WORLD HEALTH DESIGN
ARCHITECTURE | CULTURE | TECHNOLOGY
APRIL 2010

BUSINESS AS USUAL

Health investment in the Middle East is rising again with a commitment to clinical and design excellence

ALSO:

Design & Health Canada 2010 International Symposium
Patient Environments by Design 2010
Market report: Australasia and Middle East
Designing for Patient Dignity

www.worldhealthdesign.com

Design &Health
International Academy for Design and Health

Volume 3 Issue 2

RTKL

design

The currency of a smarter world.

RTKL is a planning and design firm internationally recognized for creating some of the world's foremost hospitals. RTKL has been in business sixty years and has offices around the globe. We understand the issues hospitals face worldwide, and we foster new ideas by combining our healthcare expertise with specialized knowledge in retail, hospitality, urban planning, critical technologies and more. The result is distinctive solutions that set clients apart.

rtkl.com | 888.337.4685
an ARCADIS Company

Architecture | Interior Design | Equipment Planning | Technology Systems Design | Data Center Planning + Design | Urban Planning | Strategic Facilities Planning
Sustainable Design | Landscape Architecture | Branding + Wayfinding | Simulation Modeling | Facility Transitioning | Translational Research Planning

WORLD HEALTH DESIGN
ARCHITECTURE | CULTURE | TECHNOLOGY

Contributors

Paul Barach
The recent frenetic health reform activity in Australia and the US is a once-in-a-lifetime opportunity for planners and designers, says Dr Paul Barach

Lord Nigel Crisp
John Wells-Thorpe reviews Nigel Crisp's book, '*Turning the World Upside Down*' which advocates a new perspective on addressing global health inequalities

John Steven
The role of 'experience-based design' in bringing in the qualitative aspects of healthcare design needs to be brought back to the fore, suggests John Steven

Bill Rostenberg
Measuring the impact of US health reform will only be meaningful if it is measured against the scenario in which nothing changes, reflects Bill Rostenberg

Colum Lowe
Patient dignity is important because it focuses attention on the patient, forcing us to consider their fundamental human rights and needs, says Colum Lowe

Cover Image
The Cleveland Clinic in Abu Dhabi in the United Arab Emirates, designed by HDR and set to complete in 2012 (see Middle East report on pp34-41)

New birth

Two years ago this month, World Health Design was launched. It's been a remarkable journey and we're very proud at the International Academy for Design & Health to be celebrating the journal's second birthday. At the time, the field of design and health needed a credible forum for the world to come together and with appropriate humility, I believe we are on the right path to achieving that goal. But any strong journal is only a reflection of the ideas, knowledge and wisdom of the community it serves. And since our birth, there have been many new environments, from hospitals to schools, universities and other public and commercial buildings born out of your endeavours as architects and designers, whilst many lives have been saved and enhanced by the skills and dedication of the health professionals and practitioners who also read this journal. According to Bill Rostenberg, 'change is inevitable' (pp16-17), and potentially the most impactful change we are presently seeing is health reform in the US and possibly Australia. All over the world, countries are facing similar challenges of rising demand for, and costs of healthcare. As Paul Barach suggests (p13), health reform is an opportunity for planners and designers to influence the direction of these reforms. Join us at our symposiums in Australia, Canada and the Middle East this year, and at our World Congress in Boston next year to help sustain the challenge of putting design to the fore of health and wellbeing.

Marc Sansom
Editorial director

Contents

Editorial Director
Marc Sansom MBA
T: +44 (0) 1277 634 176
E: marc@designandhealth.com

President
Per Gunnar Svensson PhD

Director General
Alan Dilani PhD
T: +46 70 453 90 70
E: dilani@designandhealth.com

Marketing Director
Jim Benham CIM
T: +44 (0) 1277 634176
E: jim@designandhealth.com

Editorial Advisory Board:
Chairman: Dr John Zeisel PhD, US

Prof Clare Cooper Marcus, US
Prof Jacqueline Vischer, PhD Canada
Prof Young Sook Lee, PhD Korea
Dr Eve Edelstein PhD, US
Prof Noemi Bitterman, Israel
Mike Nightingale, UK
Alice Liang, Canada
Martha Rothman, US
Prof Romano Del Nord, Italy
Prof Mardelle Shepley, PhD, US
Dr Ray Pentecost, DrPH, AIA, US
Gunnar Ohlen MD, PhD, Sweden
Prof Paul Barach MD, MPH, Australia
Jain Malkin AIA, US
Diana Anderson, MD, MArch, US
John Wells-Thorpe, UK
Mikael Paatela, Finland
Dr Linda Jones, PhD New Zealand

Contributing writers
Kathleen Armstrong, Veronica Simpson

Subscriptions and advertising
T: +44 (0) 1277 634 176
E: WHD@designandhealth.com

Published by:
The International Academy for Design and Health
PO Box 7196, 103 88 Stockholm, Sweden
T: +46 70 453 90 70
F: +46 8 745 00 02
E: academy@designandhealth.com
www.designandhealth.com

International Academy for Design and Health UK
8 Weir Wynd, Billericay
Essex CM12 9QG UK
T: +44 (0) 1277 634 176
F: +44 (0) 1277 634 041
E: WHD@designandhealth.com

Design and production:
Graphic Evidence Ltd
www.graphic-evidence.co.uk

WORLD HEALTH DESIGN
Volume 3: Number 2
ISSN 1654-9654

Subscriptions:
To receive regular copies of World Health Design please telephone +44 (0) 1277 634176 to place your order, or email WHD@designandhealth.com

Yearly subscription rates:
1 year £70; 2 years £115; Single Issue £25
World Health Design is published four times a year by the International Academy for Design and Health UK

Printed in the UK by
The Magazine Printing Company
www.magprint.co.uk

BRIEFING

OPINION

SYMPOSIUMS

PROJECTS

SCIENTIFIC REVIEW

TECHNOLOGY

ARTS & CULTURE

MARKET REPORTS

Australasian healthcare design goes global

Australasian researchers and practitioners from government, academia, health and social care providers, and private industry will join together with international speakers from Europe and North America at the inaugural Design & Health Australasia 2010 International Symposium later this month.

As significant capital funds continue to be invested into health infrastructure in Australia, New Zealand and the region as a whole, Design & Health Australasia 2010 will explore global health perspectives on the planning, procurement, finance, design, construction and operation of health facilities within the local context of infrastructure development in the region.

Set to take place from 29-30 April at the Hilton Hotel in Sydney, the symposium, which is supported by Health Infrastructure NSW Health, will discuss how new perspectives on design and health can help to provide Australasia with a more cost-effective context for enhancing human health, wellbeing and quality of life.

Adopting a holistic approach that recognises the modern day challenges of health delivery, the symposium has found appeal amongst a broad, interdisciplinary mix of researchers and practitioners.

For more information and details of how to register, visit www.designandhealth.com

From rural developments to large hospitals, Australasia is commiting significant capital funds to health infrastructure

USA: HDR Architecture is No 1

For the seventh consecutive year, HDR Architecture, Inc has been ranked the No 1 healthcare design firm in Modern Healthcare's 2010 Design & Construction Survey. It is the 14th time HDR has been ranked No 1 since the survey began 30 years ago.

USA: Saint Joseph opens

The new 254-bed Saint Joseph Regional Medical Center, located on the 90-acre Edison Lakes Medical Campus in Mishawaka, Indiana, has opened. HOK provided the architectural design, planning, structural engineering and interior design services for the new $224 million replacement facility, which is a member of Trinity Health.

UAE: Dubai Medical Centre wins

The Dubai Mall Medical Center in Dubai, designed by NBBJ, is one of six winners in the 37th Annual Interior Design Competition, chosen from over three hundred projects submitted in the following practice areas: Commercial, Education & Institutional, Government, Healthcare, Hospitality, Residential and Retail & Showroom.

Saudi Arabia: New Dialysis Centre

King Fahad Hospital in Jeddah has unveiled plans to install the world's largest kidney dialysis centre. Set to be built over the next 18 months, the centre will be built at an estimated cost of SR60 million ($16m).

USA: Lecture at science academy

Founder of the International Academy for Design & Health, Prof Alan Dilani presented a lecture last month on the impact of the designed environment on health and wellbeing at the highly prestigious National Academy of Sciences (NAS) in Washington, USA. The NAS is an honorific society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. During an extended trip to the USA, Prof Dilani also met at Harvard Medical School with the esteemed Dean of Public Health Dr Julio Frenk and the Dean of School of Design, Professor Mohsen Mostafavi, to discuss future collaborations in the Design & Health International Masters Program and the 7th Design & Health World Congress, from 6-10 July, 2011 in Boston.

Australia: Energy efficiency focus

The design for the Australian Catholic University's new Centre for Health and Wellbeing aims to create new standards in energy efficiency whilst providing an attractive social and working environment. The new health centre, which is due to complete in late 2011, is Woods Bagot's latest energy efficient building concept – adopting active mass cooling concrete slabs, rainwater harvesting, solar hot water heating panels, six wind turbines and a roof top garden terrace.

Australia: Gold Coast underway

Construction on the new Gold Coast Hospital in Queensland is fully underway. Designed by the GCUH Partnership, a consortium of Silver Thomas Hanley, PDT and Hassell architects, the $1.76 billion 750 bed hospital is due for completion in 2012.

Middle East: JCI accreditation

All the five hospitals of the Hamad Medical Corporation have received full re-accreditation by the Joint Commission International (JCI). The five hospitals, including Hamad General Hospital, Women's Hospital, Al Amal Hospital, Rumailah Hospital and Al Khor Hospital were all accredited simultaneously.

India: Parkway expansion plans

Singapore's Parkway Health, controlled by the US-based private equity firm Texas Pacific Group (TPG) announced that it has plans to set up several multispeciality hospitals in India.

Malaysia: Parkway expansion plans

Columbia Asia, which already has hospitals in Taiping, Seremban, Puchong, Shah Alam and Miri and a chain of facilities in India, Vietnam and Indonesia, has announced its plan to build six midsize hospitals over the next two years in Malaysia. The group anticipates spending US$103m on the expansion, providing 480 beds.

Design & Health International Masters Program set for launch in late 2011

Alan Dilani

Taraneh Dean

The International Academy for Design & Health (IADH) and the University of Portsmouth in the UK, have signed a Memorandum of Understanding to collaborate on the establishment of an International Masters Program in Design & Health.

This MSc programme will benefit from the contribution of internationally recognised academics, scholars and practitioners from around the world in areas such as public health, psychology, health management, architecture and economics. The programme is being led by co-directors, Prof Taraneh Dean, professor of health sciences and director of research in the School of Health Sciences and Social Work at the University of Portsmouth and Prof Alan Dilani, director-general of the IADH.

Proposed to launch with the first intake of students in September 2011, the programme will be organised within the international arena for education and research in the fields of health promotion and architectural design.

The main objectives of the program will be:

• To provide knowledge and skills on the principles & practice of health promotion by design.

• To highlight the value and success of psychosocially supportive work places and introduce practical applications.

• To provide theoretical knowledge in basic public health, health promotion by design and practical solutions to improve the human condition from a healthy buildings perspective.

• To provide knowledge of how design may affect human health and well-being as well as the economic impact of environmental design, health and stress in society

• To provide a solid foundation for further studies and research in health, design and economics.

The minimum entry qualification for the International Master of Science in Design and Health is set to be a first level degree (BSc) or equivalent qualification from a range of disciplines from both the arts and sciences, including engineering sciences, public health, design, industrial design, economics, architecture, psychology, medicine, construction, planning, business studies, environmental science, property studies, or equivalent.

To register your interest, e-mail info@designandhealth.com. More information will be available soon at: www.designandhealth.com

Focus on investment in Middle East

Experts at ICME Healthcare, a management consultancy firm acting as a lead consultant for the Abu Dhabi Government Health Services, see a bright future for healthcare projects in the Middle East.

The ICME Middle East team has supported the authorities in the region with strategic initiatives such as capacity and medical planning, public private partnerships, feasibility studies and the design management of new healthcare facilities.

"Despite suffering at the hands of the global financial crisis the healthcare industry seems to fare better than other industries" says Holger Sprenger, partner and managing director, ICME Healthcare.

The WHO's latest estimate of global healthcare expenditure estimates a total of US $4.7 trillion. "The Middle East region in particular is characterised by a high prevalence of diabetes, obesity cardio-vascular diseases, and increasing cancer diseases. These factors, along with a high prevalence of smoking coupled with changes in health insurance regulations have led to an increase in the demand for health services in the region," he explains.

"Both healthcare demand and spending are on the rise in the GCC Countries. The current healthcare-spend stands at around US$ 16-18 billion and is expected to increase to around US$ 22-24 billion by the year 2018. No other region in the world faces such rapid growth in demand with the simultaneous need to realign its healthcare systems to be able to treat the disorders of affluence.

"In the GCC, estimates from various sources indicate around 75 to 132 hospitals are planned for construction with a total bed capacity of around 20,000 to 25,000 beds. As per a high-level analysis done by us, we anticipate a bed requirement of around 400,000 to 450,000 beds in the MENA Region by the year 2018."

In order to enhance the healthcare system in the GCC, Sprenger sees investment being focused in the areas of primary healthcare, preventive medicine, healthcare education, specialised hospitals, diagnostic services and financial strategy.

• World Health Design is a media partner of the second annual Hospital Build Middle East Exhibition & Congress, running from 1-3 June 2010 at the Dubai International Exhibition Centre. The event brings together investors, commissioners, backers and managers of major healthcare building projects together with the suppliers of the best services in planning, design, building, operations, management and refurbishment. For more information, visit **www.hospitalbuild-me.com**

75-132 hospitals are planned for construction in the GCC

Interdisciplinary Flexibility Efficiency and Reliability

Creating the ultimate ergonomic environment for surgical success across the whole range of the KARL STORZ disciplines.

Synergy in Operation

STORZ
KARL STORZ—ENDOSKOPE
THE DIAMOND STANDARD

KARL STORZ GmbH & Co. KG, Mittelstraße 8, D-78532 Tuttlingen/Germany, Phone: +49 (0)7461 708-0, Fax: +49 (0)7461 708-105, E-Mail: info@karlstorz.de
KARL STORZ Endoscopy America, Inc, 2151 E. Grand Avenue, El Segundo, CA 90245-5017, USA, Phone: +1-424-218-8100, Fax: +1-800-321-1304, E-Mail: info@ksea.com
KARL STORZ Endoscopia Latino-America, 815 N. W. 57 Av., Suite No. 480, Miami, FL 33126-2042, USA, Phone: +1 305 262-8980, Fax: +1 305 262-8986, E-Mail: info@ksela.com
KARL STORZ Endoscopy Canada Ltd., 2345 Argentia Road, Suite 100, Mississauga, Ontario L5N 8K4, Phone: +1 905 816-8100, Fax: +1 905 858-0933, E-Mail: info@karlstorz.ca
www.karlstorz.com

OR1 3/E/05/09/A

Benchmark design for cancer care

UK: Building work has completed on The London Clinic's new £80m cancer centre, claimed to be the largest new build in the UK's private healthcare sector for 30 years.

Lead contractor Shepherd Construction took 84 weeks to complete the final phase of development to provide a state-of-the-art hospital, comprising 47 individual bedrooms and 22-day care pods; and refurbishment of a grade II listed building to provide consulting rooms.

Architect Anshen + Allen designed the new hospital on Harley Street to help people feel relaxed and comfortable while undergoing their care.

Three of the eight floors of the hospital are built underground and the last development phase included constructing one of the deepest basements in London at 16m deep by the McGee Group.

The basement bunker accommodates the latest radiotherapy equipment. With space at a premium, Ledite blocks were used, a radiation-shielding material which is twice as dense as concrete but uses less physical space.

Malcolm Miller, chief executive of The London Clinic says: "This is a very exciting time for The London Clinic and our patients – as well as for the future of cancer treatment and care. Our new centre will provide renewed hope and optimism for cancer patients and their families and will help put the UK back on the cancer map."

Catherine Zeliotis, associate director of Anshen + Allen added: "The London Clinic Cancer Centre has set a new benchmark for the design of cancer centres, providing innovative clinical spaces and technologies within a humane healing environment.

"From the earliest stages of the project, the design team and staff worked closely together to challenge pre-conceived notions on the delivery of cancer care – we have created an inspirational facility which combines the best concepts of patient-oriented design without ever compromising clinical needs; it is a place for life."

Olympics health centre to leave legacy

UK: Planning permission has been granted to Penoyre & Prasad's Olympic health centre in the London 2012 Athletes' Village. Work is set to start on the 'polyclinic' in the summer in time for completion before the 2010 London Olympics and Paralympics.

During the games, the centre will serve as a health facility for athletes, after which it will become part of the 2012 legacy, serving a new local population as well as the existing community.

The four-storey, 5,000 sqm building will feature traditional GP and other healthcare facilities plus community amenities such as a gym, café and youth club. The Athletes' Village, adjacent to the Olympic Park, will provide 2,818 new homes.

Green light for Liverpool super hospital

UK: The go-ahead has been given for a new £454 million hospital development, which will play a key part in the transformation of health services for the communities of Liverpool.

The new state-of-the-art hospital will be developed to replace the Royal Liverpool University Hospital, and will provide:

- All patient accommodation in en-suite single rooms
- A more welcoming and modern building, which is secure and safe
- More natural light and attractive interiors, using art and design features
- Improved access for public transport
- A better-designed layout, to improve patient and visitor experience.

The Royal Liverpool and Broadgreen NHS Trust has consulted closely with patients, the public and staff in planning the new hospital. Local people and patients will be encouraged to contribute to the ongoing plans and designs for the new hospital, including a new large landscaped area, about the same size of Chavasse Park, creating a permanent public park for the community.

Tony Bell, chief executive, added: "The new Royal will be cutting-edge and will change the face of healthcare in the city. It will allow us to provide healthcare in a 21st century building, with improved standards for clinical research facilities. This is part of a much broader vision for Liverpool and the city region.

"The new hospital represents a crucial step towards the development of a biomedical campus on site, developing new treatments through research and a hub for the future of health science research in the north-west."

The trust will now begin the next phase of the project, which involves a rigorous two year process to secure a construction partner. Work is set to begin on the new hospital in 2012, with completion in 2016.

Design & Health
Canada 2010

University of Toronto, 7-8 June 2010

Global Perspectives. Local Identities.
An International Symposium & Exhibition

Exploring global 'salutogenic' perspectives on the planning, procurement, finance, design, construction and operation of health facilities within the local context of health infrastructure development

For more information or to register visit **www.designandhealth.com**

Design & Health
International Academy for Design and Health

Media partner

WORLD HEALTH DESIGN
ARCHITECTURE | CULTURE | TECHNOLOGY

Health Arena

A new international symposium in Toronto will explore global 'salutogenic' perspectives on the planning, procurement, finance, design, construction and operation of health facilities in Canada, reports ***Prof Alan Dilani***

The World Health Organisation's first International Conference on Health Promotion in Canada in 1986 presented the Ottawa Charter, which defined health promotion as "the process of enabling people to increase and to improve their health reaching a state of complete physical, mental and social well-being.

In 1997, the WHO identified the "Health Arena", including priority settings and frequently used spaces such as the workplace, schools, hospitals, correctional institutions, commercial offices, public spaces within our towns and cities, and indeed our homes, should be at the centre of health promotion activities in the 21st century.

Point of departure

From a research perspective, health can be divided into a pathogenic and salutogenic starting point. Pathogenic research focuses on explaining why certain etiological factors cause disease and how they are developed in the physiological organism. The primary aim of pathogenic research is to find medical treatments.

Salutogenic research is based on identifying wellness factors that maintain and promote health, rather than investigating factors that cause disease.

Together, the salutogenic and the pathogenic approach offer a deeper knowledge and understanding of health and disease.

A new paradigm that recognises that human health is significantly related to the designed environment is needed. A 'salutogenic approach' to health infrastructure development embedded at the core of a public health strategy focused on preventative care, changes the focus from risk factors and the treatment of disease to a more holistic understanding of healthy environments.

Leading an active lifestyle

A focus on health and wellbeing can be used to inspire innovative design and infrastructure solutions that facilitate an active lifestyle and enable the successful management of physical, psychological and emotional stress in our daily lives.

This international symposium will discuss how 'salutogenic approaches' to health infrastructure development in Canada can provide a more cost-effective context for enhancing human health, wellbeing and quality of life.

Prof Alan Dilani is founder and director-general of the International Academy for Design & Health

Design & Health Canada 2010
Global Perspectives. Local Identities.
An International Symposium and Academy Awards Gala Dinner

Isabel Bader Theatre, University of Toronto
7-8 June, 2010

Design & Health Canada 2010 is an international symposium organised by the International Academy for Design & Health that aims to bring a global perspective to health infrastructure development in the region by:

- Evaluating different international models of care, health theories and perspectives
- Reflecting on the socio-economic factors impacting on Canadian health infrastructure
- Learning about regional service models delivering real and measurable benefits
- Assessing the development of specialist care services, such as mental health and elderly care
- Identifying the socio-economic drivers for the development of healthy communities
- Recommending actions to improve design quality and operational efficiency
- Exploring how to create a sustainable infrastructure that supports human health and wellbeing and meets the region's social, environmental and economic goals

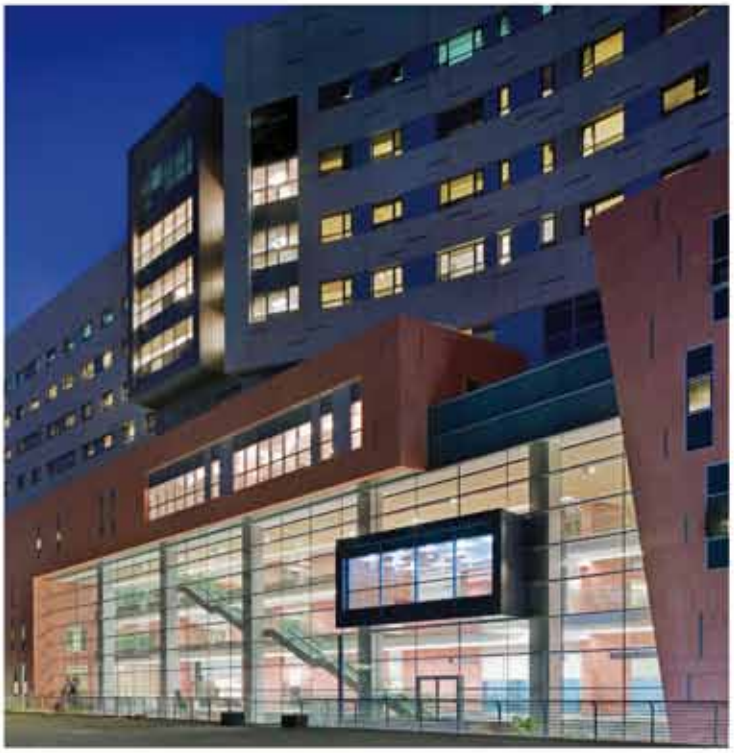
International Speakers

Annette Ridenour
USA

Mark Johnson
USA

Jacqueline Vischer
Canada

Colum Lowe
UK



Assuta Medical Center / Tel Aviv, Israel

zeidler

315 Queen Street West
Toronto, ON, Canada M5V 2X2
T: 416-596-8300 F: 416-596-1408
www.zeidlerpartnership.com

ZEIDLER PARTNERSHIP ARCHITECTS

TORONTO . CALGARY . VANCOUVER . VICTORIA . WEST PALM BEACH . LONDON . BERLIN . BEIJING . SHANGHAI . CHENGDU . ABU DHABI

The case for change

Paul Barach reflects on the impact of the health reforms in the US and Australia on health infrastructure development over the next decade

The groundbreaking health reform efforts under the Democratic-controlled 111th Congress and President Barack Obama have focused on two bills: the Patient Protection and Affordable Care Act (known as the 'Senate bill'), which became law on 23 March 2010, and was shortly thereafter amended by the Health Care and Education Reconciliation Act of 2010 (which became law on 30 March). Disappointingly, no Republicans supported either bill.

The US spends a greater portion of total yearly income on healthcare than any United Nations member state except for East Timor (Timor-Leste), although the actual use of healthcare services is below the median among the world's developed countries. Healthcare costs are rising faster than wages or inflation, and the health share of GDP is expected to continue its upward trend, reaching 19.5% of GDP by 2017.

In fact, government healthcare spending in the US, as a portion of GDP, is consistently greater than in Canada, Italy, the UK and Australia (countries that have predominantly public healthcare). However, in Australia, the June 2009 Report of the National Health and Hospitals Reform Commission – *A healthier future for all Australians* – and the Rudd Health Plan both allude to similar challenges facing the Australian healthcare system.

While the Australian health system has many strengths, it is a system facing significant challenges, including large increases in demand for and expenditure on healthcare, unacceptable inequities in health outcomes and access to services, growing concerns about safety and quality, workforce shortages and inefficiency. Further, the Australian system is suffering from a fragmented health system with a complex division of funding responsibilities and performance accountabilities between different levels of government.

Fundamentally, the complexities of the Australian system are due to its constitutional basis as a federation of states. When the six states formed the Commonwealth in 1901 only certain of their sovereign powers were transferred to the new federal government. Current arrangements cause the federal government to raise the majority of public health funds through federal income tax and the states have responsibility for spending it. The thrust of the reforms is to realign the funding distribution and to create one system rather than six (or eight, with the two territories).

The debate over healthcare reform in the US and Australia centres on these core issues:

- Who should have access to healthcare and under what circumstances?
- Who should contribute toward the costs of providing healthcare in a society?
- The quality achieved and the system accountability.
- The sustainability of expenditures (presently rising faster than the level of inflation).
- The role of the federal government in bringing about such changes.

Americans are divided along party lines in their views on the role of government in the health economy and especially whether a new public health plan should be created and administered by the federal government. Australians are divided about the impact of the public health system failing, given excellent patient outcomes and a thriving private sector. Those in favour of universal healthcare argue that the large number of uninsured Americans creates direct and hidden costs shared by all, and that extending coverage to all would lower costs and improve quality. Opponents of laws requiring people to have health insurance argue that this impinges on their personal freedom and that other ways to reduce healthcare costs should be considered. Perhaps the greatest challenge for health planners is that if they fail to strongly influence the direction of the health system, then healthcare is rapidly becoming too expensive.

Australians are divided about the impact of the health system failiing

The recent frenetic reform activity in both countries, translates into a once-in-a-lifetime opportunity for the planning and design communities to shape healthcare system policy and strategy. Health is one of the most important issues for the Australian and American peoples, and it is an issue upon which they rightly expect strong leadership from their governments.

