighten overall patient care, dignity and privacy.

Encompassing novel features such as colourful cantilevered 'pods' in the naturally lit atrium, a bespoke patient and visitor sanctuary, beautifully landscaped roof-top children's play area, integrated artwork and the largest A&E in Scotland; the hospital is set to provide the best quality of care for future generations.



*'The judges agreed that the hospital establishes a new benchmark for healthcare design and delivery'*



## WAN AWARDS

## Setting new standards in healthcare design WAN Healthcare award 2016

2015 Winner  
St. Charles Bend Cancer Center  
ZGF Architects LLP  
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Environments that improve patient outcomes, engage visitors and enhance staff productivity are all vital components of successful healthcare facilities. Now in its eighth year, the WAN Healthcare Award 2016 recognises and rewards projects that incorporate these qualities; clinical spaces that deliver value in quality, cost, efficiency and aesthetics – whether a hospital, hospice, clinic or care home.

Judging the entries will be a panel of international experts,

who have expansive knowledge of, and extensive experience in this sector. Look out for details of the jury to follow soon.

Registration is now open, with no need to upload your project until the competition ends on 30 April 2016. If your firm's project promotes patient healing, enhances the visitor experience and maximises operational efficiency, enter the WAN Healthcare Award 2016 today at [backstage.worldarchitecturenews.com/wanawards](http://backstage.worldarchitecturenews.com/wanawards)

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## EXTRA CARE HOUSING DEVELOPMENT

## Exemplary extra care facility provides 'home from home' for residents



Residents are now enjoying the comfort and peace of mind of a specially designed state of the art extra care housing development in Newton Abbot in South Devon, designed by LHC Architecture and Urbanism on behalf of Aster Homes.

Haydon Court was designed by an LHC Architecture and Urbanism team, led by Director Graham Devine and Principal Interior Designer Louise Noakes. Graham and his team worked closely with Aster Homes and developer Galliford Try to design the overall development, consisting of 50 one and two bedroom apartments. Louise provided interior design services directly to Aster, ensuring the finished housing would provide a 'home from home' environment for future residents whilst reflecting the local area and helping residents connect to their surroundings.

The development offers residents every convenience of extra care living, but with the choice to be as independent as they wish. The stunning apartments have all the comforts of home, with the added benefit of communal areas including the dining hall, landscaped gardens and lounge area, allowing

residents the space and freedom to spend time with friends or visiting family. Each apartment is big enough to allow space for wheelchair access and is equipped with a spacious wet room and a beautiful kitchen designed to make cooking simple. The development also boasts a number of first-class facilities including a hair salon, 24/7 emergency call system, treatment room, assisted bathrooms and mobility scooter charging room.

The combination of private apartments and communal facilities was integral to the concept of extra care, allowing residents the freedom to live independently, with the peace of mind that help is on hand in an emergency. The building offers maximum security with a secure entry system and two lifts to every floor, making access for residents, staff and visitors quick and convenient.

Each floor has its own colourway and identity, inspired by Newton Abbot's heritage and the predominant colours of the locally made Aller Vale Pottery, known for the creation of art pottery at the end of the 19th Century. The uniformity in style and layout of each floor aids way-finding for residents, helping

them to connect to their home by providing consistency. The variation in colours and styles between floors, however, allows slight changes in the design so that each floor is unique; the signage for example varies slightly to distinguish between floors.

An extra special feature to the Haydon Court development is the unique two floor wing dedicated to residents with early stage dementia, designed to meet their specific care needs. The West Wing has its own identity, evoking the memories of childhood, and holidays spent in local seaside towns Torquay and Paignton.

The West Wing boasts ten apartments, each with a memory box outside the front door as well as a separate communal sitting and dining space which leads to its own garden. A resident's kitchen has also been designed to allow for the therapeutic making of cakes and biscuits.

The external design of the building takes into consideration the local character of the picturesque market town. Taking inspiration from the surrounding area and ensuring the development complements the existing architecture; brick has been used as the predominant building material.

Architect, Graham Devine said: "There were many considerations in the initial planning stages of this development. The end result had to be an extra care facility for the over 55s that offers them all the care and support they need for years to come. We wanted to create a comfortable environment that residents feel is an extension of their home, where friends and family are welcome. The communal areas were also key in ensuring that residents have comfortable space to spend time together, to get to know one another and form a community. The special dementia unit layout had to be well thought out, providing a space for those with early stage dementia, in a relaxing and calm environment.

*'The development offers residents every convenience of extra care living, but with the choice to be as independent as they wish'*

# Time to rise to the dementia challenge



Jitesh Patel

Britain can learn from the Japanese experience of designing and building for dementia care, argues Jitesh Patel, project director for public sector project developer Kajima Partnerships

Every three seconds someone somewhere in the world is diagnosed with dementia. In the UK there are over 850,000 people living with the disease, a figure which is expected to rise to one million by 2025. As the demographic landscape of the UK shifts, dementia is having a major, and growing impact on health and social care today.

The design and construction industry must rise to this challenge, drawing on international best practice and the latest research, if we're to accommodate the desperate demand for dementia care, and deliver high quality, patient-centric facilities.

The economic implications of the disease are momentous. Dementia costs the UK £26.4 billion a year in healthcare, social, and other costs. Rather than fearing the additional expenditure associated with developing dementia care facilities, perhaps we should be considering the opportunity.

Currently, a quarter of UK hospital beds are occupied by dementia sufferers, augmenting the strain felt across a sector already in a crisis. Providing specialist stand-alone and integrated dementia facilities will not only ease the desperate bed-blocking currently threatening to choke the NHS, but will lay the foundations for future best practice.

## Pressing issue

In Japan, a country where one in four people are over 65, there is already widespread commitment to funding for high-quality services, and a shared understanding that the entire system of accessible care should be properly funded, with costs split between the

government and society.

Learning from Japan, the UK must seize the opportunity to address this pressing issue now, by developing modern healthcare buildings that sensitively and intelligently cater for the current and future demand of dementia in the UK.

One of the many innovations coming out of Japan is the integration of dementia care with general elderly care facilities. The Juntendo Tokyo Koto Geriatric Medical Centre is a hospital dedicated to the medical treatment for dementia and other geriatric diseases that, combined with neighbouring facilities, forms part of a multiple complex for elderly people requiring long-term care, rehabilitation and health promotion.

## Understanding

Any new facility must have the ability to service its catchment population. A comprehensive understanding of the current and future dementia requirements of the local population is therefore vital if a facility is to be fit for purpose.

Where possible, the building design should be developed in tandem with its service model, and careful consideration given to the location of the proposed site.

Given the progressive nature of dementia, it is important that patients in the earlier stages of the disease are able to maintain a level of independence making good access to community facilities and good public transport imperative, so that patients can undertake trips independently.

It's important to make sure the interior of these facilities be 'dementia-

transparent' – an environment that offers full care functionality but with the look and feel of a sophisticated household.

Ensuring there is clear signage, natural light, secure handrails and coloured, textured 'tactile indicators' that support the complex array of associated symptoms, including increased frailty, memory loss, mood changes, and problems with communication and reasoning.

Aside from the fixtures and fittings, care must be taken with the actual layout. The progressive nature of dementia means the physical space of each care facility must be sufficiently flexible to adapt to, and accommodate, the growing demand for dementia care as well as the evolving needs of individual patients.

Minimising the use of long corridors and dead-ends, for example, or developing 'adjustable' hospital facilities, as in Japan, where panelled partition walls can be reconfigured to suit the unique spatial requirements of individuals. This is much more cost and time-efficient way than extensive refurbishment.

Finally, once a new facility has been completed, the developer should ensure the smooth transition from empty building to operational facility, maintaining a responsibility for the functioning of the building in its first few weeks after opening.

Supporting people with dementia is one of the biggest challenges our health and social care systems will face in the years to come. Getting the physical environment right is a vital step towards improving both the life experiences and the life expectancy of those affected.



## EXTRA CARE DEVELOPMENT

## Exeter City Council's first Extra Care development leads the way in housing for the over - 60s

St Loye's Extra Care Scheme, a new £9.8 million development by Exeter City Council, has recently been granted planning permission. The scheme will provide 53 homes, in a mixture of 1 and 2 bedroom affordable apartments.

Extra Care housing is a housing solution for older people who have a range of care needs. It offers the freedom to live independently in self-contained apartments by providing a "home-for-life" with varying levels of care and support as and when residents need it.

The development will be built to the low-energy Passivhaus standard to reduce energy use and make the homes more affordable for tenants. The scheme adopts the council's Design for Future Climate Change requirements to improve the resilience of the building using Exeter University's PROMETHEUS weather data up to 2080. The scheme also takes into account Building Biology recommendations, by to reduce physical, chemical and biological risks and eliminate toxic materials and electro-magnetic radiation, which creates a natural, healthy-living environment.

The 5 storey development includes lounges, dining rooms with roof terraces,



hobby spaces, salon and spa treatment rooms and landscaped gardens. It has been intuitively designed to provide a fully inclusive, dementia friendly scheme. This allows older residents to retain their independence as well as remain firmly connected to their local community.

The development, which is due to start on site in September 2016, is critical given the shortage of Extra Care accommodation in the city.

Cllr Rob Hannaford, lead councillor for the Housing Revenue Account explained "By 2030 we expect there to be an additional 7,000 older people in

Exeter and a third of these will be over 85 years of age. The Devon Commissioning Strategy for Extra Care Housing identified a need for 150 units in Exeter in 2008. This need will have increased in the last 8 years. There are currently no Extra Care schemes in the city and this will be the first one in Exeter."

The sentiment was echoed by Cllr Rachel Sutton, Portfolio Holder for City Development, who added; "Exeter City Council is leading the way once again in planning for a high-quality, Passivhaus Extra Care development offering the best to the city's older residents."

*'Exeter City Council is leading the way once again in planning for a high-quality, Passivhaus Extra Care development'*

Rachel Sutton, portfolio holder for City Development

## Skanska divests hospitals in London for £80 million

Skanska has sold its investment in the hospitals St Bartholomew's Hospital and the Royal London Hospital, both in London, UK, for GBP 80 M, about SEK 1 billion. The buyers are three Skanska pension funds. The transaction will be recorded by Skanska Infrastructure Development in the fourth quarter of 2015.