Dr Paul Barach is a professor at the Center for Patient Safety, Utrecht University Medical Center in Utrecht, Netherlands

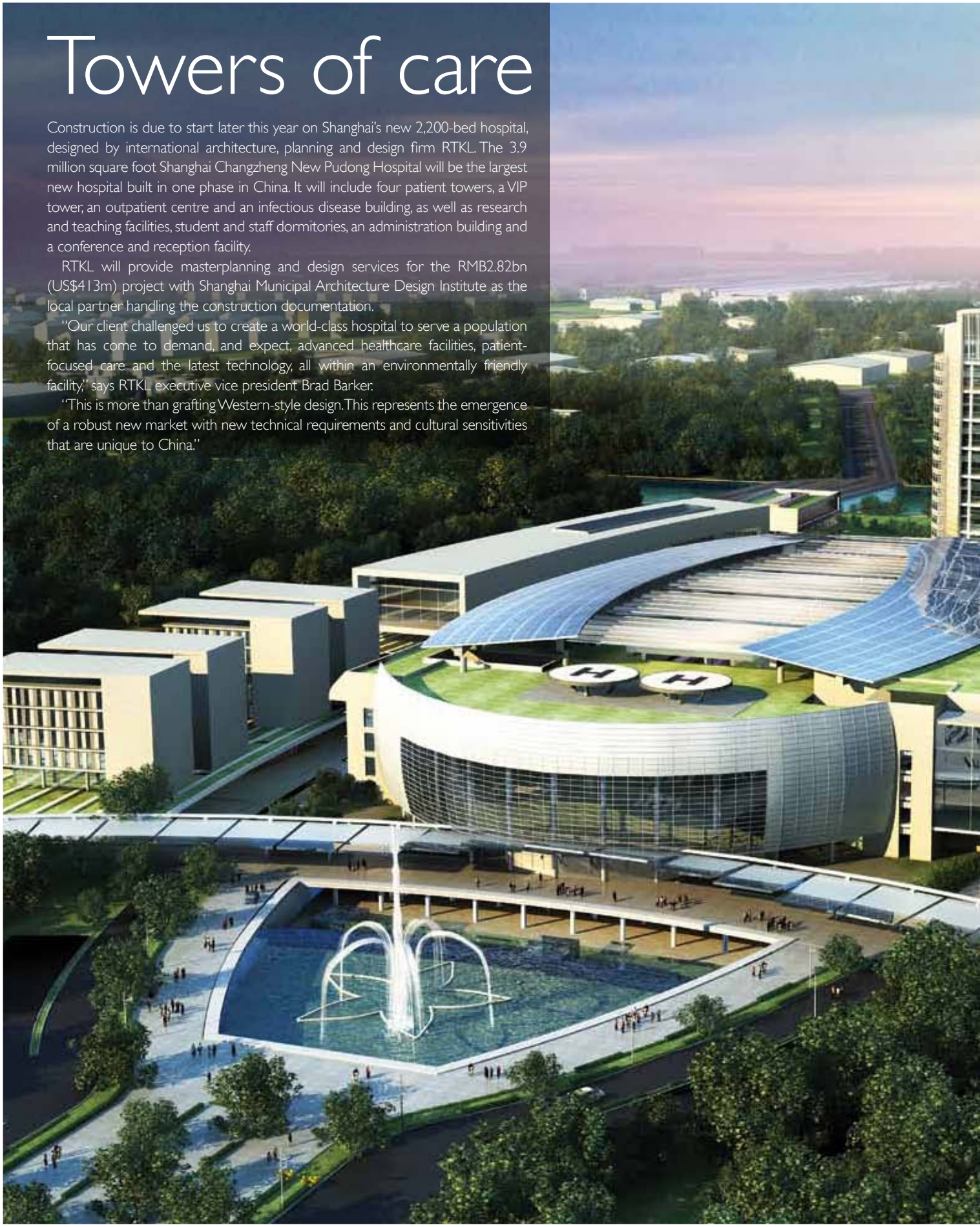
Towers of care

Construction is due to start later this year on Shanghai's new 2,200-bed hospital, designed by international architecture, planning and design firm RTKL. The 3.9 million square foot Shanghai Changzheng New Pudong Hospital will be the largest new hospital built in one phase in China. It will include four patient towers, a VIP tower, an outpatient centre and an infectious disease building, as well as research and teaching facilities, student and staff dormitories, an administration building and a conference and reception facility.

RTKL will provide masterplanning and design services for the RMB2.82bn (US$413m) project with Shanghai Municipal Architecture Design Institute as the local partner handling the construction documentation.

"Our client challenged us to create a world-class hospital to serve a population that has come to demand, and expect, advanced healthcare facilities, patient-focused care and the latest technology, all within an environmentally friendly facility," says RTKL executive vice president Brad Barker.

"This is more than grafting Western-style design. This represents the emergence of a robust new market with new technical requirements and cultural sensitivities that are unique to China."



Change is inevitable

In March, the US House of Representatives passed the controversial Healthcare Reform Bill, extending health insurance coverage to more than 30 million more Americans. But what will it actually mean? Three experts from the US discuss its potential impact

It is too early to properly assess the impact of healthcare reform in the United States because the cost control component of the plan has yet to be enacted (if ever), leaving most institutions in financial planning limbo. Not-for-profit institutions, who provide billions of dollars of uncompensated care, will certainly welcome more potential income for the treatment of patients who, formerly, had no coverage. The question will be at what overall cost.

If the price for the estimated 30 million new customers is tied, ultimately, to a dramatic reduction of reimbursement for those who are already covered or those who are added to the enrolment, the institutions are not likely to be enthusiastic about the increase in 'paying' customers. If the debate continues and cost control remains unresolved, most institutions will be left with an unpredictable compensation environment – something most businesses, even not-for-profits, find debilitating.

Unfortunately, with the likelihood of dramatic congressional changes resulting from the mid-term elections, it is difficult to envision the issue of cost control for healthcare being resolved quickly or predictably. Most institutions will be forced to deal with a partially implemented healthcare reform environment for an unpredictable period of time. This does not bode well for long- or short-term planning for most medical institutions.

David H Watkins, founding principal, WHR Architects

It is difficult to envision the issue of cost control being resolved quickly or predictably

It's not over till it's over. We're not completely there yet, but the healthcare reform legislation President Obama signed into law at least gives us a more comfortable uncertainty of the future. The true reform will come from within the industry as hospitals and health systems must demonstrate their performance and quality to the consumer, within a heavily regulated healthcare industry. Those that can manage cost and reimbursement will survive; those that cannot will be swept up or away.

What we have seen recently in Massachusetts – the state with the lowest uninsured rate in the country – is heavy emergency department overcrowding, long waits to see a physician and costs that have outpaced budgets to the point that the state's governor has asked the legislature for authority to review and possibly cap prices of insurers and hospitals. Is this indicative of the nation's healthcare future?

In terms of how this may affect the future of hospital planning and design of infrastructure, I believe we will see a dramatic reduction in the construction of larger, 'world-class' hospitals that compete for patients based on physical image and amenities, as experienced before the downturn in the economy and the uncertainty of healthcare reform. Given the current regulatory climate, the future will bring both re-planning of existing facilities and designing new facilities in the concept of a 'smart' hospital that challenges current thinking. As such, healthcare executives and boards must focus on operational improvements to cut waste and maximise reimbursement, focus on quality and provide value for their customers and investment.

The next decade will also see a downsizing in the number of providers through mergers and physician/hospital partnering, resulting in higher demand for medical office buildings.

Brian Allamby, ACHE, director of strategic and operational planning, Ellerbe Becket

Change is inevitable (except from a vending machine). Change – or lack thereof – drives passionate behavioral reactions. Soon the United States will 'change' its 'system' for 'dispensing' healthcare throughout the nation, as a result of the recent Healthcare Reform Act (officially known as the Patient Protection and Affordable Care Act). This legislation has become almost as controversial as the emancipation proclamation itself. Likely, change will manifest itself in how US healthcare is financed more than in how care is delivered. Continuing with the vending machine analogy, the healthcare reform dispenser's performance specifications will not be in place for several years, but angry mobs have encircled it immediately. Detractors are kicking the machine and claiming it will steal their coins, improperly dispense product and ultimately raise the cost of healthcare. Advocates are grateful they have been given coins, when previously they had none.

Several scenarios exist regarding how reform might influence the disposition of healthcare facility design in future decades. Likely, aspects of each will prevail as the struggle for true healthcare reform persists.

Scenario one: new insured population drives higher volumes, which drives more construction. In contrast to the sluggish jobless rate and related losses of insurance coverage, both of which have resulted in recent reduced medical volumes, the addition of some 32 million newly insured citizens will inevitably increase certain demands for healthcare services. While greater service demand will, in turn, increase facility demand, it is unclear how such growth would be funded. One challenge is that current supply and demand of hospital beds varies significantly across the nation, thus facility growth may vary significantly by region. Another result of healthcare reform is the strengthening of physician-hospital relations due to the need for more industry-wide collaboration. This is already taking place and will likely incentivise new models of physician-hospital owned and operated ambulatory care facilities.

Scenario two: greater scrutiny on cost resulting from healthcare reform drives downsizing of space standards. A natural, and perhaps appropriate, reaction to reform-driven scrutiny of all expenditures is to downsize our current physical facility standards. However, an unintended consequence of doing this 'right thing', if done in isolation of healthcare delivery quality, can have disastrous ramifications. Healthcare construction represents a relatively small percentage of our overall healthcare costs. Labour, medical errors and the cost of treating the nation's top chronic diseases are where costs – and potential savings – are greatest. For example, while reducing the size of a typical inpatient room by 10% may lower the bottom line of a facility's construction cost, if that smaller room results in more patient transfers, fewer bedside treatments or more staff injuries, the overall cost of that design decision could be enormous. Thus, we must strive to design the patient room that provides the highest quality of care per square foot (or metre) rather than the smallest code-compliant patient room. Unfortunately, the former is more difficult to measure than the latter.

Detractors are kicking the machine and claiming it will steal their coins

Scenario three: growing government regulation drives healthcare rationing and de-incentivises US medical research. One potential consequence of the Act's provisions for greater governmental regulation of healthcare could result in the approval of only those tests or treatments proven to be most cost-effective or clinically necessary. This, in turn, could further reduce demand for services, thus reducing the need for new construction. Additionally, regulation could decelerate medical research development – one of our nation's most significant economic drivers and intellectual exports. If limits are placed on the profit potential of pharmaceutical and biomedical corporations, their investment strategies could change. With research being central to most universities and university medical centres, this could add to the myriad challenges already faced by teaching institutions struggling to compete with health maintenance organisations and other non-academic healthcare providers.

Change is inevitable, except when you don't have it. Whatever one believes about the recent Patient Protection and Affordable Care Act, one thing is certain: measuring its impact is only meaningful when measured against the scenario in which nothing changes. No change would be clinically and economically disastrous.

Bill Rostenberg, FAIA, FACHA, ACHE, EDAC, principal and director of research, Anshen+Allen

Exciting new hospitals are being designed to meet Australia's growing urban population, mirrored by the redesign of services and facilities in remote, rural areas, while in New Zealand the expansion of healthcare facilities continues. ***Kathleen Armstrong*** reports

Space to expand

Australia's healthcare system has many layers. A federation of six states and two mainland territories, the Northern Territory and the Australian Capital Territory, decisions about healthcare delivery are in the hands of both state and federal governments. This can lead to some disparity from state to state between healthcare services and the facilities in which they are provided.

Currently, public hospitals are funded by the state governments using a variety of funding methods, including moneys provided to the states by the federal government. Primary care is a responsibility of the federal government. However, the landscape is set to change. In early March, Prime Minister Kevin Rudd announced a series of structural reforms to the country's health and hospital system, proposing that the federal government take a more direct role in the funding of public hospitals. The government said the proposal would "lead to less waste and duplication and a health system which is sustainable into the future".

About 30% of healthcare in Australia is provided by the private sector, according to Ian Forbes, director of DesignInc, and about 40% of the population has private health insurance. Private healthcare focuses mostly on orthopaedic, gastro, maternity and other non-emergency procedures and is provided by a handful of profit-making organisations and a smaller number of non-profit organisations (mainly religious organisations), mainly in urban and some regional centres.

With most of the country's population located in the cities along its coastline, servicing the sparsely populated interior of the country is a challenge. It is particularly difficult to attract staff to remote areas and the small, widely spread populations mean that large complex healthcare facilities would be underused. Some areas may have only a few hundred people. Although the young often leave to work in the cities, the elderly want to remain. The answer has been to develop multipurpose services, or MPSs as they are more commonly known. MPSs offer a range of healthcare services including primary and community care, a number of sub-acute beds and a small emergency/first-stage resuscitation area, and are often co-located with nursing home facilities for the elderly.

The difficulty in recruiting trained medical staff presents a real challenge in the development and design of healthcare

Above: Gold Coast Hospital, Queensland

facilities in remote Australia. Architectural consultant Peter Kemp describes how the hospital in Young, New South Wales was unable to find anaesthetists to staff its birthing unit so local mothers would travel to Cootamundra, a 45-minute drive away, to have their babies and then return to Young to rest and recover. "Service planning in rural areas is a best guess at the best of times," Kemp says, "while in cities like Sydney, you know what you can offer."

Chief executive of health infrastructure for NSW Health, Robert Rust, says distance and the need to service regional centres and provide an adequate level of healthcare is a challenge. Until about 10 years ago, area health services were responsible for local healthcare delivery but then healthcare services were centralised – and in 2007 the health infrastructure board was established as an arm's length body to oversee the delivery of projects that have been prioritised by NSW Health. These include a range of multipurpose services, cancer centres and the replacement and refurbishment of existing facilities.

Although the NSW government has yet to decide how it will respond to the federal government's proposed national hospital network, Rust thinks that the proposal could make it easier for states to identify the relevant expertise for healthcare projects – currently widely dispersed in the individual states.

Healthcare infrastructure projects are funded in a range of ways in Australia. The Health and Hospitals Fund (HHF) was set up by the federal government in January 2009 with the aim of funding projects that would meet the government's health reform targets. The first round was completed mid last year, approving around AUD$32bn of projects. A second round is currently under way, focusing on extending cancer services in remote and regional Australia. The HHF is chaired by Bill Ferris from Champ Equity.

Public-private partnerships (PPP) have been used on four projects so far in NSW, more commonly in Victoria and on a smaller number of projects in other states. PPP is normally reserved for very large projects of over AUD$1 million.

Managed contractor funding is the usual method of procurement in Queensland, which to date only has one PPP project in planning – on the Sunshine Coast – although that was put on hold during the economic downturn. However, a number of state-funded managed contractor projects are under way. This includes the redevelopment of Mackay Hospital in northern Queensland which will be 80% new build and 20% refurbishment. Gunther de Graeve from Woods Bagot says the project will act as a benchmark, both in futureproofing and

Mater Mothers' Hospital, Brisbane

Contract form: Managing contractor
Project completion date: April 2008
Cost: AUD$200m
Area: 14,200sqm
Client: Mater Health Services (with partial funding by Queensland Health)
Architect(s): BVN Architecture
Project manager: Aurecon
Main contractor: Abigroup
Structural engineer: Cardno
Landscape architect: Catherine Brouwer

in how office space and other services are grouped together.

"We designed the building for twice its size and then peeled it back," he says. "We know where the new theatres will be, where the lift cores will be – it can change it quite a lot of ways."

Offices are grouped together in an open-plan configuration rather than being scattered throughout the building and are located in a separate building together with ambulatory care. De Graeve says it is the first zero-office hospital in Australia and it has created a new culture of work "aligned to work rather than to status," he adds. "It has also made an enormous impact on the budget, reducing it to around AUD$3,000 per sqm from AUD$6,800 per sqm."

Woods Bagot is also currently working on the expansion of the Princess Alexandra Hospital in south Brisbane. It is also being built with the future in mind – the current development has two floors but allows for another two floors to be added when the need arises.

Mark Grimmer from BVN Architects is working on two hospitals in the region: the Mater, a maternity hospital also in south Brisbane, and the Robina, which is on the Gold Coast. Both have around 80% single rooms and are fully sunshaded with high-performance facades that will significantly reduce energy costs. Water harvesting has been integrated into the design to help save water (the country has suffered from drought for several years). These can be used, for example, in air conditioning systems and toilets.

Futureproofing was also a major factor in both of these projects, locating plant rooms on the perimeter of the sites, using strip window systems and adding toppings in bedrooms to allow for the future addition of en suite bathrooms.

David Gilbert from Woodhead Architects is working on the expansion of Ipswich Hospital, just southwest of Brisbane, and Logan Hospital, which lies between the state capital and the Gold Coast. Both hospitals will more than double in size. Woodhead has also completed the masterplan to guide the future development of the Royal Brisbane and Women's Hospital which will include tertiary level chronic care, in response to the ageing population in the region (the Gold Coast is a popular destination for pensioners) and the increasing prevalence of chronic conditions.

The major project in the region is the state-funded development of the AUD$1.55m development of the Gold Coast University Hospital, designed by the GCUH Partnership (PDT, Silver Thomas Hanley and Hassell Architects. The 1.8 million square foot (165,000m^2) tertiary greenfield hospital will have 750 beds and include a range of expanded services including a cancer centre with three bunkers, cardiac, neurosciences and trauma services, neonatal and mental health services, a 65-bed intensive care unit and 20 operating rooms. The facility has 75% single bedrooms, including specially designed bedroom and en suites for bariatric and disabled patients.

The family, women's and children's centre, also on the site, is designed around the model of family-centred care, with single rooms for the neonatal intensive care unit, larger

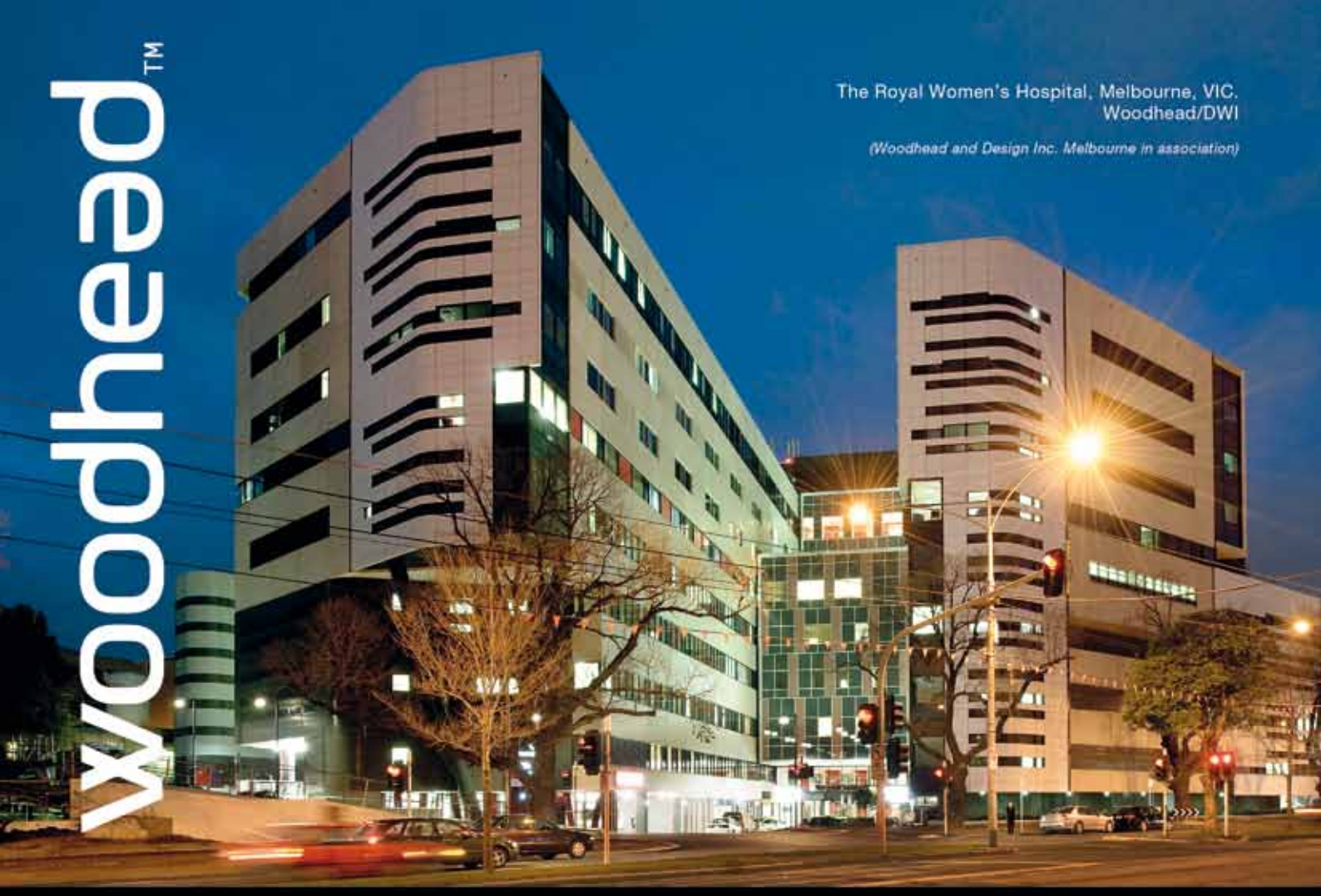
Robina Hospital Expansion

Contract form: Managing contractor
Project completion date: early 2011
Cost: AUD$300m
Area: 31,000 sq m
Client: Queensland Health
Architect(s): BVN Architecture
Project manager: APP
Main contractor: Baulderstone
Structural engineer: Bonacci Group
Landscape architect: Urban Space Design

Gold Coast University Hospital

Contract form: Construction management
Project completion date: end 2012
Cost: AUD$1,550,000,000
Area: 1.8 million square foot (165,000sqm)
Client: Queensland Health
Architect(s): GCUH Architecture: Silver Thomas Hanley (Vic); Hassell; PDT
Project manager: Capital Insight
Main contractor: Bovis Lend Lease
Structural and building services engineer: GCUH Engineering: SKM; S2F; Aurecon
Landscape architect: PDT; Hassell

woodhead™



The Royal Women's Hospital, Melbourne, VIC.
Woodhead/DWI

(Woodhead and Design Inc. Melbourne in association)

Intelligent healthcare design

Contact David Gilbert

T: (08) 8223 5013

M: 0419 818 620

E:dgilbert@woodhead.com.au

woodhead.com.au

Mackay Base Hospital

Contract form: Managing contractor
Project completion date: End 2014
Cost: AUD$407m
Area: gross 45,000sqm
Client: Queensland Health
Architect(s): Woods Bagot and Billard Leece
Project manager: Ranbury Management Group
Main contractor: Baulderstone Queensland
Structural engineer: Opus
Building services engineer: Norman Disney Young

rooms in paediatrics and maternity so family members can stay with the patient, and baby baths in all postnatal rooms."

Aija Thomas from Silver Thomas Hanley says: "The GCUH is unique in terms of its size and complexity. The expertise and capacity required to deliver a project of this magnitude is unprecedented in Australia."

In South Australia, design proposals for the development of the Royal Adelaide Hospital are currently being put together for the project. However, until the final design is selected, the project is bound by confidentiality agreements.

Already under way is the redevelopment of the 30-year-old Flinders Medical Centre in Adelaide, which will incorporate the latest models of care, according to Woodhead's David Gilbert who is working on the project. Funded by the state, the design will create a better environment for patients, supporting their recovery, and a better workplace. "In the health service, staff are still expected to work in antiquated places. This will be a revolution in the design of workplaces," Gilbert says.

Both state and regional hospitals are also undergoing redevelopment and modernisation in Western Australia, part of a redevelopment strategy begun in 2004 when the then state government set up the Health Reform Task Force. This has included the $100m redevelopment of Rockingham Hospital south of Perth, the redevelopment of regional hospitals in centres such as Port Hedland, Broome and Kalgoorlie and the expansion and/or relocation of healthcare services in Perth itself. The Perth developments will include the co-location of a number of hospital facilities in order to better integrate and improve services.

The most ambitious of these programmes is the AUD$1.6bn development of the Fiona Stanley Hospital, co-located with the state rehabilitation centre and a private hospital, St John of God Murdoch. Combined they will comprise around 1500 beds. Stage one of the Fiona Stanley is underway with construction to ground level expected to complete mid this year. Designed by a consortium of Silver Thomas Hanley, Hassell and Hames Sharley Architects, the facility will comprise a full range of services, including diagnostic, cancer, trauma, neurophysiology, cardiology, paediatrics and a burns unit. There will also be 19 operating theatres in the 643-bed facility.

The hospital has been planned around a patient-centred philosophy says Mike Hartfield from Silver Thomas Hanley, with clear wayfinding, lots of natural light and services co-located together. The consortium brought Roger Ulrich on as a consultant in the initial stages of planning to work with them on establishing the key principles of the design.

Victoria has also seen major redevelopment of its healthcare facilities, including the Royal Children's Hospital (see *The nature of nurture*, pp27–33), designed by joint venture architects Bates Smart and Billard Leece, to be completed next year. In 2009, Bates Smart completed the masterplan and feasibility study for the Parkville Comprehensive Centre which, in its next phase, will be released as a PPP. Director Sheree Proposch says it will be a "groundbreaking comprehensive cancer centre", bringing healthcare, research and education together in one facility. Linked to Royal Melbourne Hospital with two bridges, a key goal is to create an integrated, collaborative environment to enable seamless patient care and the

translation of research from bench to bedside as effectively as possible. The development, part of the Victorian government's Cancer Plan, is expected to be completed in 2015.

Stage two of the development of the Alfred Centre in Melbourne also brings research, education and patient care together in one facility, co-located with the elective surgery centre on the Alfred campus. Bates Smart worked on the AUD$180m project with Bayside Health, the Burnet Institute, Monash University Medical School, La Trobe University Faculty of Health Sciences and the Baker Institute/IDI for all of the project phases.

Another major project was the redevelopment of Dandenong Hospital to the east of Melbourne. The hospital caters to a very broad patient profile with a complicated range of emergent issues, including aged patients, paediatrics, acute patients, mental health patients and drug-dependent patients. Proposch says the design of the new-build emergency department will incorporate appropriate clustering of the different patient groups for consultation and treatment and will improve patient care, patient flow and staff efficiencies and bring "a whole new lease of life to the east end of the campus".

Across the Tasman, in New Zealand, hospital development is also continuing. Silver Thomas Hanley is working in partnership with Warren and Mahoney Architects on the expansion of Taranaki Base Hospital, Project Maunga. A three-stage development is proposed. The NZ$80m first-stage development will see the addition of a west wing which will house six operating theatres (an increase of two), ambulatory elective surgery and procedure services and a new inpatient ward block. There will be 152 beds, an overall increase of 26.

Wanganui Hospital

Project completion date: TBC
Cost: NZ$35m
Area: New-build 5,240sqm
Client: Whanganui District Health Board
Architect(s): Woods Bagot
Project manager:
Brian Walden, WDHB/Dave Stott
Main contractor: Lockwood Naylor
Structural engineer: Romulus/Connell Wagner
Landscape architect: Jasmax

Project director, Ian Grant, from the Ncounter Group says: "The new hospital building will provide a place where patients can be cared for in enhanced comfort and dignity and in an accessible, friendly and caring environment."

Risk assessment

Silver Thomas Hanley is also working in association with Klein Architects on the new clinical services building project for Middlemore Hospital in Auckland, which is now in the design phase. Construction is due to start later this year. Once complete, it will contain a new 14-theatre operating suite with a sterile supplies department, recovery and theatre admissions and discharge unit – and it will be the only hospital in New Zealand to completely separate acute surgery from planned surgery. The building will also contain a 42-bed assessment and planning unit and an extended critical care complex with a new 18-bed high-dependency unit.

Middlemore has been designed as a category 4 disaster building. Because of the high risk of earthquakes in New Zealand, design codes require buildings containing essential post-disaster functions, such as operating theatres, to be designed to withstand large events without sustaining the significant internal damage, so they can be repaired quickly after a more extreme event. Thomas says this creates significant challenges for designers, in particular allowing for large movements between floors, adjacent buildings and structure to cladding.