Skanska is divesting its share of 37.5 percent in the two PPP-hospitals

(Public-Private Partnership). The split between the three pension funds buying the asset is UK 60 percent, Sweden 20 percent and Norway 20 percent. Skanska UK will continue to undertake the operations and maintenance of the hospitals.

The historic St Bartholomew's Hospital (Barts) has been transformed into a state-of-the-art cancer and cardiac center. The Royal London

Hospital provides a specialist women and children's center and facilities to continue the hospital's leadership in accident and emergency treatment.

The first phase of the new Barts Hospital was handed over in March 2010 and the final phase will be completed in early 2016. All construction work at the Royal London has been completed and the facilities handed over.

## NEW HOSPITAL

*'This project will fundamentally improve the experience of A&E for thousands of patients'*

Minister of State for Culture and the Digital Economy, Ed Vaizey

## Boex interior designs create innovative family waiting area in the new NHS Chelsea and Westminster Hospital A&E



Boex healthcare interior design specialists are delivering full interior design and specifications for the paediatric waiting area in the new £12m redevelopment of the A&E services at Chelsea and Westminster Hospital NHS Foundation Trust. Aiming to create a calming environment by using the latest adaptable lighting, flexible and softly curving fixtures and a nature inspired colour palette, Boex are working in conjunction with hospital charity CW+ and internationally renowned artists to incorporate potential soundscapes, sculpture, theatre and digital interactive installations into the waiting area.

Chelsea and Westminster Hospital A&E is currently the top ranked A&E department in the country. The redevelopment will see its capacity increased to 140,000 patients a year. Hospital charity CW+ has raised £600k to support the inclusion of innovative art and design techniques and the commission of bespoke audio, visual and digital installations by Brian Eno, Bridge Company, Helen Bridges, Jazz Szu-Ying Chen and Monika Bravo.

Sam Boex, Creative Director of Boex: "No one wants to find themselves sitting in an A&E waiting room - it can be a hugely stressful experience. Working on this project has put us at the

cutting edge of healthcare design research and how we can help reduce the anxiety all family members experience. Things that we intuitively knew about soft lighting, art, music and nature being calming and beneficial to patient experience have been credibly researched by the team from CW+ and are now being put into a working A&E environment. Our waiting room will support this research and provide a relaxing space for parents, with welcome distractions for children."

Minister of State for Culture and the Digital Economy, Ed Vaizey: "This project will fundamentally improve the experience of A&E for thousands of patients, using the talent of our leading artists to provide a calm and positive environment."

The Boex designed waiting area is populated with their signature custom designed furniture and fittings, making best use of available space whilst keeping the look as 'non-institutional' as possible. Curved wood seating coupled with the latest infection safe fabrics in blues and greens offer comfortable spaces in conversation groups rather than traditional rows. Floor and wall graphics, lighting pillars and artwork will all combine to provide a one of a kind family friendly waiting area. The completion of the new A&E is due in August 2016.



# Flagship private hospital will set new standards

Halliday Meecham's design for a state-of-the-art private medical facility boasts some interesting features. Jess Unwin finds out more

A £63 million landmark building that will raise the bar for hospital design is being constructed in Manchester.

Innovative private hospital group Spire Healthcare has tasked architect Halliday Meecham with creating a flagship hospital, incorporating some of the most up-to-date facilities and configuration concepts.

Set for completion in 2017, the 76-bed medical facility on Princess Road in the city's Didsbury district, will provide a large intensive therapy unit together with state-of-the-art diagnostic and imaging equipment plus an outpatients unit.

Entirely new services include hydrotherapy and a hybrid 150-seat education centre on the top floor of the four-storey structure.

## Quality materials and letting in light

The overarching architectural emphasis is on using quality materials, letting in as much light as possible and embedding a wayfinding approach that's genuinely patient and visitor-friendly.

*Continued overleaf...*



The glass exteriors of the new hospital will be a striking feature and give more visibility in and out of the building



Phil Hewer is healthcare director for Halliday Meecham Architects. He says: "Spire has introduced new designs in recent years but this is a big opportunity to look at all areas and create something that could be a useful benchmark going forward. It is a landmark development, their biggest new hospital for a number of years, so it's a chance to push to another level."

The hospital is being constructed at a location that's not only adjoining one of Manchester's arterial roads and served by trams but is also near junction 5 of the M60 and on the way to the city's airport. Phil says: "It's a prominent site and highly visible from major roads so this will be an iconic building as people come into the city."

### Serving the wider medical community

Unseen in any other hospital in the group is the top-floor education centre. Phil explains: "This is something new to Spire and they're keen on that serving not only the hospital but also the wider medical community in Manchester, like GPs or pharmaceutical companies." Facilities will include the latest in audiovisual systems that will, for example, allow people to watch operations going on two floors below. Accessed via its own separate entrance, and a lift that bypasses the rest of the hospital, the education/conference centre will offer panoramic views over Manchester.

Elsewhere, careful consideration has been given to the

organisation of the hospital's activities. Phil says: "The ground floor is designed to be the outpatients area, to serve those coming in for a consultation, physiotherapy, an MRI scan or X-ray. The first floor is the location for operating and day care, while the second floor will be home to in-patients' bedrooms for people who stay overnight."

### Glass exteriors will be a striking feature

While the mostly concrete frame of the building (the top floor is steel) will of course be invisible, the glass exteriors will be a striking feature. Phil explains: "Glazing is one of the areas where we're trying to do something different. We're trying to give a lot more visibility in and out of the building and get more light into the building to create a better interior."

A groundfloor-to-topfloor central courtyard in the middle of the building is part of that plan to bring light flooding in. It helps ensure all bedrooms have windows and most consultation rooms too. Solar shading is supplied by timber louvres, both horizontal and vertical, which, along with blinds, also help to maintain privacy.

Staying with the glass, Phil adds: "One of the issues when designing hospitals generally is that you don't get a regular internal grid of rooms like you would do with a hotel, student accommodation or apartments. So you need some sort of glazing scheme on the outside that incorporates both blank insulated panels and glass in what might appear from

*Continued on page 20...*



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Away from clinical areas, high-quality materials that are more commonly seen in high-end hotels are being used



© Ambiente-i/Halliday Meecham Architects

outside to be a random pattern but which suits the internal arrangements of the building.”

While the education centre-level exterior is fully glazed and boasts a balcony with a glazed balustrade, the rest of the hospital is partially covered with metallic and ceramic cladding – some of which is white to fit in with neighbouring Sir William Siemens House.

### Input from medical staff

Internally, design decisions are just as important and Phil reveals there has been step-by-step input from medical staff at Spire Manchester Hospital on the layout and palette of materials and colours.

He says: “Away from clinical areas like operating theatres, i.e. the public spaces and bedrooms, we’re trying to include high-quality materials that you would more likely see in high-end hotels than a hospital. We’re trying to incorporate natural materials like timber into the building, which is not something that happens often in hospitals.

“The design is very carefully thought out so the environment isn’t overly sterile unless it needs to be. So, for example, the new hospital will feature consulting rooms that are separate from examination rooms. Only the latter really need to feel clinical.”

He goes on: “Our challenge is to get the balance right between introducing new materials and a more design-

oriented hotel-style in some areas while also designing for clinical areas to take into account infection control and hygiene requirements, like using seamless materials that are easy to clean.”

### Wayfinding carefully analysed

Just as there has been much thought put into creating light and airy spaces inside, getting around the building has been “very carefully analysed” and worked through to make sure it meets Spire Healthcare’s requirements for patient flow, says Phil. “We’ve been very carefully analysing wayfinding so that people don’t have to walk too far and that they always have a good idea of where they are in the building.”

The building will be fully air-conditioned – not just operating theatres and other treatment rooms but consultation rooms, inpatient bedrooms and offices as well. A sophisticated building management system will control the environment and it won’t be possible to open windows, which is a set-up that deals not only with hygiene concerns but pollution and sound from nearby roads.

Another important consideration for the design team was to deliver a building with strong sustainability credentials and a BREEAM rating target of Very Good. The envelope is designed to minimise energy usage and CO<sub>2</sub> emissions and the scheme will feature sedum and wildflower roofs, high-performance glazing and a large number of photovoltaic





The hospital's hybrid 150-seat education centre will be a facility available to the wider medical community and offer spectacular cityscape views

panels. Any removal of trees during construction was delayed until after birds had finished nesting, and new trees will be planted as replacements as soon as construction allows.

With the project being relatively fast-paced – work started on-site in April 2015 – building information modelling (BIM) has proved very helpful for collaboration between Halliday Meecham and the project's structural engineers and M&E consultants. "It meant we could identify and eliminate any clashes far earlier, that is before we got on-site," says Phil.

### Plans to make campus a hi-tech business park

Spire bought the land, which comprised an overflow car park and a grassed area, from Siemens. The plot is a part of the German engineering company's Princess Road campus, another part of which is already occupied by Sir William Siemens House. Spire Healthcare's new hospital is the first stage in a long-term plan to develop a technology and healthcare-focused business park.

Halliday Meecham has worked with Spire Healthcare on hospital projects for more than a decade now and is currently helping to build another hospital for the company in Tollerton, south Nottingham, which also opens in 2017.

Phil says: "People's expectations of healthcare have risen. The design of hotels and shops has moved on and hospital designs need to keep up."

"What we want to do in Manchester is make sure this new hospital has a very different kind of feel to it than other hospitals – very much a 21st century building using 21st century materials."

*'People's expectations of healthcare have risen... and hospital designs need to keep up'*

Phil Hewer, healthcare director, Halliday Meecham Architects

### Project details

**Architect:** Halliday Meecham  
**Main contractor:** Vinci Building Contractors  
**Project manager:** Turner and Townsend  
**M&E:** Parsons Brinckerhoff  
**Glazing and curtain walling:** Kawneer  
**Rainscreen cladding:** Carea  
**External louvres:** Levolut  
**Green roof:** Sika Trocal  
**Solar panels:** Bauder  
**Metal cladding:** Alucobond  
**Flat roof generally:** Sika Trocal/Bauder  
**Ceilings:** CEP  
**Flooring:** Tarkett  
**Plasterboard:** British Gypsum  
**Timber doors:** European Doors  
**FFE:** Workspace  
**External paving:** Marshalls



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# Artful design makes all the difference at state-of-the-art facility

Improving the patient experience is one of the primary objectives of the architects behind Scotland's newest, hi-tech cancer treatment centre but, as Ray Philpott reveals, taking an unconventional design approach pays dividends

**F**rom an architectural perspective, designing a radiotherapy-based cancer treatment centre is an inherently challenging task.