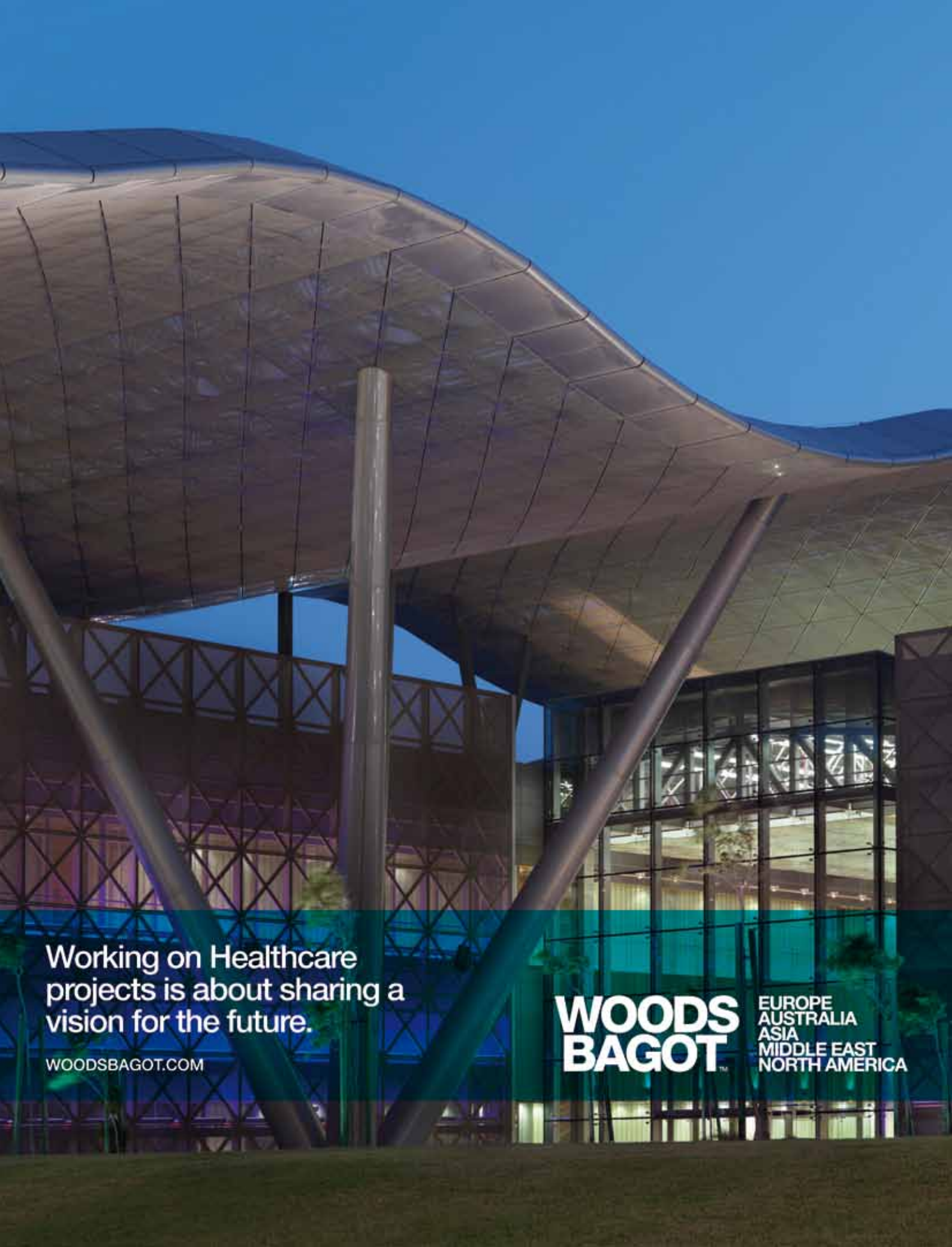
Where the hospital is located, in southern Auckland, is home to the largest Maori and Pacific urban population in New Zealand, so cultural references and beliefs have been incorporated into the design, both in the aesthetics of the building and in the flows of the hospital, such as the movement of goods (food, etc) and the tupapaku route (path of the deceased).

Two other projects currently under way in New Zealand are the expansion of Waikato Hospital and the redevelopment of Wanganui Hospital. Architect Marko den Breems from Auckland-based Jasmax is currently working on both.

The Waikato Hospital concept plan identified the need for further expansion of the existing assessment, treatment and rehabilitation department. The new building area will be 7,390sqm over four levels including the plant area, a 15-bed mental health ward for older people, 98 inpatient beds and an outpatients and allied health department.

Fiona Stanley Hospital

Contract form: Managing contractor
Area: Approx. 150,000sqm
Project completion date: Construction to complete December 2013; Hospital to open in 2014 after commissioning
Cost: AUD$1.76bn for main hospital; AUD$255.7m for state rehabilitation service
Client: Western Australian State Government
Architect(s): Fiona Stanley Hospital Design Collaboration (Silver Thomas Hanley, Hassell and Hames Sharley)
Structural and civil engineer: BG&E
Landscape architect: Hassell


Working on Healthcare
projects is about sharing a
vision for the future.
WOODSBAGOT.COM
WOODS
BAGOT
EUROPE
AUSTRALIA
ASIA
MIDDLE EAST
NORTH AMERICA

The building design is based around five design concepts: to preserve the existing character of the site, maximise views to and from the site, create sunny sheltered outdoor spaces, provide patient and staff connection to the main hospital campus, and ensure that the building fits with the contours and natural landscape of the site. The redevelopment is scheduled in stages, to allow the hospital to continue offering its full range of services while work is undertaken. Stages include both the refurbishment of existing areas and the construction of new buildings. So far, work has been completed on the new entry building and the neonatal intensive care unit.

Waikato Hospital

Project commencement date: start on site June 2010
Cost: NZ$31,000,000
Client: Waikato District Health Board
Architect(s): Jasmax, Chow Hill, MSJ
Engineers: Holmes Consulting Group, Maunsell, NDY, Opus

Wanganui Hospital is a smaller regional hospital co-located with a private healthcare provider. The redevelopment involved the consolidation of ICU, maternity, paediatrics, emergency and the private practitioners. Healthcare facility designs in both Australia and New Zealand are guided by the Australasian Healthcare Facility Guidelines, which have been developed by the Centre for Healthcare Assets Australasia (CHAA). Director Jane Carthey says a recent survey of healthcare project directors in New Zealand scored the guidelines good to very good, although improvements were suggested. The guidelines are used on all public hospital projects in Australia and New Zealand. They are reviewed and updated using a peer review process – there are currently around 15 guidelines in production which will be replaced on the CHAA website when they are ready. The CHAA project has been under way in NSW since 2002 and went national in 2006. Current funding for the project ends at the end of this year.

Most projects also use some form of evidence-based design principles to inform their design. However, medical doctor Prof Paul Barach says there is a lack of meaningful and robust post-occupancy analysis, although this is a problem common to most countries. "There is evidence on how to improve infection control, falls, staff injuries, etc but there is increasing awareness that this is not enough." In addition, Barach would like to see more transparency in how buildings are built – to make design plans and processes more transparent. However, this can provide a challenge in competitive procurement processes such as PPP, where confidentiality reigns until all parties have been selected.

Kathleen Armstrong is a freelance healthcare writer

Maunga Project, New Plymouth

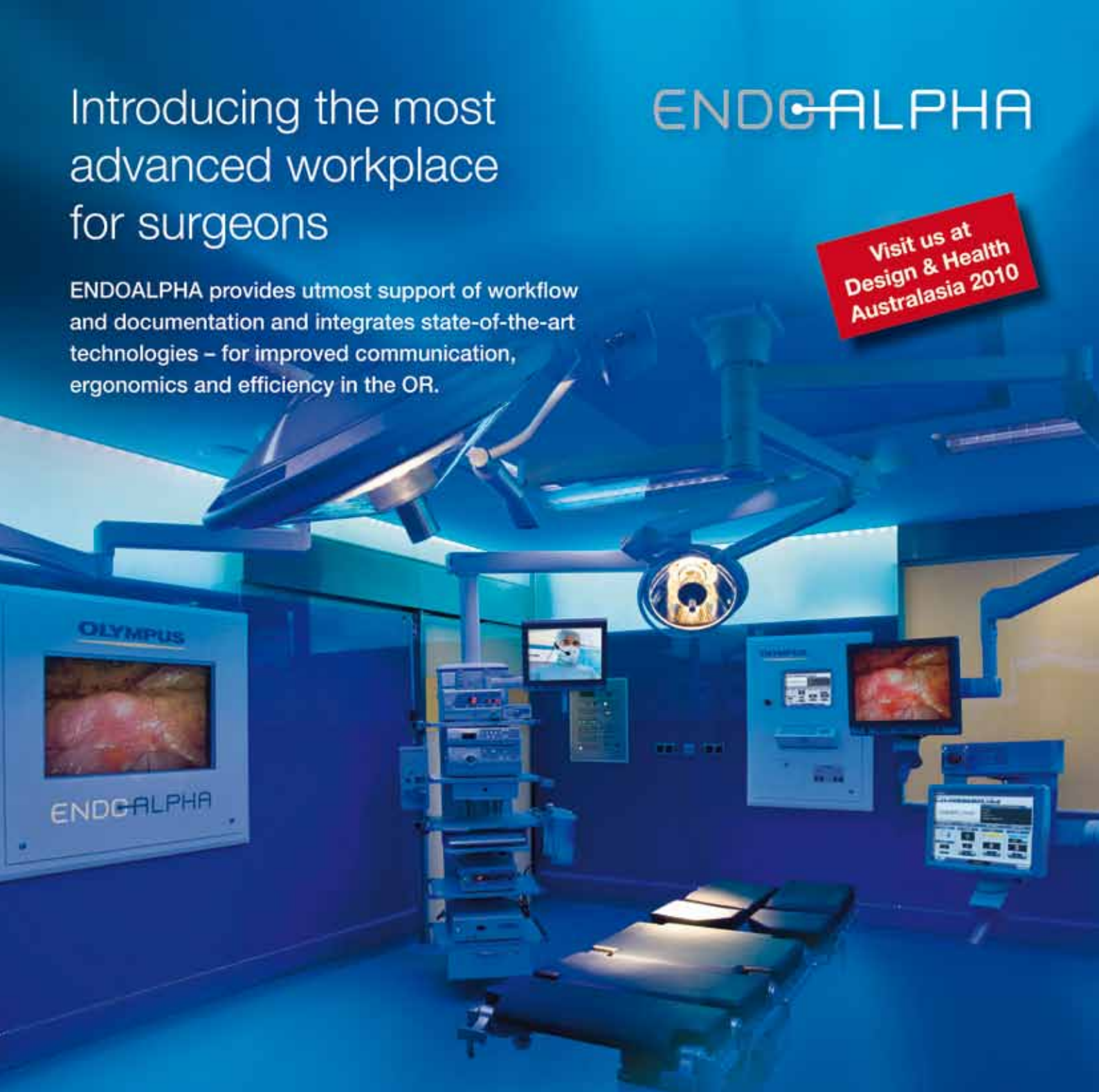
Contract form: Currently in design
Area: approx. 12,800m^2
Project completion date: early 2012
Cost: NZ$80,000,000
Client: Taranaki District Health Board
Architect(s): Silver Thomas Hanley (Vic) and Warren and Mahoney
Structural and civil engineer: Holmes Consulting Group
Building services engineer: Beca
Project director: Ncounter Group

Introducing the most advanced workplace for surgeons

ENDOALPHA

Visit us at Design & Health Australasia 2010

ENDOALPHA provides utmost support of workflow and documentation and integrates state-of-the-art technologies – for improved communication, ergonomics and efficiency in the OR.



HDTV NBI

ENDOALPHA features cutting edge imaging solutions such as HDTV 1080 and NBI. The system integration approach provides high-end video networking and allows surgeons to control both medical and peripheral OR equipment from one central panel.

Visit our Website:
www.olympus.com

Amalie Sieveking Hospital, Albertinen-Group, Hamburg, Germany

IPS 4 CE3

OLYMPUS

Your Vision, Our Future

The nature of nurture

Architect ***Kristen Whittle*** reports on the natural elements integrated into the design of the new Royal Children's Hospital in Melbourne and the thinking behind it

There is an extensive body of evidence showing the value of nature in the healing process. Kaplan and Kaplan[1] have demonstrated these benefits through their studies in Attention Restoration Theory, revealing the value of light reflected from nature and of nature itself in improving wellbeing. In the 20th century, architect Alvar Aalto showed how design could be shaped through a dialogue with natural settings. His formal language and use of materials showed how new and sometimes abstract design could convey a sense of familiarity and warmth whilst being functionally and ergonomically well resolved.

The Foundation Cartier building in Paris by Jean Nouvel in 1994 established an office building in a parkland setting, showing how buildings in cities can be surrounded with greenery and quietude, bringing nature, its sounds, its colours and its soft fascination into the lives of building occupants.

Renowned American biologist Professor EO Wilson[2] alludes to the benefits of linking back to nature, observing that: "The deep emotional centres of the brain have been programmed by natural selection over thousands of generations."

And in his installation at the Tate Modern Gallery in London in 2003-04, which created a virtual weather pattern inside the building ('The Weather Project'), artist Olafur Eliasson's new sun was seen to affect deeply embedded drivers within the brain. The space was observed to have a powerful effect on children and was used as a source of respite and enjoyment.

It was this range of conceptual influences that underpinned our approach when we began our design journey with the new Royal Children's Hospital (RCH) in Melbourne. There can be no doubt that the successful creation of a psychosocially supportive environment is determined by an agreement between client and architect to give priority to the users' experience of a building. Our approach has been supported by the Department of Health Victoria and the RCH, our consortium leaders Amber Infrastructure Group, Bovis Lend Lease and Spotless Group, and also joint venture partners Billard Leece and consultants HKS. Without this support, many of this project's salutogenic features would not have been realised.

View of the front facade showing array of coloured glass blades

The project design seeks to emulate the soft fascination of nature. Built on parkland, the project draws on salutogenic design principles to bring the park into the building and, at the same time, establish an external appearance that helps bring the building into the park. Our goal in the development of RCH was to awaken the senses, by creating form and texture that are a clear analogy to nature and working to reproduce a man-made nature in buildings.

A healing language for architecture

The opportunity created by the brief and the park site was to pursue a design in which nature would nurture – where recovery would be faster and wellbeing enhanced through accommodating children, their families and staff in a building that would embrace and reflect the best of nature.

The 'park in the building' concept has influenced every aspect of the hospital's planning. Attention has been given to the natural textures, forms and colours of the park and how this can be directly referenced into the material expression of the building. A unique aesthetic language has resulted, which forms a new benchmark for hospital design and shows

how healthcare spaces infused with nature can speak to the child.

Royal Park is an undulating 180-hectare swathe in inner Melbourne, with the Royal Melbourne Zoo at its centre and the RCH site at its southeastern tip. The site selected for the hospital was an area of parkland immediately adjacent to the current hospital, facing busy Flemington Road, one of the major arterials into the city.

Our masterplanning journey started under a gum tree in a portion of Royal Park next to the existing hospital, where we carefully examined the site. The contrast between city and park was immediately apparent. The park was a quiet, natural landscape with a multitude of trees. It was a haven for birds, animals and, of course, children. From the beginning, it was clear that we should position the entire hospital in the park, rather than within the 'city', because the park could provide therapeutic benefit and help to re-energise individuals within the hospital. This orientation also enabled us to create attractive public spaces all around the building, avoiding a 'front and back' phenomenon.

Because of the slope on the site, we were able to link the building into the park at three different levels so three storeys were facing parkland at different points. Through the development of a campus-style master plan involving low-level buildings, we were able to ensure that there would be morning, afternoon and evening gardens spaced around the building, so visitors could experience a garden bathed in sunlight regardless of the time of day they attended. We conducted time-lapse studies on models to ensure those gardens would perform as we intended.

We also sought to bring the park into the building by developing a range of quiet outdoor spaces along the length of the building. This mix of private, semi-private and public gardens was also replicated in the development of indoor spaces which were private, semi-private and public, reflecting the needs of building users.

The building needed to respect the park's natural surrounds and needed to be a lower scale community of buildings, so that it wouldn't seem forbidding or overwhelming to families as they arrived. At the same time, research had indicated that comprehensibility was essential to a positive visitor experience. Knowing how to move through a space is a vital component of positive visitor experiences to a building, so simple and effective wayfinding was vital.

Familiarity and freedom

Our focus group research found that familiarity was important to young children, freedom was important to older children, and curiosity and fantasy were important to the children in between. The building needed to provide a space that somehow catered to each of those needs in a complementary way.

We invented the idea of a central internal street – a broad internal avenue that would form a spine, uniting the clustered buildings and easily drawing in existing buildings which were to be incorporated and refurbished. Australian towns and suburbs are typically quite linear in layout with principal town facilities rowed along a central street. We wanted to replicate this sense of community and create a wayfinding system that would be familiar to most building users.

The street has deliberately been kept as a simple form – a line with a kink in it – to improve wayfinding and the binding together of the hospital. Oriented north-south, the high-traffic main entrance is located near the road, providing access to a large active area with information, retail and waiting zones. The street then flows northwards with the main clinical spaces placed either side, east and west, up to a six-storey height limit. At the end of the street to one side is the inpatient unit (IPU), in an area most deeply embedded into the park.

We wanted to translate the energy of the natural setting into a form, colour and patination language for the building. Like all hospitals, repetitive internal areas are necessary within this hospital, providing similar-sized rooms with similar-sized windows – which can tend to render hospital

Top: View of a typical inpatient unit at the RCH, showing the child-friendly garden setting for nurse stations at the heart of each wing;
Bottom: View of the main street showing garden seating alcoves and retail activation

View of the Royal Children's Hospital campus enveloped by parkland on all sides with the inpatient unit in the foreground

exteriors monolithic and alien. With the IPU building, we set about morphing the structure into a friendlier form that blended better with the park, by applying a healing language to our designs.

We wanted to bring the attributes of a tree canopy into the IPU rooms through a range of features, led by our sunshade design. A tree canopy is both a place of safety from the sun and a place of respite. The leaves disperse the sun's energy but also display a wide range of visual effects depending on the weather. Leaves are shiny wet during rain, dull when cloudy and can be brilliantly coloured in high sun.

We wanted to bring the attributes of a tree canopy into the IPU rooms

In order to replicate these attributes, we elected to fabricate the sunshades on the IPU from glass. Glass has light-emitting qualities, with the ability to reflect, to emit light, or to be translucent – all properties visible in nature. Using glass to make sunshades gave the opportunity to not only protect but also to give the building personality, speaking to the child's imagination.

The sunshades have been fabricated from two sheets of green-tinted glass laminated together. The glass is overlayed with a complex green polka dot frit in two different scales, lending a range of colour gradations to the shades. The underside of the shades has a mirror coating and shades have been carefully aligned so that they reflect activity in the grounds below when viewed from the beds inside. In addition, the complex pattern and translucent material used for the sunshades will have a range of appearances through the day, depending on the angle of the sun – just like objects in nature – as part of our commitment to bring the park into the building.

Externally, the sunshades will appear to be shades of green when viewed from a distance – but when examined closer, the green will be revealed to be in fact a series of dots. Viewed closer still, the large dots will in fact reveal themselves to be made up of clusters of smaller dots. This variation reflects the scalable aesthetic of nature and provides another source of visual interest for the building.

IPU façade pattern language

As the primary residential area for sick children, the IPU needed to be a special building and to appear as such. At the same time, it was the building that was deepest into the park, so we wanted it to harmonise with the environment to some extent. In order to develop an organic external appearance while providing for repetitive internal structures, we

Detail of inpatient unit cladding showing coloured and patterned, glazed sunshading system

used a range of concrete cladding to develop a façade that paid homage to nature but at the same time had a jigsaw-like child-friendly quality. We chose a range of 'O' shapes approximately eight metres wide, rowed along the building. We engineered the concrete to take the colours of the trunks of trees in the park, using one tone with a matte appearance to look like older bark and one almost polished which was very similar to the bark of a young eucalypt. This two-tone 'O' pattern was wrapped around the fingers of the star-shaped IPU.

Green glazed 'O' shapes were added randomly as an overlay across the façade to disrupt the regularity of the checkerboard pattern and further camouflage the building. We also offset the panels, which more closely resemble nature, providing a sense of an exfoliating tree through the layered cladding treatment. This approach borrows heavily from eucalypt trees on site which continually shed their old, dark, rough bark to reveal a new, smooth, lighter-coloured layer of bark beneath.

While ribbon windows were essential to internal flexibility and functionality for the treatment and research facilities in the East and West buildings, we wanted to obscure the aggressive linearity of these windows with a façade that would link them to the IPU. We also wanted to ensure they bore a stronger resemblance to the textures and forms of the park – in other words, a façade informed by the language of healing.

We developed three different façade systems, alternating plain glazing with panels etched with a minute silver frit, resembling a woven pattern, or the invert of a dot, applied in a screenprint across the window. A solid upstand of concrete was used to clad spandrels where furniture faced the wall. Some of this concrete cladding was also overclad with glass, enabling a checkerboarding effect which echoed the textures and tones of eucalypts in the park. This had the additional effect of establishing a patterned surface that was more decorative and less institutional.

Given the exposure of many children to an array of high-stimulus electronic gadgets, we recognised a challenge in how to make a building interesting to today's kids. At the same time, our focus groups had confirmed research on the universal and innate values of nature to healing. Great emphasis was therefore given to creating the main entrance façade to break down the monolithic identity of this large structure, making it friendlier and with greater aesthetic punch.

A façade of blades

We wanted to give the building a memorable, powerful expression, so developed the concept of fronting the building with an array of C-shaped blades which would serve as sunshades on the building's exterior but also provide a visual theme. The blades, each 2.1 metres high, have a primary purpose of being sunshades, but have been fabricated from glass to enhance the aesthetic appeal of the building and, critically, to make the building seem more approachable. The overall colours of the façade were drawn from a photograph of a leaf taken on site. The leaf transitioned from red to green along its length. We have used the red to denote the hospital's emergency zone, clearly marking the area where ambulances will enter, while the green is used to mark the main entrance and guide people into the building.

The blades are suspended about one metre in front of the glass curtain wall at the front of the building, transforming the front of the building to be six storeys of cascading glass, a total of 25 metres high, helping to de-institutionalise the building and make it more family friendly. Like many architects, we have traditionally found it difficult to judge the ultimate appearance of glass. Depending on the performance of glass it can change colour, and if colouration, reflectivity and colour are not controlled, the building's final appearance is hard to predict.

State-of-the-art 3D rendering software was used to study the optical qualities of glass in relation to the actual Melbourne light conditions, creating non-biased renders which were true to life. We also studied the differences in the appearance and performance of clear glass versus translucent glass to identify the level of solidity and translucency required. The rendering enabled us to realise that we would get far greater colour saturation using acid-etched glass and has given us far greater confidence in the ultimate salutogenic effect of the building.

The exterior of the blades has been acid-etched in order to give them a matte finish, substantially softening the exterior of the building. The inner glass skin is a shiny, fully glazed curtain wall and the contrast between the matte blades and the shiny inner skin makes strong links with natural textures and forms. The blades have been given a slight mirror coat which, combined with a variety of colours used in the blades, ensures excellent protective performance.

The blade frame was going to be invisible, so its shape and structural language was important.

Our masterplanning journey started under a gum tree in a portion of Royal Park

We used a tubular steel frame hung from the top of the building, connected to the curtain wall using forked metal fixings shaped like a bird's foot. The frame was also triangulated to increase its sense of lightness and delicacy. We wanted to ensure that the blades were the primary visual reference for the building, with the frame being visible but secondary – rather like the relationship between leaves and branches on a tree.

In order to get contiguous appearance across the façade, the majority of the blades needed to be set at one angle. We wanted to get power out of the repetition, almost like ants walking up the façade or leaves in a forest. It is that sense of repetition that provides both an allegory to nature and a natural beauty. However, we felt it would be too flat to keep all the blades angled the same, so the majority of blades were angled at 30 degrees and we set up a secondary blade pattern at 60 degrees.

An important feature of the façade is the insertion of large double-height courtyards and also a single-height courtyard which, once planted, will literally bring the park into the building. Recessed balconies placed behind the sunshades and the courtyards help to break down the scale of the façade while also providing visual interest and playing with the sense of depth and articulation.

We resolved to draw the coloured blades down to decorate the undercroft and decorate the large ceilings that we had above the entrance ways, drawing colour down from the higher level to the lower ones, suspended like a tree canopy over those entering the building. These blades have no mechanical function. Rather, in keeping with the whole ethos of the building, they are valued for their aesthetic and emotional function, celebrating and defining the entrance, intuitively drawing in the visitor and making the journey memorable and uplifting.

Passing through a forest

The visual language of the entry and the building itself is deliberately soft, with resonance to birds, fish, leaves and clouds. To help mark the entry precinct, in addition to the green colouration of blades above the main entrance, some rows of blades were removed, to improve visual identification. We wanted to draw a more lyrical expression for the entrance, drawing trees into the façade so you almost feel like you are walking through a forest into the building.

Huge slotted panels will be installed flanking the main entry points, resembling tree trunks. Composed of a pane of glass either side of a 200-metre cavity, the entry 'trees' will have two acrylic sheets inside, one translucent and one with a solid sliver backing. These acrylic sheets will be cut with a range of oblong holes which will overlap in places, providing projected light as well as a myriad of tiny portholes. This feature not only mimics trees and plays of light in nature, but also caters to the inquisitiveness of children, who invariably appreciate visual portholes.

From the front entrance, visitors will walk straight into the broad, 16.8 metre-wide street and realise they are not in a type of hospital that they have experienced before. Distraction, art and community partnerships are layered alongside the nature-based concepts to enhance the child-friendly journey through the building. The bright, warm, textured appearance of floor and walls is brought to life with natural light from the roof, which is 30% glazed. This environment helps build a sense of life, hope, positivity and wellbeing. The extensive glazing will also continue the theme of 'the park inside the building', scattering light across different parts of the building throughout the day.

View of main entry showing coloured glass blades wrapping around the ceiling in the form of a tree canopy with tree trunk cladding panels beyond

WORLD HEALTH DESIGN

ARCHITECTURE | CULTURE | TECHNOLOGY

Reporting globally on developments in healthcare's built environment, WORLD HEALTH DESIGN is the only journal to bridge the gap between research and practice. Uniting opinion in architecture, design and clinical disciplines, each quarterly issue provides essential knowledge and insight for:

- Leading architects and designers
- National and local government officials
- Health planners and capital project consultants
- Public and private healthcare providers
- Senior estates and facilities managers
- Building construction and healthcare industries
- Universities and academic researchers

Save £30 off the cover price when you subscribe

> "The one magazine that I can't wait to get as soon as it is available!"

Kurt Wege, Associate,
Stantec Architecture, Canada

> "Absolutely fabulous! The articles are all of high substance, the projects are interesting and well-designed, the art direction and layout is superb and there are lots of colour photos."

Jain Malkin, Jain Malkin Co, USA

> "World Health Design has been warmly received by all my colleagues. Keeping health planners and architects happy with the same publication – you must be doing a lot right!"

Craig Dixon, Tribal Consulting, UK

> "WHD is the missing platform for all who share the same vision for healthcare design."

Dr Ruzica Bozovic-Stamenovic, School of Design and Environment, National University of Singapore, Singapore

Four times a year there's nothing like WORLD HEALTH DESIGN with..

- The latest scientific research
- Incisive comment and analysis
- Thought leadership interviews
- Health policy briefings
- Architectural project reviews
- International market reports
- Global technology updates
- Arts and culture reviews

Don't miss out!