On one hand, you have multi-million pound, hi-tech linear accelerators – used for the radiotherapy treatment – housed in radiation-proof bunkers made from thousands of tonnes of in-situ concrete.

And on the other, in the same building, you have to create a calming and aesthetically pleasant environment that

reassures and meets the practical needs of potentially highly anxious patients.

Marrying these two apparently conflicting, essential elements in a single building certainly exercised minds at Keppie Design when the practice was invited to design the state-of-the-art Lanarkshire Beatson Satellite Radiotherapy Centre in the West of Scotland.

The task was made even harder thanks to an enclosed site that is framed by existing hospital buildings on two sides and

*Continued overleaf..*



*'Our design strategy has always been about the patients and putting them at ease'*

David Morrison, project architect



the key accident and emergency route and a service roads on the other two, none of which could be moved.

Keppie's solution was to create an 'inward-looking' two-storey building with a carefully designed reception and waiting area overlooking an attractive garden 'oasis' at its heart – primarily with the aim of putting patients at ease before they enter the radiotherapy area or other clinical facilities.

### Growing demands

Lanarkshire Beatson came about to meet growing demands for radiotherapy in the South and West of Scotland and to provide extra capacity for the world-class Beatson West of Scotland Cancer Centre in Glasgow – one of the busiest in Europe.

Built on a vacant site on Monklands District General Hospital in Airdrie, the new £22 million facility for NHS Lanarkshire and NHS Greater Glasgow and Clyde is funded by the Scottish Government Health and Social Care Directorate through the Frameworks Scotland 1 procurement initiative.

As a satellite of the Glasgow centre it also directly serves the local population in Lanarkshire and will enable around 80 patient treatments to be carried out daily for people requiring radiotherapy for lung, breast, prostate and colorectal tumours.

The building is equipped with the same advanced state-of-the-art technology as Glasgow, hosting two linear

accelerators and a CT scanner and simulator facility, plus a radiotherapy mould-making room and on-treatment review clinics. Oncology, radiography and outpatient nursing services, among others, are provided on site.

### Different magnitude

Broadly speaking the building's superstructure incorporates pre-cast concrete columns, floor slabs and shear walls. The exterior elevations are aluminium clad on the first floor and brick-slip clad in the lower areas with the cladding fixed to aluminium carrier rails.

However the interior structure and design of the technological 'business end' of the building is of an altogether different magnitude.

Here, there are three massive concrete radiation-proof bunkers, two to hold the linear accelerators and a 'decanting bunker' to enable repairs or a future replacement to be carried out seamlessly.

These substantial 160m<sup>2</sup> structures are made of 2.75m thick solid concrete ceilings and floors with 1.3m-thick walls made of specialist Magnetite radiation-shielding concrete, a very dense and heavy material containing metallic ore. Compared with traditional concrete the thinner magnetite helps maximise available floor space.

This concrete is poured and set on site with no pre-manufactured panels involved with the bunkers built first and



The reception and waiting area is intended to feel like the relaxed lobby of a hotel or high-quality office building, as these images (left and far left) show

the accelerators assembled inside.

Each bunker is connected to the main reception area via a winding 'maze' corridor with specially designed bends and geometries precisely calculated to prevent radiation 'scatter' reaching outside and also to allow a scanner to be transported through them.

Situated at the start of each maze, which have their entrance doors in the main reception, is a radiotherapy control room and a security station where light gates are positioned to prevent people entering the maze when the machinery is in operation.

### Future Flexibility

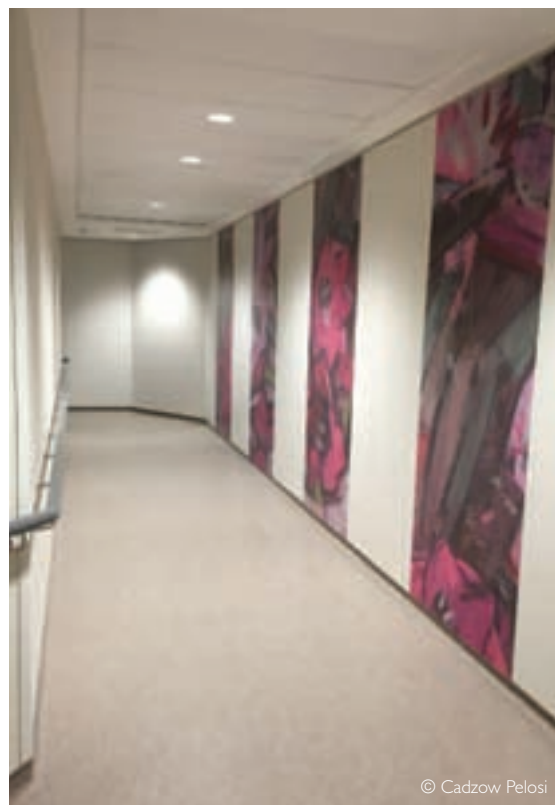
Keppie Managing Director Peter Moran says: "To ensure our radiation-protection designs and calculations are faultless, we consulted with a Radiation Protection Advisor.

"The bunkers are designed to accept any model of accelerator as equipment selection had not been finalised when we began the process, which has the advantage of offering flexibility for future replacement choices.

"We worked closely with the main contractor, Laing O'Rourke, on the installation and development of the bunkers. They have industry-leading expertise in this area and we built on experience we'd already gained from working together on a similar project at Aberdeen Royal Infirmary."

The bunkers are internally clad with laminate panelling to carry the services, positioning lasers and many storage

*Continued overleaf...*

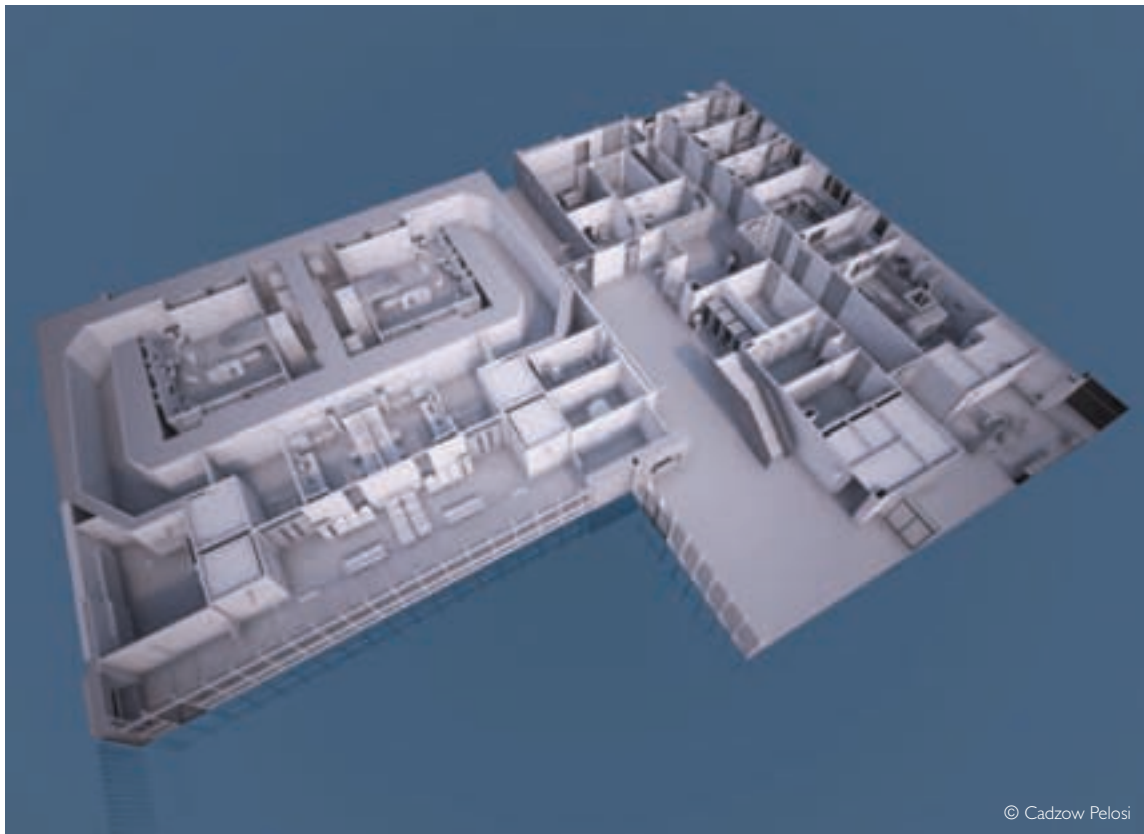


Panels of colourful artwork help to soften the walk to the radiotherapy treatment bunkers

*‘Where possible, we incorporated prefabrication and off-site manufacturing...’*

Peter Moran, managing director, Keppie Design

This internal layout model shows the massively thick walls of the two operational bunker structures



© Cadzow Pelosi

cupboards to hold essential medical equipment and supplies.

Services run through the ceilings of the mazes, with a few direct connections between the bunkers and the control rooms.

In contrast to the accelerator bunkers, the CT Scanner room simply uses lead-lined plasterboard and lead-lined doors to contain any radiation.

Moran adds: “Where possible, we incorporated prefabrication and off-site manufacturing – an area in which Laing O’Rourke excels – into the design and construction process to speed delivery and address restricted site access.”

In contrast to the accelerator bunkers, the CT Scanner room simply uses a conventional lead-lined door and lead-lined plasterboard to prevent radiation leakage.

The building was awarded a BREEAM Good rating at design stage. To lower its carbon footprint it features photovoltaic cells, LED and low-energy lighting, solar-control

glass on the curtain walls and rooflights, a heat recovery system in the extraction system, and where possible, natural ventilation.

“The clinical facilities require mechanical ventilation and cooling systems,” observes Moran.

### Best possible environment

“Beyond meeting the very specific technical needs of the radiotherapy and CT services, our design strategy has always been about the patients and putting them at ease,” explains Keppie’s Project Architect David Morrison.