SUBSCRIBE TODAY and SAVE £30 off the cover price!

12 month subscription – JUST £70.00
(single copy price: £25.00 per issue)

Subscribe online at
www.worldhealthdesign.com
or call: +44 (0) 1277 634176

Design & Health
International Academy for Design and Health
8 Weir Wynd, Billericay, Essex CM12 9QG

Subscription rates: Cover price: £25; Annual Individual: £70; Annual Team (5 copies): £230; Two Years Individual: £115; Two Years Team (5 copies): £395

The main street within the building is more than 100 metres long and 25 metres high. The upper levels will appear light and white, almost like clouds in the sky, while the lower levels will be more tactile and warm, faced with timber. This also denotes the separation between public areas (faced in timber) and private areas in white.

Textures used in finishes across the site were recovered from site investigations and frequently rendered ambiguous, so as to engage with children's imagination. Internal walls are perforated to provide visual interest, in keeping with the theme of blades, sunshades, bedrooms, facades and indeed nature itself. In addition to aesthetics, these perforations have important functions. Sections of perforated wall on each level allow air to be drawn from a labyrinth beneath the building, where air is naturally cooled, through ducts behind the perforated walls to cool areas. Warm air is expelled from the top of the building, enabling a natural cooling effect. The upper parts of the perforated walls and perforated roof areas are backed by absorbent felt, controlling the reverberation of noise in the space.

The shape of the doorways has been splayed like a tree trunk base, to give the main street a more child-friendly appearance and to again bring the park into the building. Windows float on the perforated walls, bearing resemblance to floating leaves. This natural pattern language is important to continue the theme of the building.

A large-scale art object will lead people in to the space and will be an important wayfinding device. The interest created by these objects can be used to draw people naturally through the building. A large suspended artwork is anticipated at a high level in the void above the 'street'. These large art objects will help break down the scale of the building as well as providing key attractions along the street. In addition, a 7.5 metre-high circular aquarium will be visible from both the main entrance and the emergency area, providing both visual distraction and wayfinding.

A staircase around the tubular tank will lead visitors from the main entrance down to the emergency area. Seating in the emergency area is currently planned to have the appearance of coral branches, with each coral curve providing a defined seating space for a family – extending the theme of nature, while also ensuring the area does not look institutional.

There are three courtyards that run through the middle of the day treatment areas. and waiting rooms are sited within the courtyard space. Within each waiting pod there are different coloured zones where patients and their families will be received and checked in, with the provision for waiting areas. Continuing the language of nature and healing, the forms of these areas are curved. Distinctive colours have been carried through walls and furniture to aid wayfinding.

Bedroom spaces have been designed to be much more passive, as befitting a place of respite and rest. Colours used are much lighter and cupboards – and en suites – have curved walls to soften appearances. Consistent, nature-based theming runs throughout the design.

The Royal Children's Hospital project is an actualisation of nurture through nature – and giving form to the vision has provided fresh insights into the creation of positive workplace settings for health professionals and family-friendly, child-focused, low-stress settings for those in need of care.

View of main street – a six storey volume with large scale bridge and balconies expressed as curved forms

Kristen Whittle is a director at Bates Smart in Melbourne, Australia

References

1. Kaplan, R; Kaplan, S. The experience of nature: A psychological perspective. New York. Cambridge University Press 1989.
2. Wilson E O. On Human Nature. Harvard University Press Revised Edition. 2004.

'• The Children's Health Partnership': The new RCH is being delivered as a Private Public Partnership by the Children's Health Partnership comprising Amber Infrastructure Group, Bovis Lend Lease and Spotless. Bates Smart in joint venture with Billard Leece Partnership and US based HKS provided all architecture and design services.

Business as usual?

Huge demands are being placed on healthcare infrastructure in the Middle East due to population growth alone. Across the region, there is a commitment to create healthcare systems underpinned by clinical and design excellence, reports ***Veronica Simpson***

While the boom years of Middle East's accelerated expansion are certainly over, the region is far from bust. Commercial development projects may have ground to a halt last year in Dubai after its economy nosedived so dramatically, but it is still a region keen to invest in 'world class' healthcare infrastructure to support rapid population growth. The major fly in the ointment for architects right now, as Harold Nesland, managing principal of HDR's international group, sees it, is the intense pressure being put on fees as many states renegotiate or re-evaluate existing contracts and lay out increasingly tough competition for future schemes. "To say they're 50% down would be a conservative estimate," he tells *World Health Design*. "There is still good work to be had" – HDR is active in Saudi Arabia, Abu Dhabi, Kuwait and Bahrain – "but the fees are so brutally low right now."

In the meantime, HDR is sitting pretty in terms of public relations. As designers of The Cleveland Clinic Abu Dhabi, dubbed 'a seven-star medical facility', it is rapidly becoming the benchmark project for both quality of design and service excellence. Unlike the many Harvard- or Cornell-linked projects in the Middle East which are usually renamed for some local philanthropist, The Cleveland Clinic proudly retains the name of the prestigious US institution. More to the point, it will be employing department heads, top physicians and consultants from the US clinic. "So you are getting a pretty powerful workforce that's being brought in from overseas and will make this a truly world-class facility," Nesland adds.

Plaza of the Bayt Abdullah Children's Hospice in Kuwait

But what prospects are there for international design consultants generally? Last year, Greg Chang, principal and director of healthcare at Ellerbe Beckett says: "The opportunities to build high-quality medical buildings of a variety of sizes and specialties are greater in the Middle East than anywhere else in the world right now."

Is this still true? Yes it is, according to Randy Edwards, Ellerbe Becket's managing director for Middle East, Europe and Asia. "The specialty hospital is still the trend," he says, as are the huge medical university hospitals, necessary for training and developing high-quality local medical staff to serve the accelerating healthcare infrastructure around the region. The University Hospital in Dubai is one such project, which Ellerbe Becket is involved in (featured in last year's *WHD* Middle East report in July 2009), now scheduled for completion in 2013.

University Hospital, the centrepiece of Dubai Health Care City's Mohammed Bin Rashid Al Maktoum Academic Medical Center

RTKL has recently won a clutch of projects in Saudi Arabia, including a 144-bed orthopaedic hospital, plus expansion work for the King Faisal Specialist Hospital in Jeddah and several masterplanning initiatives that should yield further design work. RTKL vice president Jeff Davenport comments: "Saudi Arabia is a bit different than the rest of the region. It hasn't really felt the pinch of the economic downturn."

Among RTKL's key assets here are its medical equipment and medical technology planning divisions. "That's been in great demand," he says. "There are a lot of synergies. We get involved with our clients doing strategic facility master plans, masterplanning of service delivery and equipment estimates."

The Cleveland Clinic Abu Dhabi

The Cleveland Clinic is aiming to create a whole new benchmark for the Middle East in terms of patient care, operational excellence and architecture. Managed and operated by the prestigious US clinic of the same name and drawing on the same expert, US-trained base of consultants and management staff, it has been designed by HDR to reflect the best of US clinical provision within a luxurious, culturally appropriate setting. The 364-bed hospital (with provision for expansion to 490 beds) has 361 ambulatory clinical exam rooms and offers 3,000 parking spaces. The facilities are designed 'village' style around a central, landscaped square. There are healing gardens inside and out and a design that reflects the geometric sophistication of traditional Arabic patterns, combined with the ease of wayfinding, ample use of natural light and clean lines typical of a contemporary clinic. Materials, however, are far from typical, with extensive use of marble, granite, diamond-patterned glass, onyx and wood.

The Cleveland Clinic Abu Dhabi

Project location: Sowwah Island, Abu Dhabi, United Arab Emirates
Architect: HDR
Building area: 415,000sqm
Total site area: 93,566sqm
Cost: confidential
Schedule: construction started January 2008, with completion set for December 2012
MEP: Ted Jacobs Engineering Group (Oakland, CA)
Civil engineering: HDR

Hospital Build Congress in Asia and the Middle East is your ultimate networking arena, share and discuss your ideas and opportunities with thousands of attendees

Invest | Plan | Design | Build | Operate | Manage | Refurbish

Why YOU should attend Hospital Build Congress:

Be the market leader

Choose from over 100 sessions presented by industry experts from Asia, Europe, Middle East and the United States to gain knowledge on how to strengthen your market position and how to become the market leader.

Reduce cost & increase profit

Industry experts will share their in-depth knowledge on how IT infrastructures, new technologies in Surgery and Imaging and Diagnostics management, the management of your workforce and the upkeep of your facilities can assist you in reducing your cost and increasing your bottom line.

Be prepared for the future

Connect with experts in the field of Investment & Finance and Accreditation to ensure a secure future for healthcare in the Middle East and Asia. Accreditation is seen as the tool of the future to attract patients, employees and investors.

Book your conference place today

For Hospital Build Asia
Call +65 6319 2668
or register online www.hospitalbuildasia.com

For Hospital Build Middle East
Call +971 4 3365161
or register online www.hospitalbuild-me.com

HOSPITAL BUILD
ASIA
Exhibition & Congress 2010

11 – 13 May 2010
Marina Bay Sands
Singapore
hospitalbuild@iirx.com.sg
www.hospitalbuildasia.com

HOSPITAL BUILD
MIDDLE EAST
Exhibition & Congress 2010

1 – 3 June 2010
Dubai International Exhibition Centre
United Arab Emirates
hospitalbuild@iirme.com
www.hospitalbuild-me.com

The expansion of the American Hospital in Dubai includes a new main entrance and public atrium

With so many medical facilities being built from scratch, it is particularly important that the equipment is properly planned and budgeted for, as it can amount to half the cost of construction. The design team can then ensure that equipment is properly located, installed and connected in appropriate spaces to dovetail with medical, operational and technological systems, so the client has a completely integrated facility. "Our designers and consultants can stay with the process right through to the end," Davenport explains. "We've been involved in a large expansion project with King Saud Bin Abdul Aziz University for Health Sciences for the National Guard. Saudi Arabia has got some very good hospitals in the region. But it has one of the fastest growing populations in the world and, even by WHO standards, its bed provision per thousand of the population is far behind where it needs to be. So the king is committed to providing that service to the people of Saudi Arabia."

What they've done here is to push that social or cultural element to the fore, so that it's more accessible

Over in Kuwait, NBBJ has a slew of projects underway, fuelled by the emirate's careful and strategic building of top-quality healthcare facilities to serve its burgeoning population. NBBJ Partner AJ Montero says it is still very much a growing market and that the Middle East's predicted population growth curve is "off the charts". Iran, he says, has experienced population growths of around 50% in the last 10 years. "Seventy per cent of the population is under 35 years old. You have this tremendous young, vibrant population and they need jobs and education and an infrastructure that supports this growth in order to keep them here and maintain stability." In Kuwait, Montero points to a "strategy rooted in desire for social justice and cultural development; if we can, we'll be very happy to play an interesting part in that [evolution]."

On the cards at the moment for NBBJ are a medical university campus for Kuwait University (planned to accommodate 80,000 students, in a 1.3m sq ft site), a criminal investigation lab ("CSI Kuwait," quips Montero) and Harvard Medical School's facility in Dubai. In stark contrast to any year in the last decade or so, things are pretty quiet in Dubai. But while no new healthcare schemes are being commissioned, most of the ongoing projects that were stopped last year have recommenced. Says Montero: "A colleague of mine called me at 9am last week and said: 'The cranes are moving again, Dubai's crisis is over.'"

NBBJ recently finished a project in Dubai, in conjunction with prominent local development company Emaar, to site a luxury medical centre in one of the halls at the base of the prestigious Burj Dubai, now renamed Burj Khalifa, in gratitude to Sheikh Khalifa bin Zayed Al Nahyan, the emir of Abu Dhabi whose deep pockets are helping

Bayt Abdullah Children's Hospice, Kuwait

Client: Kuwait Association for the Care of Children (KACCH)
Architect: Alia Al Ghunaim
Interior architecture and design: NBBJ
Cost: KD8m (approx $30m US)
Area: 155,000 sq ft (14,400 sqm)
Schedule: opening late summer 2010
Landscape architect and engineer: Gulf Consult
General contractor: Al-Ahmadia
Kuwait University professor/advisor and consultant: Michael Cassidy

Bayt Abdullah Children's Hospice, Kuwait

The brainchild of architecture graduate student Alia Ghunaim and the Kuwait Association for the Care of Children (KACCH)'s director and founder, Dr Hilal Al Sayer and his wife Margaret, the Bayt Abdullah Children's Hospice provides an uplifting, child-friendly universe with state-of-the-art medical care and comfortable family accommodation for children facing their last months or days of life. The three-storey building includes a mixture of chalets and family room accommodation, day care facilities, an auditorium, library, hydrotherapy and gymnasium, school and pottery studio. Sensory rooms are used for counselling and therapy, and it has outdoor and indoor sensory gardens and even a ferris wheel.

NBBJ, responsible for interiors, graphics and signage, lighting design and furniture, has been able to realise a wraparound interior universe that is vibrant, playful and child-scaled, from the low-level seating in all areas to the fantasy fibre-optic light fittings and wall alcoves provided for play or storage found in public areas and bedrooms. Materials are high quality, cost-effective and long lasting. Flooring is tough, commercial-standard rubber sheeting; corian is used for counter tops; walls are Armourcoat; and there is maple cabinetry and millwork. Creative lighting as well as natural daylight, wherever possible, provides an airy, inviting atmosphere.

Dr Hilal Al Sayer says: "Bayt Abdullah will be a part of a continuum of care for children with life-limiting conditions and their families which will include home care, day care, inpatient crisis management and residential respite for the whole family. This facility will celebrate the life a child has left to live, and when the inevitable occurs, we will have empowered these families to go into the world with peaceful and dignified memories."

to restore Dubai's fragile economy (not a small price to extract, considering the prestige Dubai felt it had won through building the world's tallest tower). "It is a very sophisticated clinical environment," says Montero. The Dubai Mall Medical Center was completed last year, with NBBJ responsible for interior design. Pitched at an appropriately opulent level to serve the luxury hotel, retail and office population around it, Montero says, it is typical of the region's clinical and medical innovation. "They have gone one step further in understanding access to healthcare," he comments. "They always question the normative conditions that we have grown up with in the West, with our out-of-town medical districts. What they've done here is to push that social or cultural element to the fore, so that it's more accessible."

There is still good work to be had, but the fees are so brutally low right now

All of which would bear out Montero's opinion that the view of the Middle East from Europe or the US is often negatively filtered through the issues of politics. "For the most part, it's a wonderful vibrant area and people are always innovating and wanting to do the right thing. One of the things they are super concerned about is providing good healthcare for their citizens," he says.

One outstanding project that bears testimony to this motivation is the Bayt Abdullah Children's Hospice, currently nearing completion, with interior design by NBBJ. Developed by the Kuwait Association for the Care of Children (KACCH), under its president Dr Hilal Al Sayer and his wife, founder and director Margaret Al Sayer, Bayt Abdullah provides a state-of-the-art facility for children and their families as they deal with the traumatic final months of the children's lives. It is the largest inpatient healthcare facility in the world dedicated to terminally ill children. Furthermore, its services will be provided free of charge.

Dr Hilal Al Sayer, who was recently elected Minister of Health for Kuwait, says: "Most sick children respond well to the excellent medical care they receive in Kuwait's hospitals and return home cured and able to resume normal childhood activities. However a small group of children are born with conditions for which there are currently no cures, or develop conditions which do not respond to treatment. These conditions are known as life-limiting and life-threatening conditions. KACCH with the support of the Government of Kuwait, international experts and the Ministry of Health has developed plans to provide a fully comprehensive paediatric palliative service in Kuwait to meet the complex needs of children and their families whose conditions have progressed beyond curative treatment."

Lisa Baker, NBBJ principal and lead interior designer on the project elaborates: "Dr Hilal and Margaret had a young graduate architecture student, Alia Al Ghunaim, do a thesis on paediatric hospitals and her thesis and concept design inspired the project." They approached NBBJ around three years ago to help realise their vision. "It's a pretty exciting project," says Baker. "There are only a couple of freestanding children's hospices in the world." The scheme uses a lavish palette of bright colours. "Children have a much better radar for bright colours and this is universal, no matter where they live," Baker adds.

The architectural scheme they were presented with was a mixture of long curves and triangles, and NBBJ has echoed this with a dominant motif inspired by Kuwait's pearl-fishing past. Curves and circles predominate, mixed in with squares and triangles, in what Baker describes as "building-block geometry". The feel is modern, clean-lined and simple.

Abu Dhabi is, meanwhile, proceeding smoothly along its projected schedule for the emirate's visionary '2030 plan', which will see schools, colleges, hospital beds and housing provision practically double within the next few years. NBBJ's Montero says he has observed a lot of infrastructure investment in healthcare there.

BDP has just set up a permanent office in Abu Dhabi, merging operations with locally-based firm SYNA. BDP-SYNA managing director Nadine Nackasha confirms the long-term, big-picture thinking that typifies this country. It is, for example, one of the few Middle East states that remains committed to sustainability issues, despite recessionary pressures. She says: "They have

The Cleveland Clinic in Dubai is seen as a benchmark for design and service excellence

Perkins Eastman
INTERNATIONAL

115 FIFTH AVENUE
NEW YORK, NY 10003
212.353.7200
info@perkinseastman.com
WWW.PERKINSEASTMAN.COM

Perkins Eastman Black

Arlington
Boston
Charlotte
Chicago
Dubai
Guayaquil
Mumbai
New York
Oakland
Pittsburgh
Shanghai
Stamford
Toronto

Images: Trillium Health Centre - West Toronto Site, Toronto, Ontario, Canada

American Hospital Dubai, Hospital Main Building, Dubai, UAE

Client: American Hospital Dubai (AHD)
Design architects & medical planning: Ellerbe Becket
Interior designer: Ellerbe Becket
Architects of record: Arif & Bintoak
Size: 266,000 sq ft (24,712 sqm)
Cost: Confidential per client request
Completion: 2010

American Hospital Dubai, Hospital Main Building

American Hospital Dubai is the first hospital in the Middle East to be accredited by the Joint Commission International Accreditation (JCIA), a subsidiary of the US-based Joint Commission on Accreditation of Healthcare Organizations (JCAHO). Over the past decade, the organisation has experienced a growing increase in patient volumes in both outpatient and inpatient services, and this increase in demand has placed growing pressure on facilities and medical staff which required an expansion to the hospital. Ellerbe Becket was retained to design a 266,000 sq ft (24,712 sqm) bed tower expansion that more than doubles the bed count of the existing facility and completes the hospital development. Located on the site of a former surface parking area, the major addition will connect to the rest of the hospital and include more than 200 all-private universal patient rooms, which include medical/surgical rooms, VIP and royal patient rooms, a new main entrance and public atrium, a new admissions department and underground parking.

brought in IRENA, the International Renewable Energy Agency to site its regional office in Abu Dhabi. And they are the first Middle Eastern country to be making an attempt at creating its own benchmarking system for sustainability, called 'Estidama', which means sustainability in Arabic."

Elsewhere, sustainability has slipped down the priority list, according to Randy Edwards: "People are now backing away from [sustainable] commitments. I do think that the desire is still there, but financially I think [the recession] is going to affect programmes."

What will stand the region in good stead, regardless of economic fortunes, is the degree of flexibility that has usually been planned into medical buildings – sustainability of a lifespan kind. Says Edwards: "Most of the hospitals we have done here are designed around modular, flexible frameworks so that change of use is facilitated – a room can change from operating room, to lab to clinic. It gives a building a much longer life cycle."

HDR's Nesland thinks there is a higher level of care for good design now. He thinks standards – as well as an understanding of the role that design can play – have improved in the last three years. "They are not only looking for functionality and efficient operations but it's also about quality of design," he says. "There's a higher priority given to image. Even though they have moved into recession, they are still looking at how to get the Cleveland Clinic look on a budget."

Veronica Simpson is an architectural writer

Mind over matter

Stigmatisation and a lack of funding have put mental health low on the priority list for many nations. But global initiatives and advances in the design of mental health facilities are beginning to break those barriers. ***Kathleen Armstrong*** reports

Mental health is an area that has often been ignored and is little understood. It comes low on the priority list of many countries' agendas and the conditions in which those who suffer from its afflictions are often less than desirable. According to the World Health Organization (WHO), more than 75% of those who suffer from mental health disorders receive no treatment or care. To change the situation, in 2008 the WHO launched the Mental Health Gap Programme to try to 'scale up' services and funding for mental health. "Governments across the world need to see mental health as a vital component of primary healthcare," said WHO director general Dr Margaret Chan, launching the programme. "We need to change policy and practice. Only then can we get the essential mental health services to the tens of millions in need."

A 2002 study by the WHO Regional Office for Africa revealed that in the majority of countries in Africa, less than 2% of health funds are spent on mental health. Resources are scarce and the demands are great with the prevalence of HIV/AIDS, infectious diseases such as typhoid and yellow fever and health issues caused by poverty and lack of medical care.

UK architectural consultant John Wells-Thorpe has done a lot of work in the region and says mental health is a "long way down the priority list". A few years ago, he visited a mental health facility in Ghana which he said was "like a penal settlement with minimal intervention. Patients were washed and fed twice a day but kept confined", he says. And that was where they stayed. Wells-Thorpe was told that their families often would not take them back even if they got better. The mental health department used a motorcycle three days a week to visit patients across the whole country. However, the WHO is working with countries in the region to try to improve the situation.

The Pan American Health Organization (PAHO) is also working to improve access to mental health care in the Americas. In Latin America, as in Africa, less than 2% of the healthcare budget is spent on mental health disorders. Funds are often spent on psychiatric hospitals but Dr Jorge Rodriguez, PAHO's senior advisor on mental health says mental health services should be integrated into primary care, enabling patients to remain with their families, as well as helping to minimise stigma and discrimination. The integration of mental health into primary care forms a focus of PAHO's Regional Action Plan for Mental Health which was launched in September 2009.

Architect Mike Nightingale, from Nightingale Associates in the UK, believes there is opportunity for both the developed and developing world to learn from each other. The development of smaller mental health units in the UK, Canada and the US, for example, could easily be transferred to developing countries. And the use of motorcycles to visit mental health patients may provide a cost-effective mode in developed countries. Nightingale has worked on over 100 mental health

Box Hill Adolescent Mental Health Unit was designed with curved roofs, cream block work and large expanses of glazing

Bright colours were used to provide positive stimuli from the environment at the Mental Health Services for Kids and Youth at the Western Hospital in Melbourne

projects over a span of about 20 years. The challenges are great but he has seen progress. In Japan, for example, he says mental health facilities were not so good about 10 years ago, but when he went back a few years later, they had improved immensely. "I would like to see some of their facilities here," he says, commenting on their use of roof gardens and how robots are used to monitor patients with dementia.

The Asia-Pacific Community Mental Health Project (APCMHP) is also working to improve mental health care. With support from the WHO Asia-Pacific Region, representatives from 14 participating countries, including Australia, China, Japan and India, are working to share best practice and find ways to improve the delivery of mental health services.

In China, the National Institute for Mental Health estimates that 16 million people suffer from psychotic disorders and 50-70% of them go untreated. In 2004, according to a recent APCMHP report, there were 565 psychiatric hospitals, 499 psychiatric departments in general hospitals and 57 mental health stations and 19 mental health clinics. In December 2004, the Chinese government launched the '686 Programme', establishing community mental health services throughout the country – one urban and one rural in each of the 30 provinces. "As a result of this programme, more local officials pay attention to mental health issues and psychiatric hospitals now consider integrated prevention and comprehensive treatment," the report said.

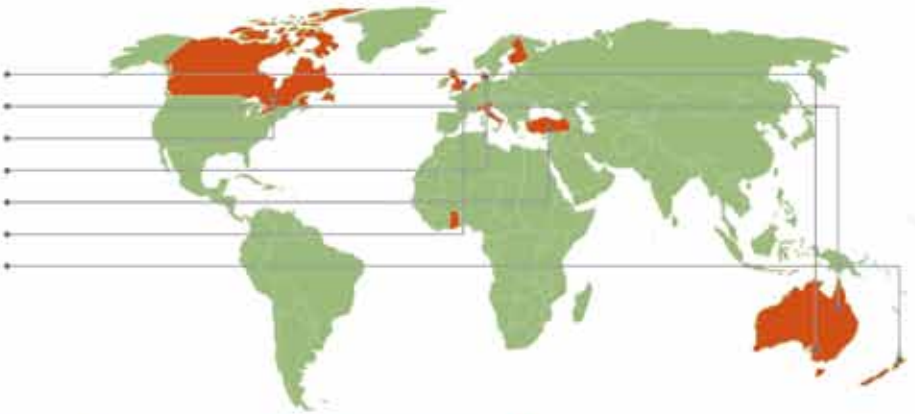
In Australia, there is also a push to update healthcare facilities around the country and mental health is high on the agenda. Kerry Ross from Savills says the focus is not just on updating current facilities but also on increasing the provision of services for the elderly (in New South Wales (NSW), part of the state's Specialist Mental Health Services for Older People (SMHSOP) strategy), building facilities for child and adolescent services – and community services. Ross has worked on a range of projects in NSW, including the recently completed mental health facilities in Orange in the Central West of

Medical Architecture

maap

Wandsworth Recovery Centre, UK

Australia, Adelaide	mental healthcare facilities
Australia, Queensland	masterplanning consultants
Canada, Toronto	mental healthcare consultants
Denmark, Skejby	acute hospital competition
Turkey, Bakirkoy	mental healthcare consultants
UK, Middlesbrough	mental healthcare facilities
New Zealand, Waikato	masterplanning feasibility study



www.medical-architecture.com

MAAP are engaged in planning and designing facilities for leading healthcare providers worldwide. Our approach brings professionalism and skill and knowledge to the design of healthcare environments. With over 20 years experience we collaborate with a network of consultants to draw on the latest thinking and international best practice as well as our research to deliver high quality and effective medical architecture.

the state, and the expansion of mental health services at Nepean Hospital in Penrith, on the western edge of Sydney. The Nepean development aims to consolidate primary and community care services with mental health services. Located on the acute hospital site, the mental health facilities will be laid out over two levels and include SMHSOP, high dependency and adult services. Catering to a culturally diverse population, the facility will provide a range of community services, with office space for home visitors, activities for those receiving day treatment and the number of inpatient beds will be expanded from 34 to 69. Secure courtyards will allow access to the outdoors. There will also be spaces for children to play, while on family visits, without impacting on patients and other visitors.

The challenge in all of this is to achieve the right balance between privacy and dignity

Emerging trends in design

In Victoria, architects Silver Thomas Hanley (STH) have just finished working on three projects in and around the Melbourne area. The 12-bed Box Hill Adolescent Mental Health Unit was designed with curved roofs, cream block work and large expanses of glazing to create a positive, reassuring and welcoming environment for residents, with colours sympathetic to its suburban streetscape. The project was the first in the state to use displacement ventilation in bedrooms. The Maroondah Mental Health Unit on the eastern outskirts of Melbourne is laid out in a hub-and-spoke design with two 25-bed inpatient units and sits next to the acute hospital. A mixture of textures and materials were used in the design of the building to provide a contemporary feel. An earlier project the team worked on was the MHSKY (Mental Health Services for Kids and Youth) at Western Hospital in Melbourne, incorporating a 12-bed adolescent wing for children aged 12–18 and a separate 16-bed unit for youth over 18. A common theme in all of these projects has been the selected use of bright colours. "If you are depressed, you don't want to look at pale colours," explains STH director Aija Thomas.

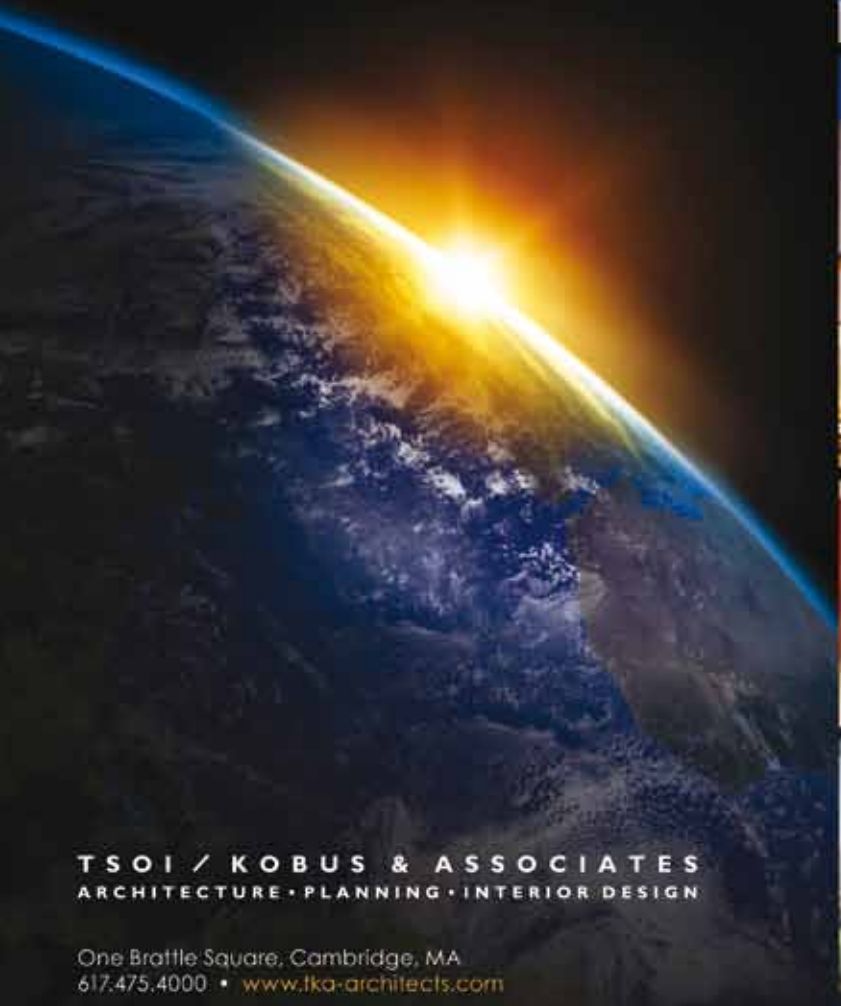
UK-based MAAP Architects are also known for their work in the mental health sector and have worked on projects around the world, including Australia, Canada, eastern Europe and the UK. Director Chris Shaw says there are some emerging trends common across all countries, which present

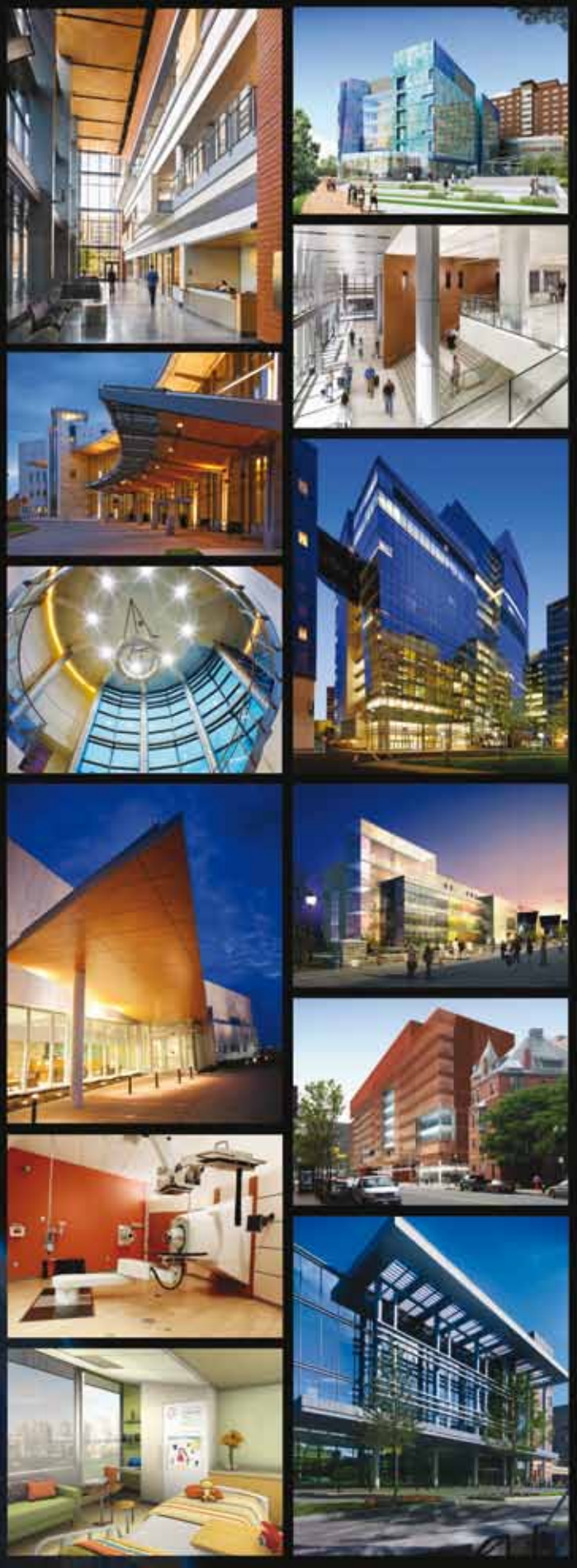
The contemporary styled Maroondah Mental Health Unit in Melbourne

A World of Experience

Since our founding more than 25 years ago, **Tsoi/Kobus & Associates** has planned and designed more than 10 million square feet for healthcare organizations, including academic medical centers, healthcare systems, proton therapy centers, specialty clinics, and community hospitals. We are a world leader in healthcare design and have been named a "Global Giant" by *Architecture* magazine.

With an approach that is innovative and pragmatic, we create spaces that support the delivery of compassionate healthcare, that accelerate discovery, and that enhance the quality of human interaction.





TSOI / KOBUS & ASSOCIATES
ARCHITECTURE • PLANNING • INTERIOR DESIGN

One Brattle Square, Cambridge, MA
617.475.4000 • www.tka-architects.com

Broadway Malyan's award-winning design for Woodhaven Mental Health Unit, UK

A sense of neighbourhood was at the heart of the design for the Centre for Addiction and Mental Health (CAMH) in Toronto, Canada

systems design challenges to architects and healthcare providers alike. These include the ageing population and the increasing prevalence of early onset dementia in younger people. Shaw says the point of admission for a mental health patient is also a point of trauma and therefore needs care and attention. Well-designed circulation spaces are also key, as they become a point of social contact and therapy. Outside space also becomes a usable functional room in which therapy can take place. But it is essential to ensure that facilities provide a safe and secure environment for patients, staff and visitors. The challenge in all this is to achieve the right balance between privacy and dignity.

MAAP is currently working on Woodland View, a 40-bed child and adolescent unit in Pridder in north England which will provide specialist mental health services to children aged 8–18. It recently completed a 312-bed facility in Middlesbrough which provides a range of mental health services including forensic, child and adolescent, older adults and learning disabilities – and will be a "model of integrated care", Shaw says.

Involving staff and patients

Mental health nurse Joe Forster believes that the involvement of staff and patients in the design of a mental health facility is essential to ensure that it meets their needs. Forster's first involvement was when the facility in which he worked in Mersey Care NHS Trust was being refurbished. Clinical staff from the Rathbone Low Secure Unit became involved in the design from the beginning, visited other sites to see what worked and what did not and, as a result, he says, the facility now works well. Staff feel ownership of the final solution as they were involved in the design.

New mental health facilities were recently completed at Orange Hospital in New South Wales, Australia

Rather than write a shopping list, Forster advises, it is important to examine what is needed for a particular facility. Staff at Rathbone worked with subcontractors to develop solutions when they couldn't find what they wanted on the market. One of these was finding a solution for natural ventilation. Forster says windows in previous buildings had small, high windows with no real access to fresh air. The team worked with manufacturer Britplas who developed the SafeVent window which slides open and has a stainless mesh which allows ventilation but is secure. "We want people to have control over their environment," Forster says.

Chris Liddle from HLM Architects says that strengthening and maintaining links with the community is one of the biggest trends in mental health at the moment, building a space that prepares patients for returning to the community, as well as helping to reduce the stigma associated with mental health.

O.L.V. HOSPITAL in Aalst, Belgium | delivery spring '09

MILITARY HOSPITAL in Brussels, Belgium | European Reference Center for Burns treatment | delivery autumn '09

v AZ SINT-JAN HOSPITAL in Bruges, Belgium | General Hospital | delivery summer '09

^ PEDIATRIC HOSPITAL in Nha Trang, Vietnam | competition won winter '09

VK STUDIO
Architects, Planners
& Designers

Brugsesteenweg 210
8800 Roeselare
Belgium

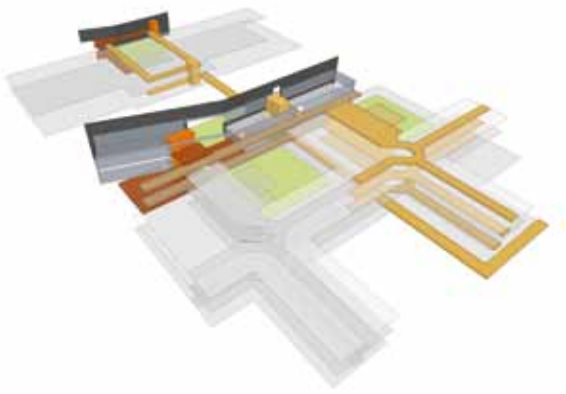
T +32 51 26 20 30
F +32 51 26 20 21
E vks-roe@vkgroup.be
W www.vkgroup.be

"At Bethlem [an 89-bed medium secure unit in south London designed by HLM], we talked about the journey, penetrating a period of personal change through the space inside," Liddle says. "The building is part of the journey. You need to open up the opportunity of movement with levels of security that can be gradually stepped down as people move closer to being able to leave." Liddle says the design of Bethlem succeeded because the designers worked closely with the clinical specialists who worked in the unit, sticking closely to the clinical brief.

Closer integration with the community not only helps patients reintegrate as they progress out of the unit but it also helps break down the barriers for mental health. "People don't understand how to deal with mental health disorder," Liddle says. "Community-facing approaches can help young people understand mental health issues."

Broadway Malyan is another UK firm that spends time looking for solutions that work for mental health units. It even has its own design unit which has developed prototypes for anti-ligature door handles, bathroom fittings and other fixtures. It has also designed award-winning mental health units, including Woodhaven Mental Health Unit in Hampshire which won the Building Better Healthcare Award as best designed mental health project in 2004. Another project designed by Broadway Malyan is Horton Haven, a mental health facility in Surrey. The development includes the remodelling of two Victorian villas, comprising 30 beds in total. In a conservation area, the villas are linked by a building with meeting rooms and a landscaped terrace which provides a calm space for both patients and visitors.

The Pima County mental health centre was Designed to create a non-institutional environment, including a skygarden



The circulation system at Pima County includes a seperate system for staff

Non-institutional

In the US, the new mental health centre in Pima County, Arizona has also been designed so that it doesn't feel institutional. The multi-level facility lies adjacent to the hospital and is made up of two buildings – the Behavioural Health Pavilion and the Crisis Response Center. The Behavioural Health Pavilion has 96 inpatient beds, outpatient beds and an integrated courtroom has been included in the complex for patients who enter the hospital through the court system. The Crisis Response Center includes crisis assessment and a stabilisation unit for both youth and adults. The facility has a complex circulation system, with a completely separate circulation system for staff.

Canadian architects Montgomery Sisam are working on several new mental health facilities in Ontario, Canada, including Homewood, a centre for addictions in Guelph. The development, set on a river and hillside, will involve the development of new buildings while preserving existing 19th century buildings.

However, it is its redevelopment of the Centre for Addiction and Mental Health (CAMH) in Toronto that is drawing attention. It aims to create an 'urban village' with residential dwellings that have street addresses, shops and open spaces to help de-institutionalise the site and create a sense of normalcy, says architect Terry Montgomery. The design includes clusters of small units with 6-8 residents (in some cases going up to 12) with terraces on the upper levels for outdoor access and to bring in natural light. As patients get more privileges, they can go out to access shops, cafes and outdoor spaces. Montgomery says it will also encourage families to visit. "In CAMH we are trying to create a real sense of neighbourhood, not one that is contrived," Montgomery adds.

CAMH was the winner of the 2009 Design and Health Academy Award for Best Mental Health Design.

Kathleen Armstrong is a healthcare writer

ANSHEN+ALLEN

Boston | Columbus | London | San Francisco

www.anshen.com • info@anshen.com • info@anshen.co.uk

A new international symposium exploring the role of design in improving the quality of patient environments to support the healing process and underpin the nursing care philosophy launches in May, reports ***Jim Benham***

Does one size **fit all?**

Now and into the future, patients will chose hospitals and healthcare settings not only for the best clinical services available, but to satisfy their expectations for welcoming, healing environments in which safety, dignity and personal comfort are decisive factors.

It is well established internationally that the recovery of patients in hospitals and care settings is affected by their experience of the environment that surrounds them.

Research studies from around the world indicate, however, that the quality of the designed environment influences patient recovery in far more significant ways than we had previously imagined, suggesting that the patient's perception of their environment influences their response to nursing care, medication and their overall hospital experience.

Patient perceptions of care

The theory of salutogenesis provides an understanding of how coping may be created and through the quality of the environment can improve perceptions of the care patients receive. Providing positive distractions and stimuli through the environment is critical to support the healing process. The debate concerning the most appropriate design for the accommodation of patients in health and care settings is a common and controversial issue in the developed world. Despite several studies by researchers and architects, there is limited credible research that gives consideration to the full array of factors that influence the healing process of patients.

Wellness factors

In recent times, political agendas and health perspectives have focused on making design recommendations that help to reduce risk and error which, whilst important, highly reflect the pathogenic approach of the healthcare and pharmaceutical industry.

Clinical practice focuses on treating illness, yet there's a raft of research to suggest that the quality of the patient environment has an important role to play, by emphasising on wellness factors and providing the environmental conditions for an enhanced sense of control and safety.

Delegates are invited to Patient Environments by Design 2010 to explore the latest international research and practice. To register, visit www.designandhealth.com

Jim Benham is marketing director of the International Academy for Design & Health

Patient Environments by Design 2010
Designing Environments to Enhance Patient Care
An International Symposium & Poster Exhibition

Venue: Arup, Central London
Date: 28 May, 2010
www.designandhealth.com

Patient Environments by Design is an international symposium and poster exhibition organised by the International Academy for Design & Health. The event aims to explore, debate and hear expert opinion, current thinking and future trends in environmental design aimed at improving patient recovery within hospital and care settings.

Nursing and care professionals, architects, designers, health planners, estates managers, psychologists, economists, researchers and health scientists will be actively encouraged to participate in:

- Examining the latest research & practice in patient room and nurse station design
- Discovering optimum ward configurations for safety, dignity, efficiency and comfort
- Learning about innovative new product designs and advances in medical and information technology
- Developing the evidence-base for the therapeutic role of art in the healing environment
- Understanding the perspectives of nurses and patients
- Finding solutions for retro-fitting and modernisation
- Evaluating different models of care
- Learning from international projects and comparisons
- Assessing new and established health and care theories


Christine Hancock, C3 (Collaborating for Health), UK


Dr Debajyoti Pati, HKS, USA


Marte Lauvsnes, SINTEF, Norway


Upali Nanda, American Art Resources, USA

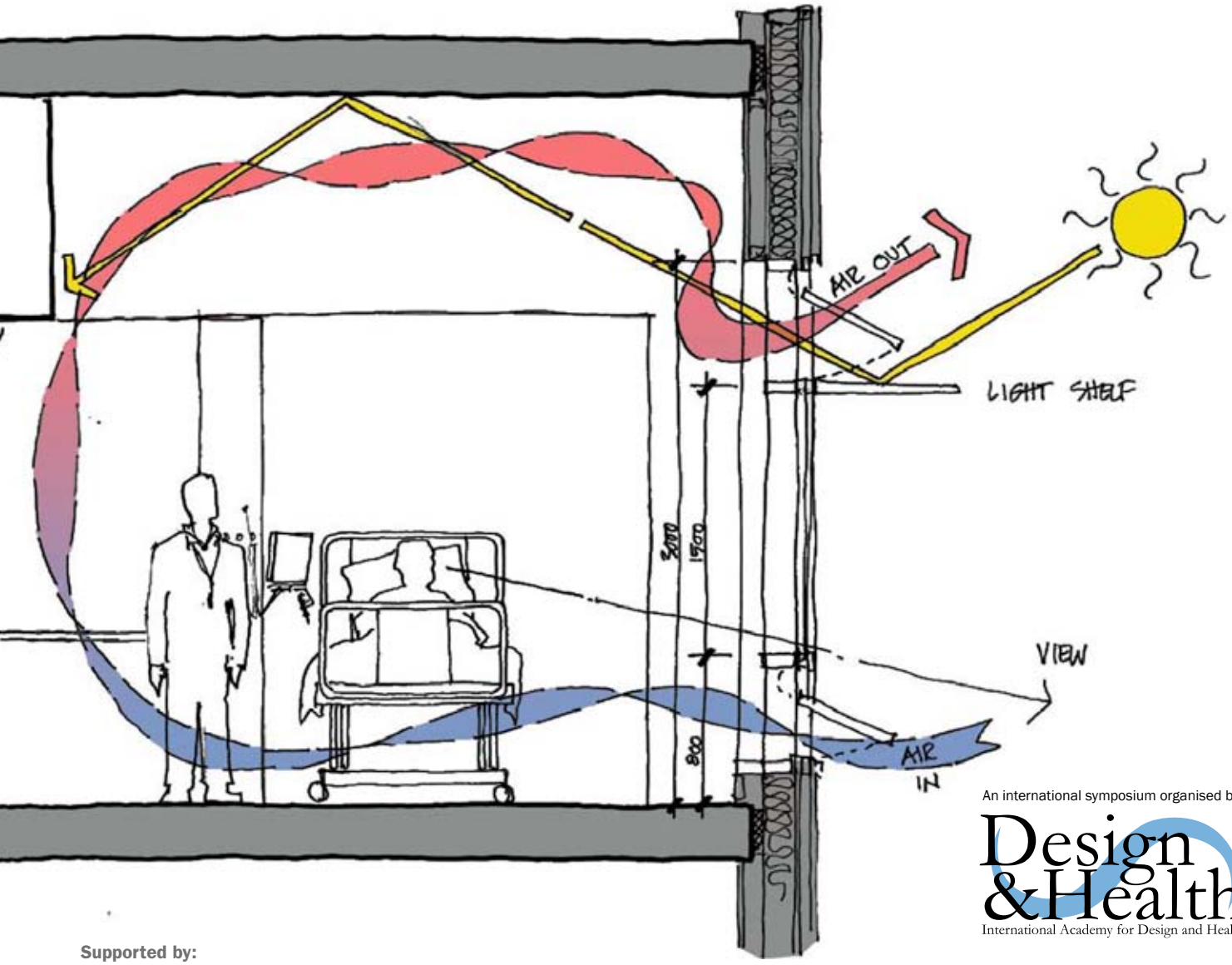
For more information or to register visit www.designandhealth.com

PATIENT ENVIRONMENTS BY DESIGN 2010

28 May
ARUP, Central London

Designing environments to enhance patient care

An international symposium exploring the role of design in improving the quality of patient environments to support the healing process, stimulate wellbeing and underpin the nursing care philosophy



An international symposium organised by

Design & Health
International Academy for Design and Health

Supported by:

NHS National Patient Safety Agency
ARUP
Architects for Health
helen hamlyn centre

Media partner

WORLD HEALTH DESIGN
ARCHITECTURE | CULTURE | TECHNOLOGY

Design for dignity

As the UK's Department for Health, in collaboration with the Design Council, launch the 'Design for Patient Dignity' programme, ***Colum Menzies Lowe*** examines what patient dignity means

There is a slight problem when writing an article on patient dignity and that is defining it. Although the Department of Health knows patient dignity to be important, there seems to be no clarity about what dignity is and what standards for dignity should look like. It did, however, survey patients and found that their main concerns were relatively straightforward:

- It is difficult to make a complaint.
- They are not listened to.
- They do no have enough privacy when receiving care.
- There is not enough assistance to eat meals.
- There is insufficient access to toilets.
- They are not addressed appropriately by care staff
- It is hard for them to maintain a respectable appearance
- Mixed-sex facilities make them feel uncomfortable
- Stimulating activities and a sense of purpose are absent
- There are communication issues between staff and patients due to language skills.
- There is insufficient or lack of access to advocacy services.

For me, this list struck a chord with my own experiences in healthcare, both as a patient and visitor and as an ex-employee of the NHS (I was once head of design at the National Patient Safety Agency). The NHS excels clinically at making ill people better, but when it comes to dealing with the whole patient – not just a condition but also a human being with fears and phobias and pride and ego – it falls a little short. Conscious that healthcare may lead to an endangering of human dignity European law protects patients' rights to be respected as individuals and to be treated with dignity. When they enter healthcare, patients do not check in these rights at reception; they have paid, through their taxes and mine, for the right to healthcare, and consequently should be treated as well as any customer of any service, public or private. It is one of the NHS's greatest failings that it does not consistently deliver on this rather basic premise.

We all understand the pressures on modern day healthcare – target follows target, initiative follows initiative on a never ending conveyor belt of change, coupled with a permanent downward pressure on costs. It's no wonder frontline staff feel as if they have to rush from pillar to post never having enough time or resource to provide the sort of care they know they are capable of, the sort they trained for and entered the service for. If something has to give, surely it's reasonable that it's the little niceties.

It is an inconvenient truth that almost two-thirds of nurses admit that their patients are not always treated with proper dignity. There seems to not always be the time to explain fully, calmly and politely what is happening to them and what to expect, to listen to concerns and to consider feelings. There is not always enough money to have single rooms for all those that need or want them or even to have gowns with backs – all that extra material would cost the NHS a fortune!

However, for me, the most important reason for promoting patient dignity is not because it is a patient's legal right, not because at a time of heightened stress and anxiety a patient needs even more reassurance and consideration than normal, not because of the growing link between patient wellbeing and clinical outcomes, and not even because it is simply the right and decent thing to do.

Ultimately, patient dignity is important because it focuses our attention on the patient

Ultimately, patient dignity is important because it focuses our attention on the patient. It forces us as designers, commissioners and healthcare practitioners to consider their needs, wants and demands as they pass through the healthcare system – not as widgets on a production line but as human beings. It forces us to remember the very basic principle that healthcare only exists for the benefit of patients and any system should be designed with them at the heart of it.

And surely healthcare can only be the better for that.

Colum Menzies Lowe is founder of *being* and a design advisor

The UK Department of Health and the Design Council have joined forces in the 'Design for Patient Dignity' programme to develop a range of innovative solutions that will help to improve the hospital environment and help organise care around patients' needs and expectations

Innovations for dignity

In the run-up to the Patient Environments by Design 2010 symposium (see p51), WHD previews the product designs developed by seven teams of designers, architects and manufacturers and selected by a panel of experts to be taken forward for further development. as part of the Design for Patient Dignity challenge. The aim is to start introducing the products into hospitals in the UK in early 2011.

One size fits all

Fashion designer Ben de Lisi has designed a 'one size fits all' solution to the draughty hospital gown. De Lisi's gown covers both the front and the back of the patient, opening instead at one shoulder and allowing nursing staff to attach IV lines and other equipment between press studs, without exposing the patient's skin. Because it is completely reversible, with a V-neck on one side and a round crew neck on the other, nurses can ensure that the sleeve with the press stud opening is nearest to the relevant medical equipment. Additional side panels can also be fitted to the gown for bariatric patients. "This project isn't about glamour; it's about wellbeing," de Lisi says. "This gown has to be hardworking and user-friendly and help clinicians do their job – without costing NHS trusts more money."

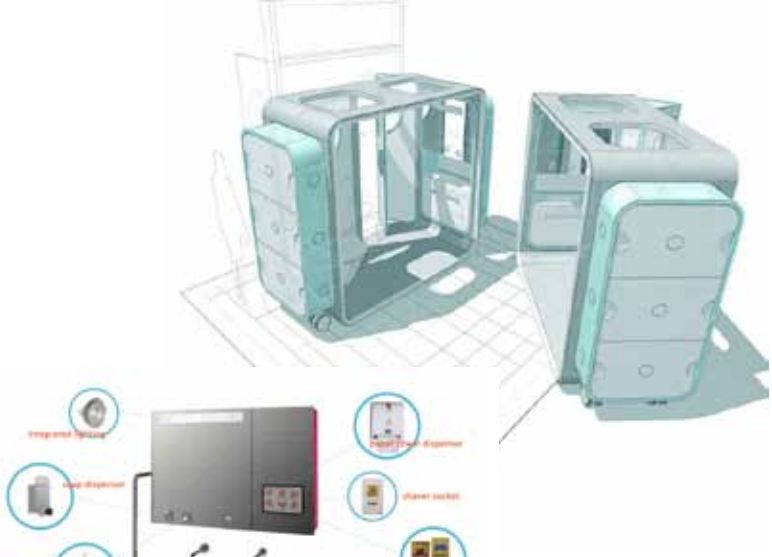
The Universal Gown will be supplied by Silvereed and is part of a new range of patient wear which will include pyjama bottoms and a wraparound fleece.

Full privacy

The Lightweight Screen designed by the Together Creative Collaboration and Anthony Dickens Studio, in partnership with supplier Suck UK, is a freestanding divider made out of rotation-moulded plastic panels which can be securely interlocked together to separate different areas of a ward or a single bed bay. The panels are easy to clean and can be stacked together for storage. Because they are not attached to ward walls, they can be easily installed without having to move patients from their beds.

The team also designed a second product, a plastic hook that clips onto the curtain rail to prevent the curtain from being drawn back past a certain point. Patients can use the Curtain Lock to determine how far they want their curtains drawn back, giving them more control over their environment, or staff can clip a series of curtains together to screen off larger areas of wards.

Mirror, mirror on the wall



The Smart Mirror, designed by Azhar Architecture and Slider Studio, in partnership with supplier Grant Westfield, reorganises the space around the washbasin into one prefabricated product that can be retrofitted into existing hospital toilets. It includes a large mirror, slimline wall-hung storage, integrated lighting, a shaver socket, a waste bin and a grab rail that can also be used to hang towels.

The design team also developed a prefabricated toilet and shower room, the Capsule Washroom, that plugs into the 240v electricity supply and, therefore, can be installed almost anywhere in the hospital. Water and sewerage are managed through a cartridge system similar to that used in boats and aeroplanes.