“However, creating the best possible environment for them and delivering the client’s vision for the new centre as a bright, pleasant, patient-focused facility has been quite challenging, given the restricted site location and the inherent characteristics of the radiotherapy bunkers.

“With no particularly attractive view outwards, it was not considered worth setting the edges of the building back but, equally, we didn’t want patients just looking out onto car parks, perimeter footpaths and fencing.

“Therefore, it made sense to push the building perimeter to the edges of the site and have the patient and public areas focused inwards around an attractive, peaceful, central open space created for people to enjoy.”

A central two-storey atrium space contains the entrance, reception and main public and patient waiting area, giving

### Fast facts

Opened to patients: Nov 2015

Radiotherapy bunkers: 3

Bunker ceiling: Up to 2.75m thick

Radiation-proof concrete lining: 1.3m thick

Site footprint: 3,652m<sup>2</sup>





*'We constructed the building from the garden area outwards due to limited site space, storage and access'*

David Morrison, project Architect



Coloured steel sections form a vibrant border to part of the central garden area

quick and easy access to all patient facilities and entrances to the radiotherapy mazes.

"Everything radiates out from this area and at the same time it provides a visual and physical connection to the L-shaped and pleasantly landscaped garden – thanks to the provision of substantial levels of glazing," says David. "It's lit from above by roof lights, and we also ensured no corridors are dead-end and all of them benefit from natural daylight."

On two sides of the garden a series of striking, brightly coloured vertical steel sections rise from the ground to form what is effectively a perimeter fence – albeit one you can see through – closing a gap in the perimeter of the c-shaped building.

"This feature sits on the former construction site entrance," explains Morrison. "We constructed the building from the garden area outwards due to limited site space, storage and access, with materials delivered on a just-in-time basis."

Patient activity is concentrated on the ground floor, ensuring step-free accessibility for those with mobility needs. Staff accommodation is located on the first floor with good vertical links making it easy to reach all treatment areas and there's also a link to the existing hospital.

## Interior design

Morrison adds: "In the central area timber paneling softens the walls and also underside the main staircase to the first floor, and we've used porcelain floor tiling. The high ceiling and clear glass balustrades on the staircase add to the feeling of spaciousness."

"When people walk in we've tried to make it feel more like the relaxed lobby of a hotel or high-quality office building and make people feel they are part of something bigger."

"The furniture used is an important element of that. For example we've avoided traditional vinyl-backed chairs and used colourful, cafe style seats and coffee tables to enhance the overall feel and appearance of the waiting areas."

As part of the NHS art-strategy paintings by Glasgow-based colourist artist Archie Forrest have been scanned and printed onto laminate panels displayed around the building. His images, based on Scottish landscape imagery and open foliage, complement Keppie Design's subtle colour palette, itself referencing Scotland's natural environment.

Forrest's images are used in the maze corridors to make the walk to the radiation therapy areas more pleasant. They also appear in the sub-waiting areas, the link corridor, on doors

*Continued overleaf...*

*‘On the ceiling, immediately above where patients lie during radiotherapy, are calming, back-lit panels featuring blue sky and clouds’*



throughout the building and at the reception desk. Even the utilitarian radiotherapy bunkers benefit from a nice design touch. On the ceiling, immediately above where patients lie during radiotherapy, are calming, back-lit panels featuring blue sky and clouds.

Concluding, Morrison says: “Very sick people come to this facility hoping to get better. We hope that, in some small way, through thoughtful design, we’re contributing to their healing process.”

## Project details

**Architect and interior designer:** Keppie Design  
**Client:** NHS Lanarkshire/NHS Greater Glasgow and Clyde  
**Main contractor:** Laing O’Rourke  
**Services engineer:** Arup  
**Structure and civils:** WSP  
**QS and CDM:** Currie and Brown  
**Landscape architect:** Hirst Landscape Architects  
**Artist:** Archie Forrest  
**MEP sub-contractor:** Crown House Technologies  
**Piling:** Expanded (Laing O’Rourke)  
**Precast lattice slabs, shear wall and columns:** Explore  
**Precast stairs:** Bison  
**Steelwork sub-contractor:** M&S Engineering  
**SFS:** Cairnhill Structures  
**Roofing sub-contractor:** Briggs Amasco  
**Curtain wall/glazing:** Architectural Glazing Systems  
**Cladding sub-contractor:** Procladd  
**Internal partitions/linings sub-contractor:** Linear Projects  
**Flooring sub-contractor:** MacGregor Flooring  
**Sanitary-ware sub-contractor:** John Crawford Mechanical  
**Balustrade sub-contractor:** Miller Fabrications

**Cabinetry sub-contractor:** Workspace Design  
**Cladding:** Wienerberger Corium brick tile cladding system, Kalzip Dark Falzinc on Kingspan insulated wall panels  
**Facing brick (link corridor):** Ladrillos Mora S.L  
**Louvres:** Levolux  
**Roofing:** IKO, Kingspan Topdek, Dales (soffit lining/beam casing)  
**Rooflights:** Lareine Engineering  
**Aluminium doors, windows and curtain walling:** Kawneer  
**Lifts:** Orona  
**Plasterboard partitions:** Knauf  
**Ceilings:** Knauf, Rockfon, LSA (timber panels)  
**Internal doors/ironmongery:** Scottdor  
**Glazed partitions:** Polar Komfort  
**Wall linings:** Altro, Rearo Laminates, LSA (timber panels)  
**Wall protection:** Construction Specialities  
**Floor tiling:** Revigres Porcelanato  
**Carpet tiles:** Milliken  
**Vinyl flooring:** Forbo, Tarkett  
**Screed:** Flowcrete  
**Sanitaryware:** Armitage Shanks, Vanesta, Horne, Franke Sissons, Brownall  
**Furniture:** Tsunami Axis



The building's typology naturally lends itself to the creation of courtyards  
© AFL Architects

# A new approach to healthcare that embraces the local community

Atherleigh Park Hospital is a fine example of the mental healthcare revolution that's rapidly sweeping across the UK, reports Ray Philpott

When it opens, the £40 million, 90-bed Atherleigh Park Hospital will not be an isolated, hidden institution, but a restful, calming place that actively encourages engagement with local people.

From the off, AFL Architects and its client, the 5 Boroughs Partnership NHS Foundation Trust, have intended it to provide not only a superb medical asset but an accessible community hub for the people of Leigh in Greater Manchester.

Atherleigh Park's superb health facilities are split across two buildings. One will provide a 24-hour psychiatric assessment service and in-patient care for adults suffering from mental ill-health. This will be through individual en-suite rooms in a

male ward, a female ward and, a psychiatric intensive care unit. In the separate Later Life and Memory Service (LLAMS) building are a further 42 ensuite bedrooms for older people with dementia and memory-related conditions.

The hospital will also provide space for use by other mental health and related community service providers including charities, voluntary groups and housing organisations.

So, for the architects, the challenge was to design a building that has to work on three fronts: meeting the practical clinical and operational requirements of a modern hospital; ensuring patients and visitors feel at ease; and achieving integration with the community. No easy task.

*Continued overleaf...*



This aerial shot shows the hospital layout and courtyards with Phase 1, the 'adults' building' and central reception, almost complete and Phase 2 under way  
© AFL Architects



## Starting point

AFLs involvement began in January 2012 when it won a design competition to create a new facility for the trust, which provides mental health services across the North West boroughs of Wigan, Warrington, St Helens, Knowsley and Halton, and community health services in Knowsley and St Helens, in England's North West.

The existing Leigh Infirmary hospital site was originally considered as the location for the new-build before it was moved to the 3.9-hectare vacated ground of Leigh East Amateur Rugby Club.

This is a relatively difficult site, constrained by Atherleigh Way, a busy 40mph dual carriageway, and residential areas to the east and south. Furthermore, it sits two metres below the road and required levelling due to a large east-to-west fall.

Taking the location and surroundings into account, AFL designed the hospital as two buildings linked by a central block. Phase 1 – the adults building – contains the mental health facilities and single-sex wards and will open in the autumn. Phase 2 – the LLAMS building – due to open early in 2017, holds the facilities and bedrooms for patients with dementia and other memory-related issues.

Nestling between both buildings is the hospital's attractive, timber-clad central entrance block. This contains

the main reception and a cafe for both patients and public with administrative offices situated immediately above it. Tall glazing allows daylight to stream into both levels simultaneously.

AFL Associate Neil Milling explains: "We'd spent 18 months researching, consulting with service-users, patients and staff, and preparing drawings for the original Leigh Infirmary location and wanted the new building to benefit from features and concepts we'd developed, albeit in modified form.

"There is a lot of brickwork in the scheme to retain a low-key residential feel where the site borders housing, but we felt the entrance area and block should stand out."

While most of the adults building has a pitched roof, the central block has a flat roof hidden behind a dipped fascia splaying out in two directions. It is reached from outside the hospital via a long, glazed corridor with a raked top, which also interconnects with the wards and clinical areas.

"The exterior also has attractive, sustainably-sourced red cedar cladding over a Kingspan Tek structural insulated panel system (SIP), and by using 'hit and miss' mounting we have created an interesting rippled effect," adds Milling. "There are a lot of shops and commercial buildings on Atherleigh Way and the main entrance design reflects that."

Elsewhere the adults building has SIP and brick-clad

*Continued on page 32...*

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exterior walls, while the LLAMS building has a traditional slate roof and external walls of Metsec steel frame clad with brick but broadly follows the design themes of the first building.

### Courtyards and nature trail

The sheer of number of courtyards featured across both buildings – 11 in all – forms a strong element of the design. These include four therapy courtyards, four more gender-specific courtyards for the acute wards in the adults building, a central courtyard with public access behind the entrance building and two more in the LLAMS wing.

Milling explains: “The typology of the buildings lends itself to the creation of courtyards. At the very least they’re visually pleasant and calm areas and where they are accessible, with seating and planting they’re great for recreation, contemplation, exercising, therapy and for patients to spend time with visitors.

“We wanted to avoid installing fencing on the site, so all our courtyards are inward looking rather than outward facing

towards the perimeter. Where possible, we’ve tried to wall-round the courtyards rather than fence them off – a modern interpretation of the traditional English walled garden.”

As part of the landscaping, a nature trail has been created around the perimeter of the site. This offers further recreational and meeting opportunities for patients and their visitors and softens the perimeter areas. It will also be available for use via a pedestrian entrance on the eastern side of the hospital.