Behind the screen

The Royal College of Art Helen Hamlyn Centre team developed the Retractable Screen to help enable the provision of same-sex ward accommodation. Fixed to either side of the ward and suspended from the ceiling, the screen can be pulled out concertina-style to create a barrier across the ward. Because it is made from two layers of fabric, it is more substantial than a traditional curtain and feels like a partition when pulled taut. The screen can be pulled out to different lengths, enabling wards to be divided in a number of ways.

"We wanted something that patients perceived to be like a wall but that offered the flexibility of a curtain and was cheap and easy to store on the ward," commented Yusuf Mohammad, research associate at the Helen Hamlyn Centre.

Goodooga Community Housing Project,
New South Wales, Australia

Tseung Kwan O Hospital, Hong Kong, China

Princess Alexandra Hospital, Brisbane, Australia

Whether we are creating **comfortable** environments, **flexible** integrated building solutions or **sustainable** business packages, Arup add **value** to our global healthcare clients' whilst ensuring a high level of **quality** on which they can rely.

www.arup.com/healthcare

ARUP

Pillow talk

The Bed Pod, designed by Nightingale Associates and Billings Jackson Design, in partnership with supplier SAS International, features an individual modesty screen and a curved, perforated metal bed head and ceiling canopy which redirects sound waves onto the bed rather than across the room, helping to increase the privacy of patient-clinician conversations. and reduce noise in general in wards. The module also incorporates different lighting modes, as well as medical gases, power supplies, bedside grab rails and mountings for entertainment systems.

"We realised that if the necessary components which make up a complete bed environment, from medical gases and drip rails to lighting and a bedside locker, could be integrated into one product the procurement and installation could be substantially simplified," said Caroline Paradise, design research coordinator at Nightingale Associates.

Pod cast

The Avanti Architects-designed washroom pod provides a pre-manufactured bathroom that can be ordered off the peg for retrofitting into existing hospital buildings or new-build projects. Because it is constructed off site, it can be installed with minimal disruption to patients and clinicians. And it will help improve the provision of single-sex accommodation, because patients will no longer have to pass through areas accommodating the opposite sex when on their way to the bathroom. Although small and compact, it is also wheelchair accessible and has a power-operated, sensor-triggered acoustic sliding door, as well as a folding shower screen that attaches to the floor magnetically in order to minimise water spillage.

The Avanti Pod is produced in partnership with Yorkshire-based design and manufacturing company Panaloc. "We were determined to deliver a triple win: for clinicians, hospital accountants and, most of all, patients," said Mike Hutter, Panaloc's managing director.

Cover up

The Royal College of Art Helen Hamlyn Centre has designed two products that cater to the full range of patients and reduce the risk of physical exposure. The Inclusive Gown, which can be worn with the opening at the front or the back, has a waist tie that is fully replaceable – reducing waste as traditional gowns often have to be thrown away when the belt is damaged. A pocket on the inside of the gown is big enough to carry a catheter bag, while another on the outside can be used for the patient's personal belongings.

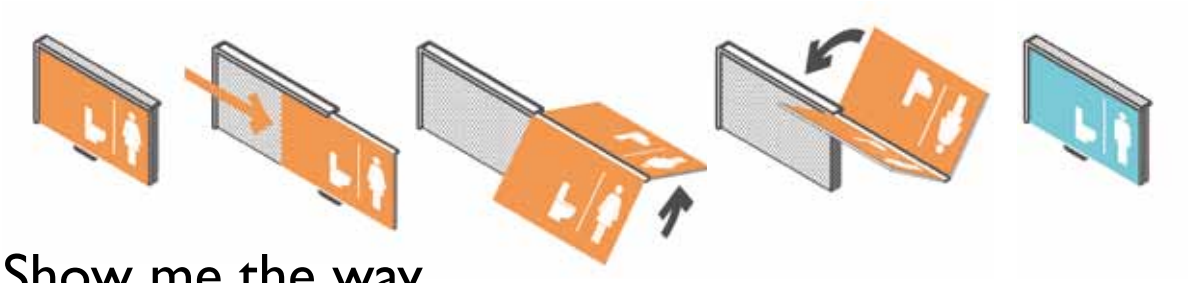
The ICU Cover has been designed for patients at critical care level 3 who are mostly unconscious and connected to equipment. Made from SMS fabric (alternate layers of spun-bonded and melt-bonded material), it includes perforations which allow staff to remove parts of the garment that are not needed or to quickly open it in an emergency. It is draped over the patient and attached around the arms and the neck using peel-off adhesive tabs.

NIGHTINGALE
associates

Shaping the future
of healthcare

www.nightingaleassociates.com

TRIBAL A part of Tribal



Show me the way

An easy-to-understand signage system also won kudos for the design specialists at the Royal College of Art Helen Hamlyn Centre. The signage system uses colours and icons to help improve their visibility and prevent confusion. The blue and orange signs can be attached to doors and walls and are lit at night so patients can see them when the lights are turned down. They have been designed to protrude above toilet doors and can also be used on wards to identify sleeping areas designated for men or women. The signs can easily be flipped over to change designation. They are then locked in place until they need to be changed again.

Need to know

Booklets supplied to patients prior to planned admission to hospital often contain too much information for a patient to take in. To address this, the Royal College of Art Helen Hamlyn Centre has come up with a range of proposals for providing information in a more user-centric way to patients, including a disposable paper-based table mat with key information about their stay, the use of on-screen bedside communications systems, mobile phones and online information accessible from home. To develop the solution, the team mapped how patients access information at different times, both in planned and unplanned admissions, and created an information hierarchy so the most important information is presented first.

Take a seat

"A hybrid between a bed and a chair" is how the Reclining Day Chair, designed by PearsonLloyd in partnership with supplier Kirton Healthcare, is described. The chair can be wheeled around the hospital and can sit in upright, reclining or forward tilt positions, according to patient preference or need – the forward tilt position, for example, makes it easier for the patient to get out of the chair.

The team also designed a lightweight screen divider, the Bay Screen, which is based on tent or kite technology. The 1.5m screens can be angled from side walls to create more privacy in short-term shared patient spaces.

A third product, the Poncho, helps to keep patients warm as they move around the hospital. Because it is sleeveless, it can be worn over a hospital gown, enabling staff to access patients more easily for treatment.

Tom Lloyd from Pearson Lloyd says: "Rather than work on one product, we chose to deliver a series of ideas that would work together or in isolation."

Without **evidence**, all you have are theories

Healthcare organizations acknowledge WHR Architects as a leader in evidence-based design.

WHR Architects is a full service architecture, planning and interior design firm focused on projects in healthcare, education, science and technology. We think of evidence-based design as an integral part of the knowledge-seeking design process. Combined with Genesis Planning LLC, our medical technology planning studio, we have continually pushed the boundaries of evidence-based design application. WHR strives to provide a process that substantiates design recommendations on the most dependable data available.
We create architecture with **people** in mind.






Learn more about WHR Architects
www.whrarchitects.com | **1.713.665.5665**

WHR ARCHITECTS
Architecture with People in Mind®

Design & Health
International Academy for Design and Health

Design & Health Scientific Review
Call to action: Careful reading and debate

Dr John Zeisel is chair of the international advisory board of the International Academy for Design & Health and president of Hearthstone Alzheimer Care

This journal invites contributions on design and design research, architecture and architectural theory, qualitative and quantitative research – all diverse areas each with its own preferred methods, criteria of quality, and definitions of what constitutes "theory." This diversity bridges the greatest barrier to interdisciplinary cooperation – the dreaded "research and design gap." If we adopt levels of quality that apply no matter what side of the gap we start from we will keep the gap bridged: what constitutes acceptable scholarship, what precision is expected of data analysis, what thoroughness of academic reference is anticipated, how much research is enough when assessing a design, and even how should the term "significance" be interpreted. Employing examples from this month's journal and previous issues to demonstate what is required, I cry out to every reader to stay vigilant and debate openly the data presented, the analyses put forward, and the results drawn in the articles. In Vol 2, No 1, I questioned data analysis in an excellent evaluation article of a Maggie Centre Cancer information centre in Scotland. The authors presented data that seemed to show users were critical of the environment, but which the authors summarised as reflecting a positive attitude. In Vol 2, No 2 the lead author and I exchanged a useful debate on data interpretation and on which theoretical framework to employ in such analysis. In this issue, Daykin and her colleagues present the results of an exhaustive multi-year study of users' responses to art and modernisation in a mental hospital. While I believe strongly that many of the authors' points – among them that participation in and control of one's own environmental design improves satisfaction with that environment, I find it hard to match the quotes with the data interpretation. I urge readers to carefully read the focus group quotes and compare these to the "data analysis" which follows. In the last issue an interesting article by Joarder, Price and Mourshed argued that views and daylight positively influence patient well-being. The article contains an egregious discrepancy between reported data and the analysis of these data – and I welcome correction and debate from these authors. The authors include a table showing 'statistical significance' that in no way matches the data, failing thereby to prove their point. We have to be as rigorous about the meaning of the term "statistical significance" used by engineers and designers as we would be by a statistician in a referred journal. And then there is the way authors from different disciplines argue their points. I agree completely in this issue with John Steven that a dry and quantitative interpretation of evidence-based design deadens the creative experience of designing a hospital. But I take exception with the view that "evidence-based design… relies on scientific methods to first deconstruct the environment of care and then measure … performance outcomes" and that "qualitative methods focused groups, surveys and recoded observations are less often acknowledged as credible evidence." I recall the 1960s and 70s when "environmental psychology" or "environment-behavior studies" were established and when edra, the Environmental Design Research Association was born. For over 40 years edra has been holding annual conferences on these themes and the methods Steven advocates. No matter how much I agree with Steven's points about research and creativity, I urge readers to take into account the excellent article in Vol 2, No 4 that critiques the evidence-based studies on which the need for single bed hospital rooms is based, as well as the article Vischer and I co-authored on Evidence-Based Design: Bridging the Gap between research and design (Vol 1, No 2).

I hope the critical tone of this commentary enlivens the level of debate around research and design and incites some readers to accept my call to action.

Arts & Mental Health:
Enhancing mental healthcare environments

This qualitative study investigates the subjective impact of arts on patients and staff in mental healthcare settings and identifies some limitations and challenges in their use

Norma Daykin, Ellie Byrne, Tony Soteriou, Susan O'Connor

This is an abridged version of the paper, *Using Arts to Enhance Mental Healthcare Environments: Findings from qualitative research* by Norma Daykin, Ellie Byrne, Tony Soteriou and Susan O'Connor, reprinted with kind permission from the publisher, Routledge/Taylor & Francis Group. The full paper is published in *Arts & Health: An International Journal of Research, Policy and Practice,* Volume 2, Issue 1, pp 33–46.

This paper reports on qualitative research on the impact of visual arts in a UK mental healthcare setting. Arts were found to support healing environments through modernisation: enhancing valued features and diminishing negative aspects. Most importantly, the arts created opportunities for service users and staff to assert control and affirm non-stigmatised identities.

Arts invoke complex issues of control, identity and stake, and a key challenge for hospital arts projects is balancing 'prestige' with 'authenticity'. While consensus may be difficult to achieve, the study points towards the high value stakeholders place on arts in these settings.

Background

There is a growing recognition of the value and contribution of arts to enhancing healthcare environments[1–9]. Research has identified many impacts of arts within healthcare environments[6,10,11,12]. Systematic reviews have identified therapeutic outcomes from clinical trials of arts in mental healthcare[13,14]. Arts projects also seek to enhance wellbeing, contributing to quality of life and satisfaction with care[6]. Research is also needed in order to understand the subjective impacts of arts in healthcare settings. Further, there is a need to understand process issues, such as user involvement and the working practices of staff that can help or hinder projects[5].

Research frameworks for examining social and subjective impacts of arts are less well developed than those for evaluating clinical evidence[2,15–17]. Rigorous qualitative research can provide rich descriptions of experiences and perspectives and can help to develop concepts and frameworks that assist understanding of the arts in diverse healthcare contexts. This paper reports on a qualitative study of a three-year arts project that sought to enhance patient and staff experiences of mental health environments.

Research has sought to identify the characteristics of healing arts, drawing attention to the importance of nature[10], as well as design features such as a view from a window[18–20]. Beyond this, responses to artworks may be diverse. While arts projects are generally liked by patients and staff[6,21], reactions to particular pieces can be complex and unpredictable[22], with some early evidence that responses in mental healthcare may be more polarised than in other settings[23]. To what extent do factors external to the artwork mediate its effects on patients and staff in particular contexts? Is it possible to explain responses to artworks with reference to the intrinsic characteristics of artworks themselves?

Sociologists suggest that responses to artworks such as music are to some extent contingent, influenced by context and experience as well as issues of power and stake[24–26]. This partly explains why consensus about what kinds of artworks should be included in healthcare settings is difficult to achieve and that such efforts need to be

Older adult textiles workshop at Callington Road Hospital in Bristol, June 2006 (photo: Willis Newson)

underpinned by situated understandings of the roles and perceptions of actors and stakeholders in these settings.

One issue that can mediate responses is control, with lack of patient control identified as an enduring feature of healthcare environments[18,22]. Involving service users and staff in the development of projects is recognised as good practice[5]. A second issue is that of identity. In this context, identity is not perceived as a fixed, predetermined category but something that is relatively fluid and shaped by experiences of participation. Creative identities and biographies can enhance as well as diminish participants' experiences of arts[25,27–29]. Successful outcomes may depend on the extent to which arts projects enhance control and enable participants to engage with and reaffirm valued creative identities.

Approach and methodology

The study investigated a three-year arts project, 'Moving On', funded through the Private Finance Initiative (PFI), which involves private sector investment in new National Health Service (NHS) facilities and buildings. The study evaluated one of the largest hospital arts projects in the UK, led by an independent arts consultancy organisation, in collaboration with an NHS mental health trust. The project included 36 individual artist commissions, such as integrated flooring, windows, water features, wall hangings, textiles and paintings across 16 new mental healthcare units. Each commission was designed in consultation with service users, staff and other stakeholders, and some included a participatory element where service users became involved in the fabrication of the artwork.

The study was carried out by university researchers and supported by a steering group, which included stakeholder and service user representation. Ethical approval was obtained from the relevant NHS and university ethics committees. A qualitative approach was adopted to explore the subjective impact of the arts project on patients and staff. Research methods included documentary analysis of over 400 documents, interviews with 55 service users, cares and staff, and three service user focus groups.

Discourse analysis[30] was adopted for the analysis of the documents. The interviews and focus groups were audio-recorded and transcribed in full. Data analysis was guided by principles and procedures from constructivist grounded theory[31,32].

Detail of art glass by Stuart Low in rotunda of waiting area of Older Adult Unit entrance, Callington Road Hospital (photo: Paul Highnam)

Documentary analysis findings

The documentary analysis identified a number of contextual discourses that shaped the Moving On project including 'modernisation' and 'participation'. The Department of Health's modernisation programme is described as "…the largest and most systematic quality improvement effort anywhere in the world... This has brought great benefits to patients as redesigned services and new ways of working have led to better quality, quicker access and improved outcomes."[33]

The documents suggest that the arts project was designed to fulfil this agenda, improving healthcare environments to maximise positive outcomes and reduce the negative impacts and costs associated with poor design.

Left and right: Oval ceramic wall piece by Marion Brandis in Adult Acute Unit at Callington Road Hospital (photos: Paul Highnam)

A second discourse is that of 'participation', described as "…. empowering both individuals and communities so that they can play a greater role in shaping health and social care services."[34]

Patient and public involvement has been a policy thrust in the UK since the 1990s[35–38]. The Moving On project was designed to involve service users at a number of levels.

These discourses shaped the project, sometimes creating vision and at other times introducing difficulties. For example, notions of 'modernisation' and 'participation' were sometimes in tension; this played itself out as a conflict between 'prestige' and 'authenticity'. One group – those favouring 'service user art' – voiced frustration at what was seen as a privileging of 'professional art' by modernisation discourse with its emphasis on longevity, quality, status, investment and value for money.

Tensions arose around specific decisions – for example, the selection of artists. These tensions affected the artists who were challenged to produce high-quality 'prestigious' artworks, at the same time as engaging service users in the artistic process.

Interviews and focus groups

The main themes emerging from the analysis of the interview and focus group data are presented here.

The data are discussed in relation to three headings: benefits of arts, limits of arts and service user participation.

The benefits of arts

The analysis identified four levels at which arts were seen as contributing positively to the environment, creating benefits for service users and staff. The first of these was supporting modern, well-designed environments. The arts project was designed to support a recent move from old, deteriorating buildings to new modern facilities. The artworks were perceived as adding brightness, ambience, space and identity, and creating an 'up to date' feel: "Yea, its lovely. I mean it's quite unusual. I think all the sculptures and artwork around the place are unusual but it just gives a feel of being a bit more modern and a bit more up to date …I quite like it." *(Stakeholder 05)*

The new environments were seen by some service users as offering more privacy:

I: And what do you think of the actual buildings?

R: Well I think it's fantastic … there just comes a time when you've got to chill out. And if you can't chill out in your room and you've got to be on the ward all day, it's very, very discomforting at times.

I: So you've got more access to your bedroom here?

R: Yea, and I think that's an important part. *(Service user 21)*

Another concern was maintenance. While some staff voiced concern about particular commissions that were not working properly a few months after installation, in general, this aspect of the project was viewed as successful:

R: tree of light (……..) moving wildly with the very strong winds that we've just had and it took on another dimension.

I: Really? I haven't seen it moving, when I've seen it.

R: It's wild, you know. It really moves wonderfully and it's obviously very robust. *(Stakeholder 01)*

In summary, the notion of 'fitness for purpose' can be used to encapsulate these responses to the physical environment: "I think it's very fit for the purpose. I think it's a fairly attractive … I hope… it's shaking down… and it's settling down and being of benefit to everybody." *(Service user 13)*

Arts also seemed to contribute to subjective assessment of the environment by enhancing its valued features. One such feature is nature. Many service users placed a high value on nature, reminiscing about encounters with animals and wildlife:

I: Are there any bits of xx that you particularly like?

R: The woods.

I: The woods? There's woods sort of all the way round isn't there? And what is it about the woods that appeals to you?

R: Squirrels and…

I: Oh really?

R: Yes.

I: So you get to see the squirrels?

R Yeah, they run all over.

I: Wow, are there any other animals that you see?

R: Deer.

(Service user 07)

Bench by Tom Redfern and Oliver Drake in female garden of PICU, Callington Road Hospital (photo: Paul Highnam)

Room for Reflection glazing artwork by Christian Ryan in Longfox Older Adult Unit, North Somerset (photo: Paul Highnam)

Some of these garden and outdoor areas had been lost in the transition to new facilities, where the gardens were more enclosed. Careful landscaping was identified as mitigating this loss of nature. Successful artworks, sometimes made with materials that evoked the old environments, also worked to create a sense of 'nature' in the new environments.

"Oh with seating as well….it looks like, well, all natural wood or whatever but I think that's ……it looks great, kind of handmade, hand done, a bit more effort put into it rather than a sort of real institution look. It's a bit more sort of home-grown as it were." *(Stakeholder 06)*

The arts also seemed to minimise negative aspects of the environment such as institutionalisation and stigma.

Institutional internal environments were described as 'dull', 'boring', 'uninspiring' and 'prison-like'. Institutional environments were seen as those that seemed to facilitate staff work and clinical practices rather than support patients. There was a general sense that the artworks contributed a reduced sense of institutionalisation in the new environments.

"So I think they will look beautiful, actually, and I think they will take that sort of stark, slightly clinical building edge off completely, really." *(Service user 13)*

Some staff spoke passionately about the power that art has to change the atmosphere of a space:

"I think its nice if you go into any place and … there is a picture or there are pictures arranged on the wall, it immediately brings life, it brings colour, it brings perspective, it brings depth, it brings something to look at and dream and imagine around. They can evoke feelings, emotions. It can evoke memories, which is why sometimes images are important. You don't want unhappy memories; it can bring pleasure and to thinking that much art, much, much art is very beautiful and beauty in itself can bring pleasure." *(Staff member 10)*

One of the aims of Moving On was to reduce the stigma associated with mental health and mental healthcare environments. The following comment by a stakeholder shows how the artworks were perceived as helping to challenge stigma: "It creates a very, very different atmosphere. You go to secure services and your first impression is this amazing depth of blue glazing; your first impression is not a big fence and that it's a secure unit. Or you go to say xxx and your first impression is the blue-sky fence. It's very different and it challenges what you think about mental health; it's good." *(Stakeholder 05)*

Finally, the arts were seen as enhancing the environment by providing opportunities for service users and staff. While the new environments offered less access to open outdoor spaces than the old settings, their design did successfully create opportunities for relaxation, peace and tranquillity:

R: I suppose it's sort of… gives you more of a wellbeing… that's basically it really.

I: How would you say that piece… that sculpture there… has an effect on your wellbeing?

R: It's tranquil… peaceful… apart from the traffic.

(Service user 11)

Successful artworks also provided interest and stimulation in otherwise dull indoor environments dominated by TV. As well as relaxation, many of the artworks encouraged reflection and interest. Some service users related strongly to particular pieces:

I: Right. Sounds like this one's had the most impact on you?

R: Yes, because I could relate to it. Really Relate to it.

I: That's interesting. What do you mean, how can you relate to it?

R: Well, I thought if I had the opportunity, if I was to do anything like that, it would have been something abstract, along those lines.

(Service user 02)

For these respondents, the artworks seemed to provide a resource for the articulation of personal identity. Hence they seemed to enjoy speaking about the arts – not as 'patients', but as 'critics', 'experts' and 'artists'.

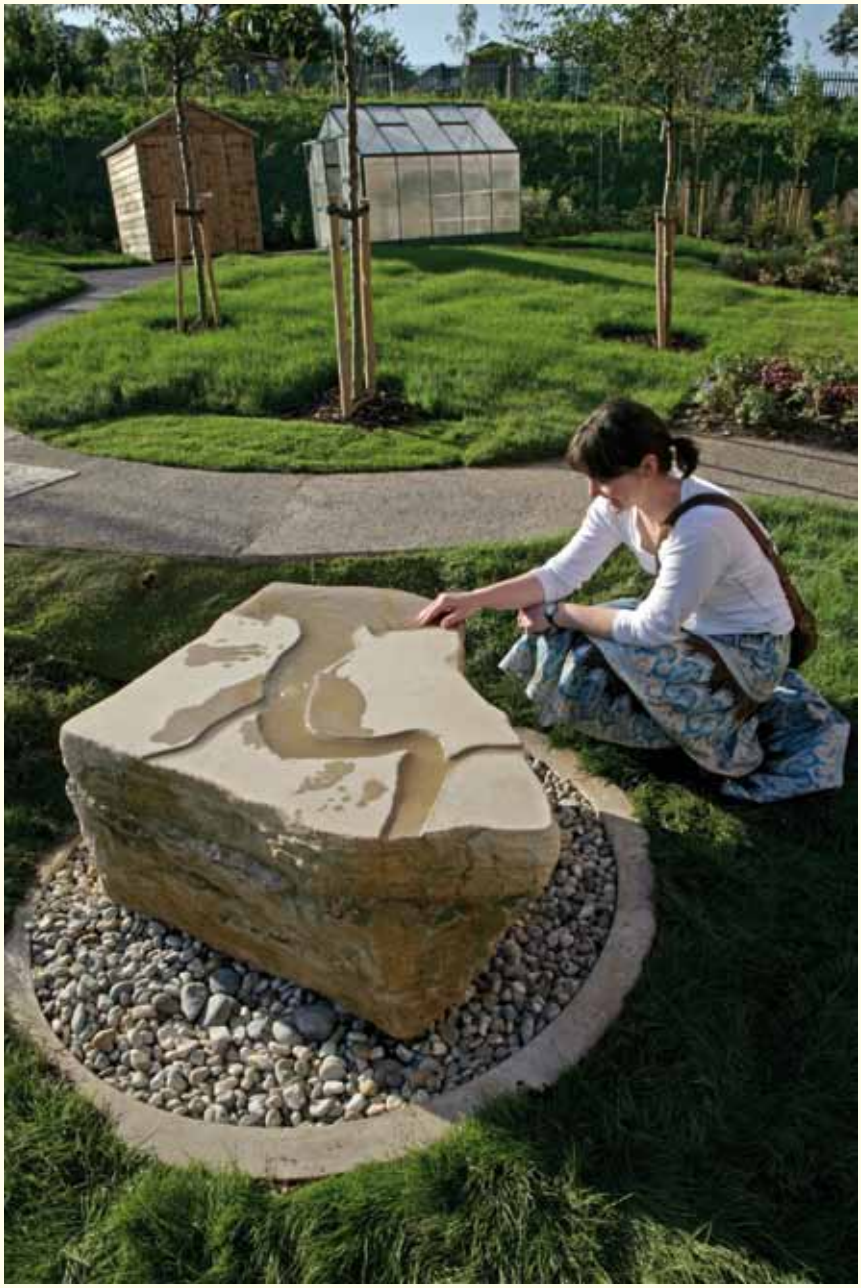
Limits of art

Some limits of art also emerged from the data. The research identified several levels at which the role of art may be limited or constrained. Artworks could not in themselves easily address structural challenges or mitigate background noise.

Some participants reacted negatively to particular pieces. However, there was no overall consensus about suitable or unsuitable characteristics of artworks. For some staff, the introduction of the artworks may have reduced their sense of control over the environment. They seemed to reassert control by adding what were described as 'homely' touches.

The issue of control also emerged in service users' accounts. A small group of service users who rallied behind the notion of 'service user art' were critical of some of the professional commissions. Control issues also mediated everyday access to the opportunities afforded by the artworks, since this was contingent upon day to day management practices that shaped behaviour in the new environments.

It was difficult to attribute these limitations to the specific characteristics of the artworks; rather, they seemed to be a function of environment and the behaviour of stakeholders.



Limestone water feature by Mat Chivers for gardens of rehabilitation unit at Callington Road Hospital (photo: Paul Highnam)

Service user participation

Participation ranged on a continuum from service users' engagement in arts processes through to their involvement at the strategic level of decision making.

Participation in arts processes was almost universally rewarding, even for those service users who were critical of some aspects of the project. Service users enjoyed many aspects of this, such as having the opportunity to work with professional artists, collaborating successfully with others and having a visible influence on the shaping of the aesthetic environment. The artists were skilled in this area and many service users felt that their own contributions had really made a difference:

R: Well, she said: "These are the designs I thought of." So she put them on the table and she said: "Just help yourselves and I'll give you pens and you can draw round them or about them, or cross them out and do your own design."

I: So you could amend them?

R: Yes, that's right. And that was really good. She said, "so this is of common consent… yes… We're working in these parameters," which was really wonderful, you know, because instead of you doing your own thing she really integrated everything.

(Service user 22)

Engagement at the strategic level of decision-making engendered mixed responses from service users. One challenge was the relatively formal, professionalised culture of meetings and discussions:

"… her exact words were, 'we need a service user that's brave enough to speak up at these meetings', and they are very official and they can be intimidating, and there were quite a few times I felt intimidated with the directors, you know, and even though I appreciate architecture, I can't understand the technical conversations about what went on." *(Service user 05)*

The tension between 'prestige' and 'authenticity' identified in the documentary analysis also emerged strongly in the accounts. Some service users described themselves as being continually 'overruled' by staff in decision-making processes. In focus group discussions, issues of artistic identity emerged even more strongly, reinforced by peer support.