Landscape Architects Fabrik have devised a scheme that’s a mixture of hard and soft landscaping areas, varied-level planting, and seating. While some of the planting will be completed when the hospital opens, the idea is that patients will become involved in selecting and carrying out further planting activities on the site as part of their therapeutic treatment.

### Considerable thought

Interior architecture and design has been given considerable thought, reflecting contemporary approaches to mental health services and dementia care which recognise the importance of

Pictured:  
The timber-clad entrance and  
reception area is a central  
feature of the exterior  
© AFL Architects





*‘The entrance area is a calm space designed to avoid causing confusion... and the rest of the hospital radiates out from there’*

these elements in the healing process.

From day one, the architects have been working closely with the trust’s members engagement group, comprising service users, ex-service users, carers, local councillors and local residents.

“We have a very good relationship with them and give presentations and explain what we are doing and they have had a big input to the design, which has been very important and provided us with a lot of understanding,” says Wendy Short, AFL’s Senior Interior Designer.

“It is important that the hospital doesn’t have an overbearing presence for patients and visitors. We needed to maximise daylight, which is crucial in healthcare and utilised

glazed curtain walling to maximise views out. The bright bedrooms offer a view of the nature trail or other pleasant areas through very large, slide-opening windows. Partly meshed-glass and partly clear glass they’re designed to allow fresh air in while remaining fully secure.”

The entrance area is a calm space designed to avoid causing confusion for those arriving and the rest of the hospital radiates out from there.

“We don’t want new arrivals to be faced with lots of people on seats, creating the discomforting feeling of being watched. So, the waiting area is separated out,” says Short. “Arriving at the reception, the large entrance to the pleasant public cafe area, overlooking the courtyard, is immediately apparent.

“When patients are off-ward they’ll move in the public areas such as the cafe. There is also a child visiting room and multi-faith room,” adds Short. “On the wards, visitors will generally see patients in the dining area of their wards.”

The adults building has seclusion rooms in each ward in case of emergencies, and there are destimulation rooms for agitated patients and therapy areas – essentially quiet spaces  
*Continued overleaf..*

## Fast facts

**Site area:** 3.9 Hectares

**Building footprint:** Phase 1, 4,990m<sup>2</sup> Phase 2, 2,515m<sup>2</sup>

**Total project costs:** £40 million

**Courtyards:** 11

**Car parking:** 161 spaces

**First phase opens:** November 2016



© AFL Architects



© AFL Architects

Interior architecture and design reflects contemporary approaches to mental health services and dementia care as the images on this page show



© AFL Architects

with soft lighting.

However, the trust is keen not to label rooms, so some of the day spaces have multiple uses – an interview room might also serve as a quiet space for patients, for example.

“To further enhance the ambience, we came up with the concept of decorating some walls with giant-sized photographs of natural scenery,” says Short. “The images of local places of interest have been selected by the trust, reinforcing the community feel.”

The hospital's green credentials include LED lighting, low-E glazing, photovoltaic panels and use of natural ventilation outside crucial clinical areas.

### Learning curve

Summing up, Neil Milling says: “We’ve been on a big learning curve and kept an open mind. We’ve been listening to experts at Stirling and Nottingham Universities and Jenny Gill of Design in Mental Health who liaised with trust to produce invaluable design guidance for the project.

“In the landscape of mental healthcare and dementia care design there’s a great push forward and the rules are shifting all the time. You cannot afford to keep still and, where possible, we’ve tried to bring new ideas forward.

“With Atherleigh Park we’re handing something over

we feel genuinely proud of. It really seems we’re making a difference by creating an improved environment for people facing mental health and memory-related conditions – and that feels good.”

## Project details

**Client:** 5 Boroughs Partnership NHS Foundation Trust

**Architects:** AFL Architects

**M&E consultant:** DSSR

**Structural and civils consultant:** WSP

**Landscape architects:** Fabrik

**Healthcare consultant:** Jenny Gill

**Main contractor:** Kier

**Windows, external doors and curtain walls:** Polar NE

**Access control:** SALTO

**Fixtures and fittings:** Quadraco

**Internal doors:** Datim

**SIPS system external walls & flat roofing:** Kingspan

**Slates:** Marley

**Partitions:** British Gypsum

**External paving products:** Tobermore



# Design in Mental Health: Meeting the challenges together

Whether you are looking at adding new buildings, considering refurbishing existing buildings or ongoing maintenance work Design in Mental Health 2016 is here to help you source information, solutions and ideas.



**T**he event consists of the Design in Mental Health Network's annual conference, awards dinner and an exhibition that showcases the latest product innovations designed to enhance mental health environments.

We all understand the need to create safe, effective therapeutic environments for mental health. But not everyone has the budget to build from scratch. Increasingly, NHS Trusts have to work within the constraints of existing buildings. And with more demand, and less money, than ever before, creativity and collaboration have never been more critical.

At Design in Mental Health, we bring together architects, mental health professionals from the NHS and the private sector, and – uniquely – service users themselves. But this more than just an opportunity to talk about the issues we face. Our ambition is to create the ultimate project team, with the skills, expertise, perspectives and insights to actually get things done – and create therapeutic environments that work for everyone.

Since its inception in 2013, Design in Mental Health has proved a real catalyst for change. Conversations between exhibitors, visitors, delegates and service users have sparked

scores of new projects, products and partnerships. This year's focus will be on innovation, refurbishments and making existing spaces fit for purpose, as well as new-build projects.

## For the whole project team

Design in Mental Health brings together everyone involved in delivering therapeutic environments, now and for the future. The only event of its kind in the UK, its success is built on three key elements:

- The Exhibition is a unique marketplace where manufacturers and providers can meet decision-makers and specifiers, make new contacts, generate leads and new product ideas, and identify current and emerging opportunities in the mental health sector.
- This year's Conference will feature over 40 speakers, with specialist content. Lively and authoritative, it's THE professional gathering for everyone concerned with the built environment in mental health.

*Continued overleaf...*





- The conversations between architects, contractors, mental health providers and service users, each bringing their unique insights and perspectives to creating effective therapeutic environments.

### Conference sessions

Creating Healing Environments through Interior Design. Farnham Road Hospital: A Case Study by Mark Carter, PM Devereux & Sara Saunders, Surrey and Borders Partnership NHS Foundation Trust. A holistic approach to design which considers internal spaces as an integral part of the architecture. Looking at how form, volume, light, colour texture and integration of artwork can create healing environments, choice of settings for the individual and assist wayfinding and orientation.

When service users' needs and aspirations are placed at the heart of the design process, the results are spaces that are unique and individual, welcoming and supportive and residents with a strong sense of pride and ownership. Jane Willis, director of arts consultants Willis Newson, will look at the process, outcomes and impact of engaging service users in the design of two mental health units; Thames Lodge Medium Secure Unit for West London Mental Health Trust and St Andrew's Healthcare's FitzRoy House, the largest residential mental health facility for adolescents within Europe.

In both projects, the arts programme proved a potent vehicle for engaging service users, resulting in a vision, themes and naming strategies, interior design, artwork and imagery shaped by service users.

Shaping environments for the future – A look at Guernsey's Mental Health Service by Andrew Street, IBI Group.

Atmospheres of the Ward: examining service-user experiences of space in a medium secure forensic psychiatry unit by Prof. Paula Reavey, London South Bank University.

### Confirmed Speakers

- Jeff Bartle, head of design, St Andrew's Healthcare
- Stephanie Brada, P21+ development manager, Willmott Dixon
- Tom Cahill, chief executive, Hertfordshire Partnership NHS Trust
- Ian Callaghan, national service user lead, My Shared Pathway
- Jacqui Dyer, vice chair, National Mental Health Task Force
- Stuart McArthur, health sector leader, Laing O'Rourke
- Sara Saunders, operations project manager, Surrey and Borders Partnership NHS Foundation Trust
- Dr Faisal Sethi, consultant psychiatrist and NAPICU vice chair, National Association of Psychiatric Intensive Care Units (NAPICU)

- Christopher Shaw, senior director, Medical Architecture
- Jane Willis, director, Willis Newson

### Exhibition

With over 60 exhibitors showcasing the latest products and services on offer in Mental Health, the exhibition is your opportunity to source information, solutions and ideas for New Builds, refurbishments or ongoing maintenance.

### Dinner & Awards

The Design in Mental Health Dinner & Awards will take place the evening of the first day of the Design in Mental Health Conference & Exhibition, 17 May 2016 at the National Conference Centre, Solihull. (Formerly known as the NMM).

The awards are an excellent opportunity to network with other delegates and exhibitors, and to continue discussing the day's topics.

This year, courtesy of Knightsbridge Furniture, features Frank Bruno MBE, former WBC heavy weight champion as the after dinner speaker.

It is a black tie event starting with welcome drinks at 7pm in the Imperial & Trafalgar Suite at the National Conference Centre.

### Golf Tournament

Taking place Monday 16 May at 1.30pm is the Design in Mental Health Golf Tournament. Attendees, speakers and exhibitors are invited to take part in this exciting fringe feature. Places are complimentary but limited and you need to be a registered attendee, confirmed exhibitor or a speaker to be eligible for a complimentary round of golf.

There is an individual stableford tournament as well as a fourball tournament. The fourball tournament will be the four individual stableford scores added up and then divided by 3. Prizes will also be given for the longest drive and nearest the pin.

The tournament is taking place at the Windmill Village Golf Course (close to the conference and exhibition venue). To book your place please send [sarahworwood@stepex.com](mailto:sarahworwood@stepex.com) the following information – your name, organisation and golf handicap.

*Design in Mental Health is taking place at the National Conference Centre, Birmingham on 17-18 May. For more information about the event and to register go to [www.designinmentalhealth.com](http://www.designinmentalhealth.com)*

# Safe furniture design should also be comfortable and stylish

With an increasing focus on creating stimulating mental health environments which nurture recovery, intelligent furniture design is playing a more important role than ever writes Neville Byng, sales and marketing consultant with healthcare furniture specialist Pineapple Contracts



© Pineapple Contracts

**I**n mental health and other challenging environments where safety is the primary focus, there are a number of furniture design features which should be incorporated to reduce risk as much as possible.

Due to their height, wardrobes in particular present a number of ligature opportunities. Modifications can be made to reduce these risks: hanging rails can be replaced by half-depth shelves with a recess to hold hangers; piano hinges that run the full length of the doors can be used in place of two separate hinges; and door handles can be re-designed to make them safer.

Chairs and sofas can also be adapted to make them more suited to challenging environments. Standard products can be internally reinforced and additional weight can be added in the pursuit of improved safety and strength. For more complex needs, there are an increasing number of specially-designed products that are pushing the boundaries of design and manufacture – using rotational moulding, for example – to provide better solutions to care-giving problems.

## Infection control

Another important aspect to providing care in challenging environments is the management of incontinence. Sensitive design can make a huge difference for patients, but also to the staff who are responsible for maintaining exemplary levels of hygiene.

Firstly, better 'hygiene gaps' can be designed, to minimise the amount of dirt which can become trapped on or in a piece of furniture in the first place.

When cleaning does become necessary, careful design can make the process less onerous and time consuming – which also increases the likelihood of regular cleaning – and can improve its effectiveness.

## Fabrics

There is a wide range of commercial upholstery that is suitable for healthcare environments, in other words fire retardant to

*Continued overleaf..*



BS 7176:2007, ignition source 5. Water-resistant vinyl is most suited to challenging environments where staining can occur and regular cleaning is required. For projects that require a more homely look, water-resistant fabrics provide a hygienic solution with a more comfortable feel. Ultimately, a balance should be found between comfort and practicality.

### Style and substance

In previous years, furniture for challenging environments was more function-led – designed to be strong and durable but looking more like equipment than something found in an average living room. This subsequently made way for more homely, domestically styled products aiming to avoid the institutional look. Now demand is growing for innovative and unique products that are specially designed to improve care and

exceed fire and safety requirements while managing to retain a cutting edge, design-led aesthetic.

These unique modern designs are of particular benefit in environments with mixed levels of care, where inclusion is an important aspect to consider. Specialist furniture that is drastically different in appearance to more general furniture can serve to reinforce the stigma associated with mental health. A wide choice of products and vibrant contract fabrics makes it possible – with careful planning – to create an environment which seamlessly caters for a range of care needs without appearing divided.

Thoughtfully designed furniture can ultimately make a significant contribution when creating living spaces which engender pride among residents. It can help reduce outbreaks of challenging behaviour while being strong and durable enough to withstand outbreaks, should they occur.





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# There's more to paint than meets the eye

Dulux Trade Brand Manager Daniel Hall explains how selecting the most appropriate paint types and finishes for different spaces within a healthcare building can create enhanced environments for patients and staff

A healthcare building is a working facility with a difference and it's important to choose 'transformational' products and finishes that benefit patients and health professionals alike.

Research shows the way people interact and engage with a healthcare building can be directly affected by the colour and design of the space.

When choosing paints for healthcare environments, hygiene, quality and cost are all important considerations.

It's also necessary to meet the requirements of NHS Estates Health Building Note 00-10 HBN 00-10. This outlines the NHS safety policy and performance requirements for flooring, walls, ceilings, sanitary assemblies and windows used in healthcare facilities.

## Reduce infection risk

An effective infection prevention strategy is a key aspect of quality according to the National Institute for Health and Clinical Excellence, and a key requirement for wall paints in certain rooms and areas.

There are water-based interior emulsions available for healthcare facilities – including operating theatres – that contain an anti-bacterial ingredient.

These products have the power to inhibit bacteria within 12 hours of contamination, preventing the spread of infection and are proven to be effective against MRSA, E.coli and Pseudomonas Aeruginosa. Moreover, washing surfaces coated with anti-bacterial paints, far from damaging the paint, results in increased anti-bacterial activity.

## Minimise maintenance costs and disruption

To help minimise this disruption and avoid the need to close wards and other facilities, try and use hard-wearing, fully washable water-based emulsions. However, look for products that have high resistance to scrubs, scuffs and stains – typically, these have exceptional durability and exceed the longevity and performance characteristics of traditional paints, allowing repeated cleaning to replace the need for redecoration.

These are available – in order of durability – in matt, eggshell and high-performance eggshell and are commonly used in high-traffic areas such as staircases, corridors, waiting rooms and reception rooms.



© Dulux Trade

Repeated cleaning rather than redecoration means that surfaces painted with these products can have extended maintenance cycles of up to five years, helping to lower costs and disruption. Redecorating twice every ten years as opposed to five times also has the benefit of reducing the environmental impact of the decorating process.

Certain colours and specialist light-reflecting paints can make healthcare areas feel more spacious

## Making rooms feel brighter and more spacious

Space available for staff and patients within healthcare facilities is often limited, which is why the choice of certain colours and light-reflecting paints help make the most of places with little natural light such as corridors and alcoves.

In tests to compare light absorption values, walls decorated with specialised light-reflecting paints absorbed eight per cent of specialised visible light, whereas conventional emulsions absorbed up to twice more.

The result of this is a reduction in the need for artificial lighting. In large spaces such as healthcare facilities, this reduction can help achieve significant savings and sustainability targets – especially when the paints combined with an ultra-tough formulation to extend maintenance cycles.

*Continued overleaf...*



Door colours should be stronger than other accent colours



© Dulux Trade

Colour differences help visually impaired people find their way round



© Dulux Trade

*'Research shows the way people interact and engage with a healthcare building can be directly affected by the colour and design of the space'*

### Creating colour schemes with patients in mind

Well-chosen decor can contribute positively to the creation of an environment in which patients can feel comfortable and at ease.

Certain highly reputable paint manufacturing companies and brands will be able to provide you with access to commercial colour consultants to design colour schemes specifically aimed at a healthcare environment.

It's important to bear in mind three types of spaces, based on their requirements and constraints: public areas, patient accommodation and treatment rooms and offer specific specifier guidance for each one.

Generally speaking, there will be a neutral colour used for the majority of wall surfaces, flowing throughout the area.

This should be complemented by accent colours or stronger shades, used to create visual interest, with door colours being stronger still.

These colour differences are important not only for patient and staff wellbeing but also help to create the necessary level of colour contrast to help visually impaired people find their way around, as required by the Equality Act 2010 Guidelines.

### Architects' resources

As a professionals specifying products and colours for the healthcare industry, there are several tools you should make the best of:

- Mobile and tablet apps that allow you to visualise different colour options on the wall in real time.
- Partnership schemes, which allow you to find vetted professionals to collaborate with. For example, a free-to-use website [www.contractpartnership.co.uk](http://www.contractpartnership.co.uk) allows architects to search for high quality contractors based on location, project size, skills and accreditations and to compare contractors without commitment.
- Paint specification tools, which you can use as a quick reference guide or to help build an in-depth specification document for tenders. For example, some tools will allow you to search, filter and select the right paint for a project and the relevant clauses will be automatically incorporated.

Last but not least, always choose a respectable paint and coatings company as you'll have access to a range of professionals and colour consultants with expertise specifically in healthcare to help you select the correct products for the job.

# Throwing light on dementia design

Oliver Buchan, head of innovation at Luxonic, argues that, while the lit environment is often an underestimated consideration when creating a dementia-friendly building, relatively simple lighting solutions can be very effective



*'Suggested illumination levels are often two to four times greater for the elderly compared to a 20-year-old'*

When designing a facility with dementia sufferers in mind it's very easy to talk exclusively about the provision of light in terms of practicalities – but good lighting addresses so much more.

In a dementia-friendly setting, the lit environment has the ability to reduce disorientation, confusion and falls by revealing forms within the space. It can also increase social interactions, optimism, attention span and independence by delivering a stimulating visual field.

These are all aspects that are highly desirable not only for those living with dementia, but also for the people that care for them. And yet, the lit environment is often an underestimated consideration when architects map out facilities used for dementia care.

## Lighting design

The ageing process alone has a major impact on the eye, with suggested illumination levels are often two to four times greater for the elderly compared to a 20-year-old.

Increased light levels normally lead to better perception of detail, not just for functional tasks such as reading but also as a way of encouraging interactions when playing card games or

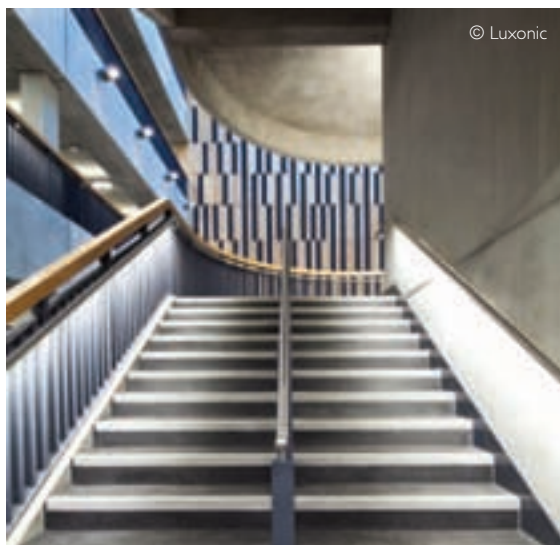
helping with chores, for example. Such pools of light can be easily generated with strategically located downlighters or simple table lamps.

However, the distribution of light within a space is critical to its success. Glare from poorly located directional luminaires or reflections from specular surfaces, significantly reduces the ability to interpret the surrounding scene. At the same time a uniformly diffused illumination will struggle to generate the levels of contrast necessary to reveal three dimensional forms such as furniture. Glare in this context is not about unified glare ratings but inappropriate directionality and luminance.

## Daylight and stimulation

Another area of active research preoccupying lighting designers at the moment is the way light can affect the body clock. A lot remains undiscovered, but it is indisputable that starting the day with high – but not oppressive – light levels and subsequently maintaining the normal pattern of day and night is very important in aligning circadian rhythms. This regulation of the body clock can have a major influence on quality of sleep, appetite, bowel functions and mood – all aspects of life that can be problematic for those living with dementia.

*Continued overleaf...*



Bringing daylight into the living space or enabling residents to spend time outdoors, is a simple step to create this desirable link with the outside world and deliver a changing quality of light throughout the day. Additionally it gives many opportunities to automatically switch off artificial lighting and save considerable amounts of energy.

From the perspective of the lit environment, high daylight ingress can also bring issues associated with glare, extreme changes in light level that are often associated with falls

and a distortion of the perceived shape of a space. The concept of daylight simulation can include many things such as light colour, directionality, quantity, and the changing of all these characteristics throughout the day.