Ultimately, this tension between 'prestige' and 'authenticity' influenced subjective responses to the artworks: "… patients' art

work was missing… I just feel that the quality of the people that come and use the service was missing from those areas. So I guess for people who don't have, or don't feel they have, a connection to art, perhaps it feels a bit alienating that there are big, expensive things here that were commissioned or happened as part of the new build and they don't feel that they have been part of that process, whereas with service users' work, they can relate to that… I think that feels more personal." *(Staff member 19)*

In general, participation enhanced service users' sense of control, providing positive experiences of communication and collaboration, as well as opportunities to explore alternative identities to that of the patient. However, for some, participation fell short of their aspirations, overtaken by what they saw as a financial and business agendas that devalued their identities and diminished their control.

Textile mola by June Heap, in the new day centre of the Older Adult Unit at Callington Road Hospital (photo: Paul Highnam)

Conclusions and implications

The study sought to investigate the subjective impact of arts on patients and staff in mental healthcare settings. The results highlight the contribution that arts can make to mental healthcare environments: creating modern, 'fit-for-purpose' environments; reinforcing positive aspects; diminishing negative aspects of the environment; and providing a range of opportunities for service users and staff.

The research has identified some important limitations and challenges for the implementation of the arts in healthcare. Hence, the introduction of artworks is not sufficient to overcome some functional issues and visual arts cannot easily compensate for qualities of the aural environment that service users and staff find difficult.

Further, day-to-day management practices can mean that the potential benefits of arts are not always realised. Finally, the introduction of artworks can also be seen as problematic by some staff who may not welcome being faced with additional challenges of management and maintenance.

The research sheds light on some key questions, exploring diverse responses and questioning whether particular characteristics of successful artworks in healthcare settings can be identified.

The study finds support for specific aesthetic qualities, including: references to nature and locality; the use of colour, light and shape to create non-institutional imagery; and the avoidance of specific references that might evoke negative associations and memories.

Beyond this, the study also highlights the contingency of responses to artworks in healthcare settings, particularly in mental healthcare. Hence, the research suggests that responses to artworks in these settings are influenced by a complex interplay of forces including aesthetics, control, identities and power relationships.

The issue of control seems particularly important. Service users and staff who experienced a sense of control during the project's implementation were generally supportive of the artworks, regardless of their characteristics, sometimes accepting some quite 'abstract' pieces.

A sense of diminished control seemed to influence criticisms – not just of the individual artworks but also of the arts strategy itself. Service users had fewer opportunities than staff to assert day-to-day control, their access to the artworks and the environments being controlled by staff through operational and management practices and clinical priorities.

These micro-level tensions and experiences of control were to some extent supported by macro-level tensions. Hence, discourses such as 'modernisation' and 'participation,' while sometimes at odds, pitching quality, prestige, longevity against processes and experiences of consultation and empowerment.

A related issue is that of identity. Participation in arts processes (and research) seemed to give service users access to a range of identities beyond that of 'patient', including 'critic', 'artist' and 'expert'. In focus groups, service users supported each other, not just to express opinions but also to show their own artwork to the group. It was when these diverse identities were invoked that service users spoke most passionately about the arts, revealing the strong sense of stake that participants can invest in art.

While this study is of a specific case, the setting has similarities with other mental health settings, and the methods included analysis of relatively large samples selected to reflect a cross-section of participants. Hence, the issues raised here may well be applicable to similar projects elsewhere. The study suggests that arts projects need to address both aesthetic and political concerns if they are to be successful. As well as the quality of artworks, experiences of control and the impact of participation on the roles and identities of staff and service users are key elements to consider in the planning of arts interventions.

Tensions between 'prestige' and 'authenticity' may be embedded in the broader context and therefore difficult to eliminate at the local level. Hence, consensus about arts in mental healthcare may be difficult to achieve.

Tree of Light by Kate Munro, Fromeside Clinic Medium Secure Mental Health Unit (photo: Nigel Noyes)

However, the study demonstrates the wide-ranging benefits of arts, suggesting that policy makers and practitioners may need to be prepared to accommodate diverse views to realise these benefits for the service users and staff. At the same time, arts initiatives need to include genuine opportunities for participation if they are to be successful in enhancing mental healthcare environments.

Acknowledgements

We are grateful to the participants who gave their time and to the NHS occupational and arts therapy staff who helped to facilitate the research in practice settings. We are also grateful to Jane Willis and Joanna Espiner from Willis Newson arts consultants who led the arts project as well as supporting the research. The steering group gave valuable support, notably Dr Mark Palmer, a digital artist and lecturer who helped with coding and Nola Davis, service user representative who made an invaluable contribution.

The research was funded by the Estates and Facilities Division of the Department of Health. Responsibility for the views expressed within it lies with the authors and does not necessarily reflect the views of the funder, sponsors or collaborators.

Authors

Norma Daykin is coordinator of the Arts and Health Research Programme in the Centre for Public Research at the University of the West of England Bristol.

Ellie Byrne is a research associate at the University of the West of England Bristol.

Dr Tony Soteriou is director of research and development at Avon and Wiltshire Mental Health Partnership NHS Trust.

Dr Susan O'Connor is medical director at Avon and Wiltshire Mental Health Partnership NHS Trust

References

1. Arts Council England & Department of Health. *A Prospectus for Arts and Health*. London: Arts Council England/ Department of Health; 2007. Retrieved 9 December 2009 from http://www.artscouncil.org.uk/documents/publications

2. Daykin N, Byrne E, Soteriou T, O'Connor S. The Impact of Arts, Design and Environment in Mental Healthcare: A systematic review of the literature. *Journal of the Royal Society for the Promotion of Health* 2008; 128(2):85-94.

3. Devlin A, Arneil AB. Healthcare Environments and Patient Outcomes: A review of the literature. *Environment and Behavior* 2003; 35(5):665-694.

4. Douglas CH, Douglas MR. Patient-centred Improvements in Healthcare Built Environments: Perspectives and design indicators. *Health Expectations* 2005; 8(3):264-276.

5. Lowson K, Beale S, Kelly J, Hadfield M. *Evaluation of Enhancing the Healing Environment Programme. Final report for the Department of Health (NHS Estates)*. York: York Health Economics Consortium; 2006. Retrieved 9 December 2009 from http://www.kingsfund.org.uk/publications/other_work_by_our_staff/evaluation_of.html

6. Staricoff RL. *Arts in Health: A review of the medical literature*. London: Arts Council England; 2004. Retrieved 9 December 2009 from http://www.artscouncil.org.uk/publication_archive/arts-in-health-a-review-of-the-medical-literature

7. Ulrich R, Gilpin L. Healing arts: Nutrition For the Soul. In SB Frampton, L Gilpin, P Charmel (eds), *Putting Patients First: Designing and practising patient centred care*. pp117-146. San Francisco CA: Jossey-Bass; 2003.

8. Ulrich R, Zimring C, Quan X, Joseph A. The Environment's Impact on Stress. In SO Marberry (ed), *Improving healthcare with better building design*. pp37-63. Chicago IL: Health Administration Press; 2006.

9. Waller S, Finn H. *Enhancing the Healing Environment: A guide for NHS Trusts*. London: The Kings Fund; 2004.

10. Ulrich RS, Simons RF, Miles MA. Effects of Environmental Simulations and Television on Blood Donor Stress. *Journal of Architectural and Planning Research* 2003; 20(1):38-47.

11. Kincaid C, Peacock JR. The Effect of a Wall Mural on Decreasing Four Types of Door-testing Behaviours. *Journal of Applied Gerontology* 2003; 22(1):76-88.

12. Ulrich RS, Simons RF, Losito BD, Fiorito E. Stress Recovery During Exposure to Natural and Urban Environments. *Journal of Environmental Psychology* 1991; 11(3):201-230.

13. Crawford MJ, Patterson S. Arts Therapies for People with Schizophrenia: An emerging evidence base. *Evidence-Based Mental Health* 2007; 10:69-70.

14. Gold C, Heldal TO, Dahle T, Wigram T. Music therapy for schizophrenia or schizophrenia-like illnesses. *Cochrane Database of Systematic Reviews* 2005, Issue 2. Art. No.: CD004025. DOI: 10.1002/14651858.CD004025.pub2.

15. Angus J. *A Review of Evaluation in Community-based Art for Health Activity in the UK. A report for the Health Development Agency Centre for Arts and Humanities in Health Care and Medicine*. Durham: University of Durham; 2002. Retrieved 9 December 2009 from http://www.dur.ac.uk/resources/cahhm/reports/CAHHM%20for%20HDA%20J%20Angus.pdf

16. Smith T. *An Evaluation of Sorts: Learning from common knowledge*. Durham: University of Durham; 2003. Retrieved 9 December 9 2009 from http://www.dur.ac.uk/resources/cahhm/reports/CK%20An%20evaluation%20of%20sorts%20T%20Smith.pdf

17. White M, Angus J. *Arts and Adult Mental Health Literature Review: Report for the Social Exclusion Unit in the Office of the Deputy Prime Minister*. Durham: University of Durham; 2003. Retrieved 9 December 2009 from: http://www.dur.ac.uk/resources/cahhm/reports/Arts%20and%20Mental%20Health%20Report%20MW%202003.pdf

18. Lawson B, Phiri M. *The Architectural Healthcare Environment and Its Effects on Patient Health Outcomes: A report on an NHS estates funded research project*. London: The Stationery Office; 2003.

19. Ulrich RS. View Through a Window May Influence Recovery From Surgery. *Science* 1984; 224(4647):420-421.

20. Verderber S, Refuerzo BJ. On the Construction of Research-based Design: A community health center. *Journal of Architectural and Planning Research* 1999; 16(3):225-241.

21. Scher P, Senior P. Research and Evaluation of the Exeter Health Care Arts Project. *Journal of Medical Ethics* 2000; 26(2):71-78.

22. Duncan J. The Effect of Colour and Design in Hydrotherapy: Designing for care. In D Kirklin, R Richardson (eds), *The healing environment*. pp81-100. London: Royal College of Physicians; 2003.

23. Chen TS, Sanoff H. The Patients' View of their Domain. *Design Studies* 1988; 9(1):40-55.

24. DeNora T. *Music in Everyday Life*. Cambridge: Cambridge University Press; 2000.

25. Daykin N. Disruption, Dissonance and Embodiment: Creativity, health and risk in music narratives. *Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine* 2005; 9(1):67-87.

26. Williams A. *Constructing Musicology*. Aldershot: Ashgate; 2001.

27. Daykin N, McClean S, Bunt L. Creativity, Identity and Healing: Participants' accounts of music therapy in cancer care. *Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine* 2007; 11(3):349-370.

28. Lane MR. Spirit Body Healing: A hermeneutic, phenomenological study examining the lived experience of art and healing. *Cancer Nursing* 2005; 28(4):285-291.

29. Spandler H, Secker J, Kent L, Hacking S, Shenton J. Catching Life: The contribution of arts initiatives to recovery approaches in mental health. *Journal of Psychiatric and Mental Health Nursing* 2007; 14:791-799.

30. Carabine J. *Unmarried Motherhood 1830–1990: A genealogical analysis*. London: Sage Publications in association with the Open University; 2001.

31. Charmaz K. Grounded Theory: Objectivist and constructivist methods. In NK Denzin and YS Lincoln (eds) *Handbook of Qualitative Research*. pp. 509-535. 2nd ed. Thousand Oaks CA: Sage Publications; 2000.

32. Strauss A, Corbin J, Denzin N, Lincoln YS (eds). *Grounded Theory Methodology: An overview. Handbook of Qualitative Research*. pp273-285. Thousand Oaks CA: Sage; 1994.

33. Department of Health. *The Future Direction of the NHS Modernisation Agency*. Modified 8 February 2007. Retrieved 11 July 2008 from http://www.dh.gov.uk/en/Publicationsandstatistics/Bulletins/theweek/Chiefexecutivebulletin/DH_4076056

34. Department of Health. *Patient and Public Involvement*. Modified 1 July 2008. Retrieved 11 August 2008 from http://www.dh.gov.uk/en/Managingyourorganisation/PatientAndPublicinvolvement/DH_085874

35. Baggot R. A Funny Thing Happened on the Way to the Forum? Patient and public involvement in the NHS in England. *Public Administration* 2005; 83(3):533-551.

36. Crawford MJ, Rutter D, Manley C, Weaver T, Bhui K, Fulop N, Tyrer P. Systematic Review of Involving Patients in the Planning and Development of Health Care. *British Medical Journal* 2002; 325(7375):1263-1265.

37. Truman C, Raine P. Experience and Meaning of User Involvement: Some explorations from a community mental health project. *Health and Social Care in the Community* 2002; 10(3):136-143.

38. Daykin N, Evans D, Petsoulas C, Sayers A. Evaluating the Impact of Patient and Public Involvement Initiatives on UK Health Services: A systematic review. *Evidence and Policy* 2007; 3(1):47-65.

Montfort Hospital Redevelopment Ottawa, Ontario

Stantec Architecture

In Vancouver, call Bruce Raber at (604) 696-8000 • In Toronto, call John Steven at (416) 596-6666

Stantec

One Team. Infinite Solutions.

Experience-based Design:
At the crossroads of community and humanity

Over the last decade, healthcare architecture has been increasingly shaped by the concept of evidence-based design. John Steven discusses whether it has become too quantitative and examines the role of experience-based design in bringing in the qualitative aspects of healthcare design

John Steven, OAA, MRAIC, ACHA, AIA (assoc)

In the early 1990s, the hospitality model for healthcare design gained popularity (often driven by business and market-share concerns), with its stunning architectural features and multiple services in lobbies, while only steps away the hospital working environment remained grounded in purely functional solutions. This was replaced 10 to 15 years ago by the patient-centred movement, with its more holistic approach to the care processes and the needed changes in operational culture. Increasingly over the last decade, healthcare architecture has been shaped by the concept of evidence-based design.

As a basis for making design decisions on the elements that impact on patient outcomes, productivity, employee and patient dignity, the appropriate application of evidence-based design is considered to reduce medical error, rates of infection, falls and patient stress. The overarching notion of all these movements is that the designed environment always has a direct influence on individual health and wellbeing, which may be positive or negative but never neutral. Perhaps the time has come to take a critical review into the future and imagine the next paradigm.

This article has three goals. It is an attempt to scan the current state of the discourse on the links between design and health.

It offers a personal view of the core challenges of healthcare architecture.

And it proposes a new, broader conceptual framework to foster discussion and research into the psychology of places associated with wellbeing.

The title of this paper suggests that we have arrived at a point where critical decisions must be made. But it also posits the notion of convergence, where different dimensions can be brought together.

The designer of healthcare settings has two responsibilities:

- to remain up to date on research and built projects and apply the most appropriate findings and design practices; and
- to expand the design process, making language of place an integral part of the exchange and bringing the art of design and placemaking to the foreground.

The first of these is more easily put into practice. Research into the effects of selected environmental aspects on the patient healing process does take into account physiology, rates of recovery and medication. And, not surprisingly, research funding and lines of inquiry are flowing from the designer / care provider dialogue, facilitating the exploration of design choices. However, for health institutions and hospitals, the governing field through which the qualities, value and meaning of design for

Peterborough Regional Health Centre provides a sense of nature, movement and community

Peterborough Regional Health Centre café: The scale and proportion of this amenity space sets the stage for foreground and distant views

healthcare facilities are filtered most often results in fit-for-purpose interior settings.

The current process model for design and the distinct, specialised field of medical planning has been correspondingly shaped to engage and facilitate this notion of fit as the measure of success – which means functionality becomes the most important part of this process. Although the process is successful in terms of practical and complex functional development and operational process design, the discussion of placemaking is still awkward.

The problem is that the cultural and economical circumstances, as well as the state of an individual's health, are acknowledged in the relationship between health and design, but the fundamental psychosocial links are less understood and seldom acknowledged or valued.

Healthcare design teams have a broader responsibility: to create unique and unified spaces and designs. This requires creativity and innovation, which are at risk of being overlooked or undervalued by the evidence-based design model. Research needs to be conducted to address in greater depth experience-related questions, such as: what are the common experiences of being alone in a room? How do designed environments support privacy? How are community connections fostered? What do patients experience while moving through a particular space?

Experience versus evidence

Why has evidence-based design been so widely embraced? As a focus for healthcare facility design, according to my experience, it offers a more rigorous and profound approach than its predecessors and the body of research that supports it continues to grow, becoming increasingly structured in its categories and applications. In some respects, evidence-based design shares its methodologies and broad goal for improved performance with other current tools such as LEED and LEAN. The focus on bottom-line efficiencies, including energy costs, clinical results and processes, and the reliance on metrics to gauge facility performance outcomes (propelled in Canada and elsewhere by the public-private partnership delivery approach), all serve to bolster evidence-based design. It continues to transform healthcare architecture. But is it enough?

The move to codify design is problematic. Increasingly, evidence-based design relies on scientific methods to first deconstruct the environment of care and then measure, predict and improve performance outcomes. Thus far, the body of knowledge, as surveyed by organisations in the evidence-based design field, including the Center for Health Design and the Robert Wood Johnson Foundation, appears to derive from quantitative methods of research focusing on the deconstructed, quantifiable elements of a whole environment or place. Qualitative research methods – focus groups, surveys and recorded observations of facilities and care practices in use – are less often acknowledged as credible evidence. These 'stories', however, reflect the complexity of interrelationships in healthcare settings, the qualities of individual experience and need to be more fully explored and understood.

Evidence-based design is in fact facing creeping scepticism. The sheer volume of so-called 'confounding variables' in the healthcare environment requires a reductionist approach. Verifiable cause-and-effect relationships must be identified and their broad applicability to future projects in dissimilar locales justified. But the discourse on the qualities of design, individual

experience and the subjective evidence that reflects personal history and cultural values has been elusive.

One criticism launched at evidence-based design, and at standards in general, is that it leads to cookie-cutter design solutions. But standards and best practices that reflect the collective decision-making by clinicians, systems and equipment specialists, interior designers, medical planners and architects are absolutely necessary. The active research conducted within the health provider sector and through the medical and life sciences disciplines is well suited to examine patient outcome data – including physiological responses – and attempt to link it to facility design.

The most notable example of the degree to which research can affect policy change is the drive to single-patient rooms, based largely on convincing data on rates of infection and medical errors compared to shared accommodation. This policy and functional programme decision poses new challenges for design teams addressing the next level of detail. To support the new standards and codes in patient rooms and other key clinical settings, collaborative, design-based and post-occupancy research is being actively conducted by healthcare design firms, including our firm Stantec Architecture.

A more inclusive approach is needed, one which also addresses the impact of place in our mind, the context of the place and considers personal experience, history and cultural values. Architecture provides a unique lens for these explorations, but a more comprehensive understanding can be achieved in collaboration with the humanities and social sciences. This approach can best be described as experience-based design.

"I find the staff markedly friendly, cheery, and most helpful, in the clinics, elevators, and food courts. I think architecture must surely influence this." Peterborough Regional Health Centre family caregiver

While evidence-based design values the scientific method and relies on objective evidence to improve performance outcomes, experience-based design embraces subjective evidence and the psychosocial engagement of individuals within unique healthcare environments and design as a result of the dynamic process of creativity. Successful healthcare design lies at the intersection of the two.

Experience-based design

To maximise the potential of experience-based design requires firstly a common language that can be understood by both architects and healthcare providers. Secondly, it needs a more inclusive framework for translating individual experience into environments that support health and wellbeing. The framework and language proposed in this article provide a model that gives equal billing to evidence-based design and experience-based design. Adopting a unified approach, quantitative and qualitative research and knowledge would be brought together. Individual experience in place and time (experience-based design) would be studied equally with the metrics of specific task-related performance outcomes (evidence-based design).

The groundwork for developing a common language that speaks to the human psyche has already been laid by architectural theorists including Christopher Alexander, Gaston Bachelard, Serge Chermayeff – and Alberto Pérez-Gómez: "…as *architecture*, architecture communicates the possibility of *recognising* ourselves as complete, to dwell poetically on earth and thus be wholly human."[1]

Open/enclosed, transparent/opaque, vertical/horizontal, foreground/distant, boundaries/edges/fields, proportion and pathways are all terms used to define general spatial qualities. Research into

Hôpital Montfort Hospital: Progression

the experience of these and other spatial qualities in healthcare environments will provide the language that enables healthcare design and project teams to craft positive experiences through placemaking in a more rigorous and open design process.

A unified approach requires that architects and their project team members enter the world of physicians, nurses and caregivers without actually engaging in care processes. With medical, psychosocial and design teams working in effective and synergistic relationships, places will be created that support the whole human experience and the wellbeing of patients and their families.

Framework for experience

From our general experience working with healthcare providers to design healthcare environments, Stantec's healthcare architects have identified four dimensions that describe a comprehensive experience of health and wellbeing: Supports, Movement, Nature and Community/Privacy.

Our experiences propose that when these four dimensions are synthesised in a room or building design in a way that engages its users, the result is a satisfying and healthful experience. The architecture, inside and out, can be described by terms such as restorative, connected, well-ordered, dignified and balanced. It resonates with each individual and powerfully influences the sense of wellbeing. In other words, it establishes a strong and memorable sense of place.

Supports

Supports are the essentials, most successful when unobtrusive and intuitive, and are usually the most acknowledged in the current body of evidence-based design. When they go wrong, they are the most complained about, because they frustrate the intentions of staff and patients. Function, process flow, ergonomics, materials, tasks and events are all sub-categories of the Supports dimension. At their best, they provide a more efficient and healthier workplace for staff.

Staff amenities like fitness facilities, private telephone rooms and relaxation spaces all encourage physical and emotional health. The absence of such amenities compounds the ever-present challenge of attracting and retaining good staff. It increases the potential for mistakes by medical staff and can be detrimental to relationships with patients.

Movement

Movement affects everyone in the healthcare environment, especially elderly or incapacitated patients and first-time visitors, who can be disoriented, exhausted and even pained by movement. Movement is all important to hospital staff who can suffer movement-related fatigue, frustration and distraction.

On the other hand, well-considered movement enhances everyone's experience. Movement can be designed to highlight transitions, with implicit entrances and visual cues to help people recognise spaces which are public, semi-public and private.

Views of exterior landmarks or interior spaces are helpful orientation as mind-map devices, as well as providing positive distractions to relieve stress and support positive psychological changes. Views at decision points along a path offer reasons to stop and rest.

Pathways and journeys can offer visually interesting moments, such as encounters with artwork or landscapes engaging their mind, which can even be integrated with patterns of movement. Inviting courtyards and recreational pathways can encourage informal interaction among people who may otherwise feel isolated.

Ngonyama Okpanum & Associates

ARCHITECTS | PROJECT MANAGERS | URBAN DESIGNERS | INTERIOR DESIGNERS | TOWN PLANNERS

Ngonyama Okpanum and Associates is dedicated to providing knowledge-based solutions to health care design.

Architecture has a strong behavioral influence on the community and society at large. Our approach to design is characterised by a focus on the interpretation of factors which impact on the built environment i.e. the social, architectural, spatial, philosophical, political and technological aspects of design; and their interpretation in the site- specific context.

Ngonyama Okpanum and Associates provides developmental, managerial and technical services in this respect, and within the context of human upliftment and the development of the built environment. Our architecture seeks to promote quality buildings with a strong recognition of the positive influence of architecture through the creation of pleasant therapeutic environments and well- designed spaces.

Member of: GREEN BUILDING COUNCIL

JOHANNESBURG
T: + 27 11 463 9429
F: + 27 11 463 6835
sibo@noact.co.za
Unit J Block 2, 1st Floor
Coachmans Crossing
Office Park,
4 Brian Street, Lyme
Park, Bryanston, 2021

CAPE TOWN
T: + 27 21 418 9224
F: + 27 21 418 9229
info@noact.co.za
Unit 21 & 22
Foregate Square
Foreshore
Cape Town
8001

EAST LONDON
T: + 27 43 743 3888
F: + 27 43 743 3892
admin@noael.co.za
13 Lukin Road
Selborne
East London
5247

PORT ELIZABETH
T: + 27 41 582 2753
F: + 27 41 582 2869
mail@noharchitects.co.za
16 Clyde Street
Trafalgar Centre
Central
Port Elizabeth
6000

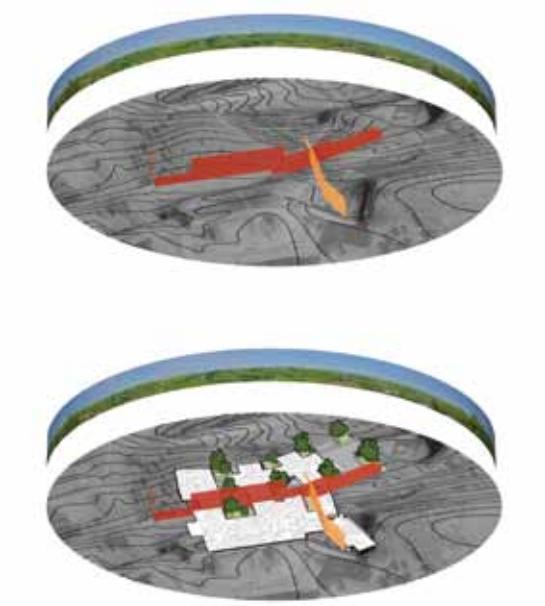
BLOEMFONTEIN
T: + 27 51 447 8338
F: + 27 51 4478339
sibo@noact.co.za
63, 65 & 67
Kelner Park
Suite 6 Kelner Street
Westdene
Bloemfontein, 9301

MMABATHO
T: + 27 18 384 1568
F: + 27 18 384 2788
sibo@noact.co.za
Office 204, Mega
City Shopping Centre
Cnr of Sekame &
Dr James Roads
Mmabatho, 2735

NELSPRUIT
T: + 27 13 755 3614
F: + 27 13 7553615
info@noact.co.za
Suite 407
The Medcen Building
14 Henshall Street
Nelspruit
1200

POLOKWANE
T: + 27 15 291 4987
F: + 27 15 291 5947
sibo@noact.co.za
Standard Bank
Building, 3rd Floor
Cnr of Landross Mare
& Thabo Mbeki streets
Plokwane, 0699

NIGERIA
Cell:+234 82 566 3650
T: +234 806 263 5401
info@noact.co.za
51 Lobito Crsecent
Wuse 11, Abuja
Nigeria
23409



At the Peterborough Regional Health Centre, the building is organised around the historical crossroads, linking the primary gathering spaces to the vistas of the city and the rolling landscape.

At New Oakville Hospital the clear street pattern organises major shared facilities and gathering spaces along primary routes and connects strong, accessible, internal paths beyond the lobby

The circulation pattern in Stantec Architecture's master plan for the New Oakville Hospital, comprising all vehicular, pedestrian and material flows, is designed as a whole system with a hierarchy of routes integrated with the public space and landscape concepts. The street pattern concept provides clear continuity with the urban context and sets the stage for a campus-wide public circulation system.

A clear analysis of each path's multiple purposes is required to create positive experiences along the way. The light-filled corridor provides views to the surrounding landscape and other building components to aid in wayfinding and orientation and doubles as a social space.

Nature

Nature is introduced into healthcare environments in many ways: a nearby landscape viewed from a window, a specifically designed healing garden, sunlight coming through a clerestory window, feature walls of local stone and strategies to include natural processes for the indoor environment. Exposure to nature can help relieve stress and create feelings of connectedness to the world at large. It marks the passing of time, throughout the day and throughout the seasons and is appreciated by all cultures.

The studies of Roger Ulrich, Kaplan and Kaplan and many others, identifying the way that nature improves health and recovery rates for patients in rooms with views of nature, underlined the connection between health and thoughtful architectural design. This work fostered considerable research into the value of natural light and garden views and promoted the incorporation of natural elements in clinical settings wherever possible.

The positive impacts of natural features, which continue to be a focus of evidence-based design research, are receiving even greater attention with the shift to more sustainable, environmentally responsible design. This convergence of health and nature powerfully illustrates the kind of benefits we can achieve if similar linkages can be put in place for the other three dimensions.

Community and privacy

Community is perhaps the dimension most difficult to grasp and codify in terms of evidence-based design. Many community groups are impacted by the design of healthcare facilities: medical staff, policy-makers, local residents, neighbouring businesses, patients' families and friends – any group with a shared agenda and/or unique perspective. A successful healthcare facility design must resonate with all its communities. What distinguishes these communities are the stories and experiences of individuals and the collective history associated with the land. When design reflects and celebrates the special characteristics and richness of the community, it promotes feelings of pride and ownership, garnering respect for both the facility and the staff.

At the Peterborough Regional Health Centre, the building is organised around the historical crossroads, linking the primary gathering spaces to the vistas of the city and the rolling landscape.

Due to the complexity and dynamics of social networks and personal relationships, including that of patients and caregivers, experiences of place will vary greatly. The design process, supported by new lines of research, must allow for individual response, take the dynamics of community into account and explore the multiple interactions in any healthcare setting. The result: families and patients will feel

supported because language or cultural issues have been addressed, staff will feel connected to their patients, and physicians will feel connected to other hospital staff.

A variety of non-clinical spaces is needed to accommodate community and support the range of interactions. Large active areas can provide for educational programmes, and centrally located spaces can foster informal communications and even become social 'hearts' for communal activity. Clarity of organisation and visual connections to destinations and the outdoor environment can all help to engage the individual, especially first-time visitors, patients or staff members.

The dimension of community must also allow for individuals to withdraw. Especially in a healthcare environment, spaces are needed for privacy or intimacy, for individuals or small groups. Scale is important. Are there spaces where individuals feel comfortable when alone, private spaces for families, intimate lounges for nursing staff, patient areas that offer a sense of dignity? And do these spaces have visual connections to the surrounding neighbourhood and community at large?

Placemaking: synthesis

A sense of place has great importance in a healthcare facility as its identity with own culture and value. Sense of place is present when the four dimensions that describe a comprehensive experience of health and wellbeing – supports, movement, nature, and community/privacy – are synthesised in a single room or at the whole building level. Achieving a positive and resonant sense of place is design excellence. When staff, patients and visitors have a deep connection to a space, when it registers with them, then the design endures and health is enhanced.

Conclusion

To achieve this synthesis requires considerable investigation and analyses of the four dimensions. Pre-design and post-occupancy evaluations, written or oral, provide the kind of anecdotal evidence that uncovers personal stories and experiences. Over time, as more information is collected, benchmarks or other tools can be developed. To a large degree, these four dimensions may be abstract. But every project is unique and specific. The existing natural elements on a site will vary. The cultural heritage of local communities will differ.

Peterborough Regional Health Centre's private rooms connect to neighbourhood and landscape

Some hospitals may be located in a dense urban environment surrounded by high-rise towers. Others may be in rural locations at a distance from nearby towns. Some may serve a diverse, multicultural community; others may serve a community of families and young children. Whatever the mix, there are sure to be different experiences related to each of the four dimensions. The thoughtful design team is sensitive to these unique qualities and perspectives.

As in any project type, good design relies upon a consultative process. Every patient, family member, visitor and caregiver has personal stories and experiences that can enlighten the process of design and add rich layers to the design solution. Architects, medical planners and interior designers must work together with healthcare administrators, physicians, nurses and other staff, as an interdisciplinary team, to understand the role that environment plays in the healing process and in the health of the community at large.

Experience-based design requires not only sensitivity and a consultative process but also more focused research into the human experience and how our state of health is affected by the physical environment. The language and framework for understanding the psychological state and how it is influenced by the environment, as well as physiological and neurological factors, may seem elusive. But we believe they are essential for placing creativity and innovation at the heart of healthcare design.

Evidence-based design is necessary for addressing the functional and performance aspects of a healthcare environment, but experience-based design has the potential to explore the value of psychosocial responses, capture the imagination and creativity, and be understood as a metaphor for a humane, healthcare enterprise.

The intersection of experience-based design and evidence-based design promises an enriched language and a comprehensive value system that can address the full meaning of design in promoting health and wellbeing. At this stage, we have many more questions than answers. However, we will continue to advance the development of a comprehensive design evaluation framework and language that places human experience at the heart of design and health.

Author

John Steven, OAA, MRAIC, ACHA, AIA (assoc), is a senior principal of Stantec Architecture in Canada

References

1. Pérez-Goméz A. The Case for Hermeneutics as Architectural Discourse. In *Architecture and Teaching: Epistemological Foundations*., European Association for Architectural Education, ed. H Dunin-Woyseth & K Noschis. Lausanne: Comportements; 1998.

Ngonyama Okpanum & Associates

ARCHITECTS | PROJECT MANAGERS | URBAN DESIGNERS | INTERIOR DESIGNERS | TOWN PLANNERS

Email: info@noact.co.za Tel: 021 - 418 9224 Fax: 021 - 418 9229

CANCER RESEARCH FACILITY

PROJECT: MOTHER AND CHILD CANCER RESEARCH INSTITUTE
BAYELSA, NIGERIA

PRIVATE HEALTH CARE

PROJECT: BELLVILLE HOSPITAL
CAPE TOWN, SOUTH AFRICA

HEALTH CARE INTERIOR DESIGN & 3D RENDERING

PROJECT: CHRIS HANI BARAGWANATH HOSPITAL
JOHANNESBURG, SOUTH AFRICA
COMPLETED 2009

REFERRAL HOSPITAL

PROJECT: MASERU HOSPITAL
MASERU, LESOTHO

COMMUNITY LIBRARY AND CLINIC

PROJECT: ALBOW GARDENS
CAPE TOWN, SOUTH AFRICA
COMPLETED 2000

PRIMARY HEALTH CARE FACILITIES

PROJECT: OPOLLO HOSPITAL
BAYELSA, NIGERIA
COMPLETED 2009

TERTIARY HEALTH CARE FACILITIES

PROJECT: CHRIS HANI BARAGWANATH HOSPITAL
JOHANNESBURG, SOUTH AFRICA
COMPLETED 2009

The nature of art

It is widely accepted that artworks can contribute to healing in the healthcare environment but, explains ***Henry Domke***, images of nature can have a particularly powerful effect

If patients were more like machines, hospital environments wouldn't matter. Targeted medical therapy would be enough. But healthcare providers and designers recognise the growing evidence that a sense of place, appealing space and human grace do matter in the healing process. And nature art has a role in that whole-patient prescription.

Before I explore the practical side of putting art to use in healthcare settings, I want to share a very personal perspective. A middle-aged woman with cancer made regular trips to her local hospital for therapy. She noticed a picture in the waiting area. It was a photograph of a big oak tree in a summer forest with morning sunlight streaming through the branches, illuminating the forest floor. She started coming in early for her appointments so she could look at the picture and meditate before going in for chemo. She told her cancer nurse that the way the sun shined through the trees she almost "felt like God was going to walk out". Whatever she saw there, it brought her a sense of peace and comfort during an incredibly stressful and frightening time in her life. I don't know the woman's name, but I do know the picture. It was one purchased by Blessing Hospital in Quincy, Illinois. The nurse was struck by its impact and wrote to let me know.

As a family practice physician, I understood the value of treating the whole person. As an artist, I appreciate the support that the right art can provide to the healing process. However, selecting the right artwork is not as easy as you might think. When selecting art for healthcare, it is critical to understand that the viewers of that art are under stress. All people in hospitals are under stress, whether they be patients or visitors. People are anxious because they are wondering: "Is this pain caused by cancer? Will I be able to return to work after this heart attack?" Even under happy occasions like the birth of a child many people are anxious with questions: "Is the baby healthy? Did the mother have any problems?"

The all-pervasive anxiety in healthcare settings makes selecting the artwork different than in other settings, such as retail or hospitality. In the latter settings, stimulation and excitement are often part of the desired ambience. In contrast, art in healthcare needs to be comforting and reduce stress.

Because of the special requirements for art in hospitals, art selection should not be delegated to a committee of

Top: Red oak leaf; Bottom: Nature art installation in St Joseph's Hospital, St Paul, Minnesota

Deep woods stream, Massachusetts

staff members. Ideally the staff would give input but an interior designer or art consultant with proven healthcare expertise would select the art. They are most likely to be aware of the current research and are more likely to create an appealing and cohesive design. A mishmash of colour, style and inappropriate content is more often the result of the local committee approach. Designers who select the appropriate art for healthcare settings satisfy not only the patients, they also create a more appealing environment for the staff and patient's families.

Nature art is the best

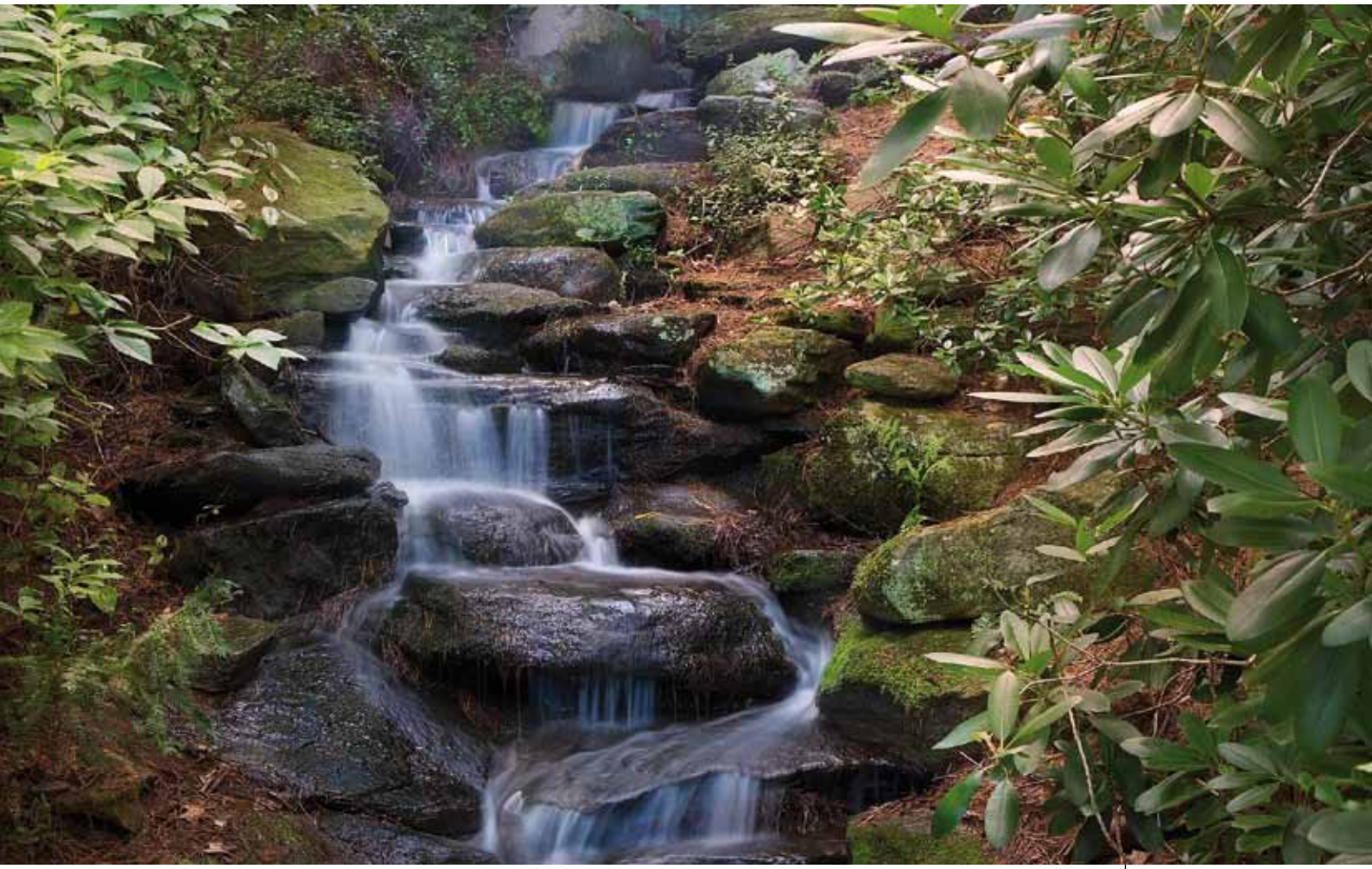
Nature art is clearly the best choice for healthcare for several reasons. Firstly, it is the people's choice. Many studies investigating people's preferences for art have been done around the world in different cultures and with different age groups. Every study shows the same thing: the vast majority of people prefer realistic nature art. A study by Hathorn and Ulrich found that irrespective of race or ethnicity, patients rated nature art the highest[1].

A more recent study of art preferences in patients concluded: "A quantitative study with the survey results yielded statistically significant results for the popularity of nature images, over best-selling abstract or unique images."[2]

By nature art I mean 'happy' nature art in which the foliage is lush, the plants look healthy and the spaces are inviting. Bleak, cold, parched scenes or images with threatening weather are not what people like to see when they are sick. Winter scenes suggest death, while pictures of threatening weather suggest trouble.

This preference for realistic nature art may not hold true for the small segment of the population that is highly visually trained – people like architects, interior designers and art consultants. This can create a problem because such people may assume that their educated tastes should dictate the art selection. Perhaps they think that presenting the general public with challenging art will raise their appreciation for art. This is a worthy goal for galleries, schools and museums, but not in

The vast majority of people prefer realistic nature art



Rocky Falls

healthcare settings. Patients don't need to be challenged in new ways. They are challenged enough.

Contemporary art in galleries and museums is often conceptual. In order to understand it, you need to read about it or have someone explain it to you. Nature art is easy for people to understand; they intuitively 'get it'; they don't need an owner's manual. Perhaps that's because we are hard-wired with an inherent tendency to appreciate the natural environment. Biophilia is the term Edward O Wilson coined to describe this phenomenon[3]. Research across a variety of fields suggests a basic human need to maintain a connection to nature. Author Richard Louv addressed this in his book *Last Child in the Woods: Saving our children* from nature deficit disorder[4].

In addition to its basic appeal, nature art can trigger positive memories. Many times I had patients in my medical clinic point to one of my landscapes as they were smiling and ask: "How did you find my grandfather's farm? I used to play in that stream as a child." Of course the scene was from a totally different location, but it triggered the memory. This positive distraction provided welcome relief from the frightening clinical environment.

Abstract art is worst

The preference studies that show that 'regular' people prefer nature art also show that abstract art is the least popular. And not only is it least popular, some people actively dislike it. By abstract art, I am referring to art where the subject is ambiguous; it is unclear.

When untrained people are presented with abstract art, they often try to find the subject matter. Imagine a child in a museum looking at a large abstract painting trying to find hidden objects. They see it like a game. Perhaps they imagine that they are seeing a flock of birds flying overhead. When people are stressed or in pain they tend to interpret ambiguous images negatively. Now they may imagine that painting depicts vultures coming to eat them after they die. In this way, abstract art can make their anxiety worse.

Evidence-based design is great, but...

Evidence-based design (EBD) is a revolutionary idea that promises to use design to improve healing. Scientists perform controlled trials and carefully measure the impact of design on patient outcomes. The goal is to find proof (scientific evidence) that one kind of design is better than another.

Using EBD to inform design decisions is tremendously promising. Sceptics are concerned that mixing of science with the art of design is like mixing oil with water – it can't work. Despite those concerns, academic researchers have already completed several important studies. One of the earliest studies in EBD pertains directly to the use of art in healthcare. In 1984 Dr Roger Ulrich reported in *Science* that gall bladder surgery patients who got to look out a window at nature went home about one day sooner and took about half as much pain medication when compared to those whose rooms had a view of a brick wall[5]. This lends further support to the idea that nature art is best in healthcare.

Art in healthcare needs to be comforting and reduce stress

Dr Upali Nanda, one of the leading researchers in evidence-based design has written: "Viewing artwork with appropriate nature content has been seen to reduce stress and pain perception, as measured by physiological outcomes such as blood pressure, heart-rate and skin conductance, in addition to self-report measures such as pain-rating scales and surveys."[6]

Despite the promise of EBD, beware of claims that products or designs have scientific evidence to support them. Doing good research is expensive and time consuming. The researchers that I spoke with said that less than 2% of design decisions are based on solid evidence. Much of what people claim is 'evidence' for EBD has not come from rigorous studies and is a preliminary impression. The best places to keep up on this evolving field are the International Academy for Design & Health (www.designandhealth.com) and Center for Health Design (www.healthdesign.org) web sites.

Installation in Mercy Medical Center – West Lakes, Des Moines, Iowa

Nautilus spiral

Colours and healthcare

There are also many theories about how people respond to colours. Designers are often taught that certain colours are calming while others make the heart race. To determine whether there is any hard evidence to support these theories, Dr Ruth Brent Tofle did a careful literature review of all the published articles on this topic. She concluded that "the use of colour in healthcare settings currently is not based on significant research"[7]. In other words, there is no evidence to support any theories on the use of colour in healthcare settings. Designers should be sceptical of colour theories and instead rely on their training and intuition to select appropriate colours for the artwork or the interiors.

Finally, those who select art for healthcare should consider the special needs and preferences of patients and visitors. They need to be careful not to be swayed by their personal preferences as they select art that reduces stress.

The ideas in this article were some of the things I learned when I wrote the book *Picture of Health: The handbook for healthcare art*. The 217-page book can be downloaded free from www.henrydomke.com.

Henry F Domke MD is an artist and a physician who lives on a nature preserve in the middle of the US. He now works full time creating nature art for healthcare

References

1. Hathorn K, Ulrich R. *The therapeutic art program of Northwestern Memorial Hospital. In Creating environments that heal: Proceedings of the Symposium on Healthcare Design*; 2001.
2. Nanda U, Eisen SL, Baladandayuthapani V. Undertaking an art survey to compare patient versus student art preferences. *Environment and Behavior* 2008; 40:269-301.
3. Wilson EO. *Biophilia: The human bond with other species*. Cambridge: Harvard University Press; 1984.
4. Louv R. *Last Child in the Woods: Saving our children*. Chapel Hill NC: Algonquin Books; 2005.
5. Ulrich RS. View through a window may influence recovery from surgery. *Science* 1984; 224:420-421.
6. Hathorn K, Nanda U. What is Evidence-based Art? *FacilityCare* 2007; 12(3).
7. Tofle RB, Schwartz B, Yoon S, Max-Royale A. *Color in healthcare environments*. San Francisco, California: The Coalition for Health Environments Research (CHER); 2004.

All images supplied courtesy of Henry Domke Fine Art

For a detailed list of references two books are helpful:

Putting Patients First (chapter 7). Editors: Susan Frampton, Laura Gilpin, Patrick A Charmel, published by Wiley John & Sons, April 2003

Picture of Health: The handbook for healthcare art by Henry F Domke, MD, published by Henry Domke Fine Art, 2009

Therapy in rhythm

A recent report from UK charity Poems in the Waiting Room explores the ways that poetry can help improve the treatment of patients

The psychosomatic character of poetry is well acknowledged. Wordsworth famously claimed: "Poetry is the spontaneous overflow of powerful feelings: it takes its origin from emotion recollected in tranquility." AE Housman defined poetry simply by its physical effect: "I could no longer define poetry than a terrier can define a rat, but I thought that both of us recognised the object by the symptoms which it provokes in us."

The physiological potency of poetry in promoting emotional response makes it potentially valuable and vital in the care of the sick. Arts in health charity Poems in the Waiting Room's report *Poetry in Health* appraises a series of poetry projects in the UK's National Health Service (NHS). It found that the use of poetry in the NHS is both widespread and diverse, used both as part of the healing environment and as a partner in therapy in the care of individual patients. But the nature and quality of poetry differs with each. When deployed as part of the healing environment, the poetry needs to be able to appeal across the whole spectrum of patients – from the worried well to the terminally ill. The simplest message is that of hope, using poems that draw on the springs of wellbeing.

However, when used as therapy for an individual patient, the morbid condition should determine the poetry form – the work is entirely patient-centred. It can be used for a wide range of mental health conditions, such as depression or bipolar disorders, for victims of domestic violence, to treat those addicted to drugs or alcohol and for other medical therapies.

"Where poetry is made generally available to all, as part of the healing environment, a key issue is the power of emotions in poetry as described by Wordsworth," the report says. "The poems are evocative, seeking to arouse the feelings of the poem in others. A main concern about poetry in health of mainline doctors and health service staff is, therefore, the selection of poems. The adage 'Do no harm' became paramount. Poetry may help, but also may severely harm. A heavy dose of Keats's 'Now more than ever seems it rich to die/ to cease upon the midnight with no pain...' is surely not to be advised for a suicidally depressed patient."

The simplest message is that of hope, using poems that draw on the springs of wellbeing

Although there is a clear distinction between poets and therapists, the report shows that a good working relationship can be established where there is close liaison and control of the project by clinical staff. However, for poetry therapy to develop as a common and accepted part of healthcare, the report suggests that poet and therapist should be one and the same person. The way ahead therefore lies in stimulating interest in the potency of poetry with both established and trainee therapists. There is already interest in poetry therapy among some practising therapists; however, the reports says, it lacks cohesion. It suggests that the UK could benefit from the formation of a professional body, similar to the Association for Poetry Therapy in the US.

In addition, there is currently no standard method for evaluating the impact of the therapy and anecdotal reports are often dismissed. Collecting these comments in a systematic way, the report says – despite a lack of agreement on appropriate quantitative measurements – could help to form a body of evidence that helps to validate the importance of poetry in health and bring recognition to the benefit it brings to patient care. The full report is available at www.pitwr.pwp.blueyonder.co.uk.

Poems in the Waiting Room is a UK arts in health charity that supplies short collections of poems for patients to read while waiting to see their doctor

John Keats

How do we create hospitals as sacred spaces?

Life-changing events happen in hospitals. These events result in feelings of vulnerability, stress and anxiety. Our design responds to these strong emotions by communicating a deeply rooted spiritual dimension.

Working closely with each stakeholder group, we identify the unique cultural, historical and other influences that will provide comfort, hope and meaning. Then we develop these touchstones into a design that reaches beyond functional excellence to create spaces that are sacred to the human spirit.

We invite you to join us in planning for the future of health care delivery from an operational, sustainable and human needs perspective. Let's do more than simply promise a "healing environment;" let's bring hospitals to life.
www.farrowpartnership.com

Farrow

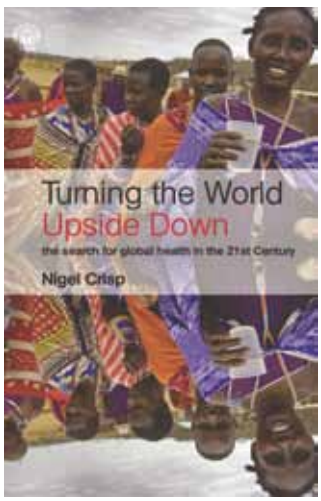
Turning the World Upside Down: The search for global health in the 21st century

Nigel Crisp
The Royal Society of Medicine Press, 2010
Price: £12.95 / $19.95

When Charles Montesquieu, the 18th century French philosopher, observed "we receive three educations: one from our parents, one from our teachers, and one from the world; the third contradicts all that the first two teach us", he was far more prophetic than he could ever have imagined. We all know what he means. As we grow up, we absorb ideas and attitudes imparted by our elders for whom imperial conquest was still a live issue. And that, in turn, reinforced the outdated concept of giver and receiver in the world order.

Nigel Crisp, through his experience running the National Health Service in Britain and subsequently advising on the critical issue of health inequalities worldwide, is ideally placed to help us rectify outdated concepts about healthcare in both developed and developing economies (or richer and poorer countries, as he prefers to call them) and show us how to turn our inherited perceptions 'upside down'.

He tackles an enormous subject – the search for global health in the 21st century – and offers a comprehensive overview of the problems that need to be faced in reducing inequalities. Due to the magnitude of the challenge, he devotes much of the book to diagnosis and analysis of key issues, assuming, not unreasonably, that others – politicians, leaders and trained health workers – will find local ways of solving the problems. This is not to say the book is short of suggestions for action, and we are grateful for the fact that a problem accurately described is already half solved. This book is particularly strong on organisational change.



Recognising interdependency

Over the years the richer nations have tended to think of healthcare initiatives going one way only – towards the poorer nations, leading inevitably to misguided paternalism and aid dependency. Crisp asserts that there is much we could learn from poorer countries if we had the common sense and humility to recognise it – and *Turning the World Upside Down* convincingly demonstrates how this is achieved on a pragmatic 'win-win' basis. Interdependency and mutual advantage is attainable and is much more effective than any amount of moral gesturing.

There is a worldwide shortage of health workers affecting both rich and poor countries and the West has a lot to learn from less fortunate nations. In much of sub-Saharan countries for instance, trained health workers have always had to manage without the sophisticated clinical equipment used in the West and the author witnesses firsthand how in Africa clinical staff can obtain an accurate diagnosis of tuberculosis without expensive gadgetry. "In the absence of all the equipment, nurses and doctors needed to look at the patient properly, talk to them, assess the feel and texture of their skin and pulse and make a clinical judgment from their verbal and other responses." We could all learn from this.

The book has some delightful moments which leaven its statistical analyses. Crisp was present at a post-operative session with a cataract patient who was asked what it now felt like. "The middle-aged woman reacted immediately when the bandages were removed. Beaming, she stood up from the bed and began a shuffling dance, swaying her large hips and ululating her pleasure. 'What are you going to do now that you can see?' someone asked. 'Find a new husband' she replied."

For the study to be effective, we must all be aware of the changing pattern of disease in the 21st century. Drug-resistant tuberculosis, widespread HIV/AIDS and clinical depression will be major considerations. The World Health Organization has predicted that clinical depression will become one of the top afflictions, and readers may have wished for a greater emphasis on mental health issues, which are only lightly touched upon. Also, the volume would have benefited from a few full-page photographs to punctuate the text which, understandably, is set out methodically in a format resembling higher education teaching modules.

To achieve better healthcare worldwide involves multi-agency cooperation and Crisp's overview neatly parcels areas of action so that others can focus on an area relevant to their local capacity. Governments, NGOs and centres of academic excellence must be encouraged to concentrate on these issues. We are fortunate to have someone of Crisp's calibre to encourage and cajole at the highest decision-making levels.

John Wells-Thorpe is a former NHS trust chairman and president of a Commonwealth NGO

TRIBAL

Helping you plan your way to a better future

Health buildings need to support improved and constantly changing models of healthcare delivery. They also need to be efficient, safe, attractive, environmentally sustainable, and affordable.

This is quite a balancing act!

Tribal's multi-disciplinary health planners employ specialist knowledge of planning and design, along with their extensive experience of managing health services and facilities, to help clients world-wide achieve this balance.

Working together we can improve healthcare outcomes by:

- Identifying best practice
- Creating innovative models of care
- Preparing service strategies
- Forecasting demand
- Assessing the feasibility of proposed changes
- Drafting design briefs
- Devising solutions
- Calculating costs
- Assessing affordability
- Writing business cases

For further information please contact:
info.health@tribalgroup.com
www.tribalgroup.com

CONTINUUM OF CARE HEAL, CARE, WORK BETTER.™

HDR

www.hdrarchitecture.com