Luminaires that can deliver a range of colour temperatures are a fairly simple and appropriate solution. In conjunction with a suitable control system, DALI or wireless for example, they can provide changeable light colour and quantity throughout the day. By delivering the two colour temperatures from

different types of luminaire it is possible to provide a directional warm white and a diffuse – possibly uplit – cool white, further mimicking natural light throughout a clear sunny day. This relatively simple configuration can be remarkably effective.

### Night-time illumination

An equally important part of simulating the natural daylight cycle is to ensure appropriately low levels of illumination are used during the night. Circadian rhythms are reinforced by a regular pattern of lower levels of warm light in the late evening, reducing to an amber night light during periods of sleep. Night lighting is clearly important for enabling care staff to move around the building and monitor residents as appropriate, and also for the safety and reassurance of any residents that may be awake.

These factors all go towards creating a dementia-friendly design where the patient is the focus but every occupant benefits.







## Versatile timber is a healthy choice

The construction and materials used in mental health facilities are at the core of how care is ultimately delivered – a critical factor with a direct effect on the physical and psychological wellbeing of the end-users. Timber technology can be highly beneficial in this environment, says Ian Loughnane, business unit director of Kingspan Timber Solutions

**T**he design of any mental health care building has a direct effect on both patients and the overall efficiency of the care delivered to service users. So, when it comes to specifying materials for the construction there are many factors that must be taken into consideration.

With the right design and building materials, service providers are able to offer a comfortable and therapeutic environment that can greatly benefit potentially distressed and vulnerable patients.

When selecting building materials we have to ensure they are suitably robust and appropriate for the operation of the facility. Although wear and tear is expected in all buildings – some mental health units require enhanced mechanical robustness in certain areas. The maintenance of a high-quality, well

maintained and functionally efficient building is a fundamental part of the service delivery and architects have long understood the impact of space on people.

### Uniquely placed

Timber is uniquely placed to deliver these requirements. Lining walls with plywood or Oriented Strand Board (OSB) provides a continuous support to hard wall finishes, resulting in a strong and resilient wall while allowing easy servicing within the structure. It's also possible to combine the pleasing visual characteristics of timber with enormous structural strength and robustness of cross laminated timber (CLT).

*Continued overleaf...*



Visually exposed glulam frames offer the opportunity to create a light, warm and pleasing open environment, within facilities that support a sense of wellbeing. Timber structures and applications offer more than just functional space, but can also facilitate the design of a welcoming, peaceful and homely atmosphere.

As well as offering aesthetically pleasing and calming elements, off-site-manufactured timber systems also provide rapid construction times with increased levels of accuracy throughout the build process. This comes as a huge advantage when constructing healthcare buildings where budgets and timescales are frequently challenging.

There is a direct correlation between the quality of an environment and human health and wellbeing. The best practice guidance, set out in BREEAM Healthcare and the Good Corporate Citizen Model (NHS), recognises this and is an essential part of the planning process. A holistic design should also include measures to minimise waste during construction and lower energy costs in use and provide re-use or recycling potential at the end of a building's life.

### Sustainable and renewable

Timber is the number one sustainable and renewable building material, offering enhanced energy efficiency beyond the construction process and throughout the whole life cycle of the



building. Timber systems are designed to maximise thermal performance and minimise air leakage, resulting in well-insulated, higher-performance buildings that do not require expensive bolt-on technologies to enhance the environmental performance and will ultimately reduce running costs. This is of huge benefit to organisations, such as the NHS, with significant built assets to maintain that require a considerable amount of power to run. The continuing savings made from increased energy efficiency can have a huge impact.

Thermal comfort is a factor that must be considered when it comes to the health and wellbeing of occupants. Timber technology provides external walls with high thermal insulation without the need to be produced at a thicker scale. Over recent years, the timber frame industry has moved from 90mm to 140mm external wall studs – providing additional space for installing insulation. Other sectors tackle issues of thermal comfort through the application of thicker walls, this is more costly and it reduces the usable floor area of a building.



### Wide range

Occupants in a mental health facility may find certain noises distressing – therefore acoustics must be taken into account in the design of the building. Thermal, acoustic and airtightness contributions from the application of timber frame have been proven to be higher than those gained from traditional materials. Overall timber offers a robust, energy efficient sustainable structure with real aesthetic merit – ideal for a wide range of healthcare facilities.

The transition to a low-carbon economy presents the timber products industry with great opportunities for growth. Environmental considerations will transform how buildings are constructed, what materials are used and the methods employed.

I believe that we are now on the cusp of the predicted 'sea-change'. The time is right for the construction industry to embrace innovative timber technology and off-site techniques to develop better buildings at a rapid rate. This will enhance lives, minimise the environmental impact and reduce energy costs for occupants for many years to come.

# Focus on the right flooring for dementia

John Mellor, Polyflor's Market Manager for safety flooring, explains why selecting a floor covering embodying modern, dementia-friendly design principles is increasingly important and spotlights the research behind the thinking



According to latest figures from the Alzheimer's Society, more than 850,000 people are living with dementia in the UK – and the rate of diagnosis is rising.

Clearly, healthcare buildings need to be future-proofed to meet all the required design requirements and contribute to an improved quality of life for those living with dementia.

Implementing dementia-friendly design principles in new or refurbished facilities will be beneficial in the longer term, ensuring flexibility in design and prolonging the life cycle of a building.

Along with appropriate acoustics, lighting and signage to aid navigation, the floor and walls of a healthcare environment are integral components of the interior space. They can provide a

homely, welcoming and non-institutional feel to reduce anxiety and stress for those living with dementia.

If someone with dementia feels more relaxed and comfortable because of the interior environment surrounding them, they're also less likely to be disorientated and potentially suffer a fall or accident.

Dementia-friendly flooring is appropriate for a range of diverse settings including housing, sheltered extra-care housing, dementia hubs and respite care, day centres, hospitals, hospices, rehabilitation and intermediate care facilities as well as residential care and nursing home environments.

Vinyl is well recognised as a flooring type used regularly in the healthcare sector due to its 'easy to clean' properties and

*Continued overleaf...*





***'It is incredibly important to consider the appearance of any potential floor covering and how it might be perceived by someone with dementia'***

realistic reproductions of natural materials such as wood and stone etc.

These design styles were previously only offered in luxury vinyl tile collections. Today, they're also available on sheet vinyl products, which means attractive decorative safety flooring ranges featuring sustainable wet slip resistance can now help create the same positive ambience in a care setting.

### Impact of sight loss

However, when selecting a floor covering for a dementia-friendly environment it is important to remember that one in three people diagnosed with dementia will have significant sight loss, including reduction of peripheral vision and changes to colour vision. Large proportions of the remainder will also have deteriorating sight through normal ageing.

This is why it is incredibly important to consider the appearance of any potential floor covering and how it might be perceived by someone with dementia.

### New principles

The University of Salford has been working with the industry to develop some new dementia-friendly flooring principles to assist specifiers working on dementia care projects.

These principles cross-refer with The Department of Health HBN 08-02 (2015) document and have been discussed and agreed with The Salford Dementia Associates, a group of people who are living with or caring for someone with dementia.

The following aspects of flooring design and specification are some useful examples of the developed principles that can help

those with dementia to feel more at ease:

- Use a matt flooring as shiny or glossy surfaces can cause glare and give the illusion of wetness and thus the feeling that the floor is slippery, which can cause confusion. Use a product without sparkle or shimmer as this can also make the floor look wet.
- Choose a floor without highly contrasting secondary flecks and speckles, as someone with dementia could see these as something to pick up off the ground. Tonal flecks or solid colour designs are preferable.
- The use of subtle effects that replicate natural outdoor materials such as wood and stone promotes a homely, fresh feel that people living with dementia are more familiar with.
- Floors featuring various patterns and textures should be avoided as this can lead to confusion and increased aggravation in those living with dementia. Flooring which contributes to sensory overload can confuse the eye and cause someone with dementia to wrongly perceive it as a step, an obstacle or a hole.
- The floor needs to be seen and experienced as one continuous surface. Use flooring with similar tones and light reflectance values (LRVs) in adjacent areas as a strong contrast in colour can be perceived as a step. However, a strong contrast – a difference in LRV of 30 points – is required between the colour of walls, skirting boards and floors, as well as between floors and furniture as this can help those who are visually impaired to navigate around a room.
- Strong colours with more depth are better than paler shades for those whose colour vision has deteriorated. However, dark colours should be avoided as these could trigger emotions of imprisonment or might be viewed as a hole in the floor.
- Acoustic flooring is recommended to absorb noise and reduce impact sound levels between rooms as noise can agitate those with dementia.

# Smart Update for Kingston

In 2014, the Kingston Hospital NHS Foundation Trust embarked on a major refurbishment programme to replace the windows and doors of the hospital's Esher Wing. The work was commissioned not only to improve the building's aesthetics, but also improve thermal performance, reduce energy costs and deliver improved patient, visitor and staff comfort.

All four elevations of the seven-storey block featured the building's original 1960s, heavy-duty steel windows which were well beyond their useful life. As a consequence, the performance of the windows had become extremely poor, with both drafts and water ingress causing major issues.

The fenestration fabrication and installation was carried out by Heritage Window Systems (HWS), one of Smart Architectural Aluminium's specialist partners.

Chris White from HWS said: "Although the size of the windows was quite large – nominally, each was six metres wide by three metres high – the main issues we faced were logistical. With work being carried out as the hospital continued to

operate, we had a very exacting programme to follow – and just nine hours to complete the upgrade for each ward, theatre or office. In that time, our teams had to take out the old windows, fit the new units, change the radiator and clean the area to a clinical standard."

HWS completed the work in just eight months, starting on site in April and completing just before Christmas, 2015. During this time, the company installed around 1,200 Smart Eco Futural windows – with a combination of tilt and turn and bottom-hung casement windows – as well as seven sets of Smart Wall double doors and the MC 600 curtain wall grid system. MC600 was specified due to the requirement to hang brise soleil units from two of the building's elevations, with HWS fabricating a bespoke bracket to accommodate this.

Paul Dancey, operations manager of BMI's Coombe Wing which formed part of the refurbishment programme said: "The whole project was exceptionally well managed, with the clear communications between all parties a vital component of its success. As a result of the



programme, we now have state-of-the-art windows which have considerably improved patients' comfort and provided a much improved working environment for all hospital staff."

01934 876 100 [www.smartsystems.co.uk](http://www.smartsystems.co.uk)

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## Gerflor delivers solution in Northern Ireland



Corriewood Private Clinic in Castlewella is a well-managed healthcare facility that takes pride in responding to the individual needs of their residents at all times. When it came to producing this new build they wanted to ensure that the flooring would meet

the high values they had already set for the building. International flooring and interiors specialists **Gerflor** were chosen to deliver the high standard of flooring needed. A total of 2,000m<sup>2</sup> of Gerflor's Taralay Impression Compact and Tarasafe Ultra H2O would be needed to fulfil this challenging project. The Corriewood Private Clinic wanted a flooring that would look warm and non-institutional, but at the same time deliver a non-slip safety solution.

01926 622600 [www.gerflor.co.uk](http://www.gerflor.co.uk)

## Clarke's Safety Mirrors Ltd



**Clarke's Safety Mirrors Ltd** is one of the UK's leading manufacturers of safety mirrors. Made from impact resistant Acrylic or unbreakable Polycarbonate and Stainless Steel, these mirrors have a superb reflection and are widely used in the Educational, Mental Health and Correctional environments. In fact, any environment where

public safety is of paramount importance. The company also supply safety backed glass mirrors to BS6206 and impact resistant glass mirrors in stunning aluminium frames throughout the UK. Its experienced sales team would be pleased to advise on any existing or future projects.

01952 605557 [www.csmirrors.co.uk](http://www.csmirrors.co.uk)

## Low surface temperature rads – from Stelrad



LST radiators are specially designed to provide comfortable heat but in a radiator whose casing never exceeds 43 degrees centigrade. This makes them 'safe to touch'. LST radiators are key where there is a need for special heat emitters that are ideal for safety critical environments – especially those that need to meet NHS Guidance for 'Safe Hot Water' and surface temperature in care

and nursing homes, sheltered housing, schools and nurseries. Please go to **Stelrad's** website for more information.

0870 849 8056 [www.stelrad.com](http://www.stelrad.com)

## Architects Datafile website



The Architects Datafile (ADF) website is an online provider of past and present products and news items for the architect or specifier. [architectsdatafile.co.uk](http://architectsdatafile.co.uk) is a one-stop source for all the latest press releases providing any visitor with access to information about products and services that they may require. From the website, you can find links to digital issues that have live links to advertisers' sites, as well as daily email alerts to keep you as informed as possible.

[www.architectsdatafile.co.uk](http://www.architectsdatafile.co.uk)

## Cladding choice was no puzzle for Jigsaw Building



Selecting a cladding material for the new Jigsaw Building at the Royal Bournemouth Hospital presented no puzzle for architects Stride Treglown. **Trespa® Meteon®** was chosen to provide a ventilated facade, scoring on appearance and cost, as well as contributing to energy efficiency. The building is wrapped in variegated tones of Trespa® Meteon® Wood Decors cladding on the first floor, punctured with ribbon windows, white brick to the ground floor and an undulated roof form to conceal roof top plant. It was also important for the client that the building was as low maintenance and as energy efficient as possible and the 600 sq metres of Trespa® Meteon® cladding contributed to this. In total, seven timber effect grains and colours from the Trespa® Meteon® range were supplied. Stride Treglown varied the mix of these along the main elevations providing visual interest but also breaking up the appearance of the large scale elevations. By specifying the matt effect panels – all of which were new additions to the Trespa® Meteon® range when the project was designed – the building achieves a more natural timber appearance in direct sunlight as there is a reduced glare from the matt texture. Trespa® Meteon® is a decorative high-pressure compact laminate (HPL) with an integral surface manufactured using the company's unique in-house technologies.

0808 2340268 [www.trespa.co.uk](http://www.trespa.co.uk)

## Door closers improve mental health

Powermatic controlled, concealed door closers from **Samuel Heath** have become the preferred choice of clinicians, health estate managers and designers when looking at the construction and improvement of mental health facilities.

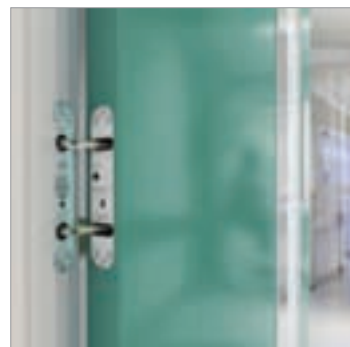
Designed, engineered and manufactured in the UK, Powermatic door closers meet all relevant fire and accessibility regulations. They are particularly suitable for mental health facilities because they are installed neatly between the door and frame, meaning that they are totally concealed when the door is closed.

Powermatic is the perfect choice where anti-ligature and anti-barricade measures need to be taken, and is recommended for use on many proprietary door systems. The absence of surface mounted controls means that when the door is closed, the door closer is out of sight and cannot be used as a point of ligature.

Powermatic's concealment also reduces the risk of damage through vandalism and helps to improve the aesthetics of interiors, creating the less institutionalised, more therapeutic environments valued in psychiatric care.

For more information please visit the website.

0121 766 4200 [www.concealeddoorclosers.com](http://www.concealeddoorclosers.com)





## Portakabin produces short film



Portakabin has produced a short film about how a highly complex, 4,200sqm ward and theatre building was constructed at Royal Stoke University Hospital in less than four months to help meet the increasing demand for orthopaedic services. The video is a fly through the £13.5 million building showing the clean

air theatres for all orthopaedic procedures, recovery room, ward bays and single en-suite rooms. It features interviews with a director of University of North Midlands NHS Trust. Robert Snook, director and general manager of Portakabin Hire Division, said: "We believe this project will really change perceptions about just what can be achieved with modular construction – in an extremely short timescale and on a highly constrained hospital site."

## Forest fx flooring adds a natural feel



Wood effect flooring from **Polyflor's** Forest fx PUR range was used to create an interior inspired by nature for the recently refurbished Ward 7 Greenlea Oncology Unit at Huddersfield Royal Infirmary. The Rustic Oak design from Polyflor's Forest fx PUR range was fitted through-

out the Chemotherapy and Oncology unit based in Ward 7 of the hospital as part of a £2.2 million ward improvement scheme. Forest fx PUR vinyl flooring range is a proven performer in busy healthcare environments as it is designed cope with the practical demands of wards with high levels of foot traffic. The collection features 14 realistic wood effect designs in a sheet format which can be welded at the seams to provide an impervious, hygienic surface.

0161 767 2551 [www.polyflor.com](http://www.polyflor.com)

## Launch of new Polaris Collection



Abet Ltd is delighted to announce the arrival of Polaris, a new collection launched in the UK at the Architect@Work Show. Polaris is a revolutionary new product with a smooth and velvety touch which is highly resistant to shock, scratches, heat and fingerprints as well

as being anti-bacterial. The curious combination of durability and texture stemming from Abet Laminati's stylistic and technical research gives Polaris a futuristic appeal. It leads the category of latest generation products by the company, serving as a sophisticated and durable reference point for inquisitive designers who seek unusual results. Polaris is the ideal choice for ultra-contemporary projects, delighting the senses with a pleasant and unique effect.

## Pressalit Care's rigorous weight testing regime



**Pressalit Care's** washroom and sanitary ware is specifically designed to improve bathroom use for those with limited mobility. Its products, many of which can be adjusted vertically or horizontally for greatest flexibility, include shower seats, washbasins, arm rests

and handrails, with each put through the most rigorous testing procedures. The tests include three important elements as appropriate – dynamic, static and lateral. The Pressalit Care range complies with the requirements of DS/EN 12182:2012 and meets the demands for Part M packs where weight loadings are specified on standard components. The testing regime covers all potential points where users may rely on the products for full weight-bearing support.

[uk@pressalit.com](mailto:uk@pressalit.com) [www.pressalit.com](http://www.pressalit.com)

## CMS Window Systems appointed on new £270 million Dumfries Hospital development



**CMS Window Systems** has won a comprehensive building envelope contract valued circa £5 million to manufacture and install Kawneer curtain walling for the prestigious new 350-bed Dumfries & Galloway Hospital. CMS will manufacture Kawneer AA100 curtain walling for the main hospital building plus its three annexes, incorporating Kawneer AA720 system doors and a mix of pivot and casement windows. High performance sealed units manufactured by GLASSOLUTIONS will combine with the Kawneer aluminium systems to blend superb aesthetics with thermal and acoustic insulation, plus reliable solar control. Key to achieving this is the specification of COOL-LITE SKN 165 by Saint-Gobain Glass. CMS will also install around 500 sealed units featuring integral blinds, which represent an ideal solution for privacy in hospitals where cleanliness is vital but long term maintenance is a key consideration. The company has partnered with integral blinds specialist Morley Glass & Glazing who will supply the sealed units complete with Pellini interstitial blinds. Wards will be created on a 28 single room model, all of which will have en-suite facilities. This will provide improved privacy, dignity and confidentiality for patients, while reducing the risk of cross infection.

01324 841398 [www.cmswindows.com](http://www.cmswindows.com)

## The healing power of good architecture

This 194 patient psychiatric hospital in Slagelse, Denmark is characterised by innovation and a desire to construct a first class complex which supports patient care and recovery. Some of the most influential elements in any hospital are obviously the ceilings because so many bed-ridden people spend so much time looking at them. Consequently, **Troldtekt** ceiling panels in natural wood colour, with integral LED light fittings, have been used throughout, reducing noise and ensuring pleasant acoustics as well as a healthy indoor climate. Simplicity pervades the new complex, coupled with the recognition that good social architecture is based on classic ingredients such as light and shade, materials, colours and green landscape elements. For example and particularly dramatic is the central core with its large spiral staircases and the very large skylight which plunges daylight from the fourth floor to the ground. Danish manufactured Troldtekt acoustic tiles are specified throughout the UK and Europe and can be delivered as either FSC or PEFC certified panels. They are manufactured using 100 per cent natural wood fibres and their benefits are high sound absorption, high durability, natural breathability, low cost life cycle performance and sustainability. They are used to improve acoustics in many different projects, such as schools, leisure centres, pools, commercial and public buildings.



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