# CANCER CARE BY DESIGN

## INTERNATIONAL SYMPOSIUM

ROYAL COLLEGE OF PHYSICIANS LIVERPOOL | 1-2 FEB 2023

# FINAL PROGRAMME

## THE ART AND SCIENCE OF HOPE

### TRANSFORMING THE FUTURE OF CARE

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# *Nineteen – 19 Insights Learned from a 19-Year-Old with Cancer*

*Nineteen – 19 Insights Learned from a 19-Year-Old with Cancer* is inspired by the true story of Haydn Robarts, whose short life profoundly changed all around him. Written by his father, it combines a personal memoir, universal lessons, insights from religion and science, and perspectives from Haydn and his parents. The result is a work that ultimately inspires an awareness, an awakening, and a mindset towards living this precious life with purpose and clarity. Haydn was a remarkable young man, whose dignified response to his own suffering provides essential wisdom and hopeful possibilities for our own lives.


## "Live a life filled with joy and try to consciously consider how to bring joy to the lives of those around you as well"

**– Haydn Robarts**

Author Adam J. T. Robarts is a British architect who has lived and worked in China since 1993. Together with his wife, Karyn, he co-founded the design firm Robarts Spaces in 1997, with offices now in Beijing, Shanghai and Shenzhen. In December 2018, during a family vacation in Canada, Adam was asked what he would choose to be if he were not an architect. He replied without hesitation: "A hospice nurse."

Five years earlier, he had a profound experience accompanying his father through the final weeks of life before he died of cancer in Uganda. Adam could not have imagined then that nine months later he would begin to accompany his son, Haydn, through a battle with a rare brain cancer. Haydn graduated from this physical world in May 2020, one week before his 20th birthday. *Nineteen* is Adam's first book, and it shares the heart-warming and poignant lessons learned on his family's journey with Haydn.

**W:** www.nineteen.life **FB/IG:** nineteen.book

View a two-minute video intro to the book on the online event platform and app in the 'Virtual booths' tab.

The author, Adam Robarts, will be available for a book signing in The Axis.

**Dear colleagues,**

Cancer is the second leading cause of death globally, accounting for more than 19 million cases and almost 10 million deaths in 2020. Each year, 400,000 children develop cancer, with this devastating disease estimated to cost in excess of US$1.6 trillion. The burden of cancer falls heavily on society at every level, impacting individuals, families, communities and health systems.

Yet 30-50 per cent of cancers could be prevented, with almost one-third of cancer deaths resulting from lifestyle factors, such as tobacco use, high body mass index, alcohol consumption, low fruit and vegetable intake, and lack of physical activity. Managing the cancer burden also relies on ensuring early access to high-quality diagnosis and treatment. In high-income countries with strong health systems and access to early detection, quality treatment and survivorship care plans, survival rates are improving, with comprehensive treatment available to 90 per cent of patients, compared with only 15 per cent of patients in low-income countries, where cases are expected to double to 20 million by 2040.

The pace of innovation is accelerating the journey to revolutionise cancer care, with rapid scientific advances being made in diagnostics, therapeutics and technologies, including personalised medicine and big data. Medical innovations alone are insufficient, however, and more focus must be given to social innovations rooted in communities, such as engagement strategies to improve health literacy, survivor networks, and better approaches to improving the wellbeing of patients and carers. The adoption of technological and social innovation, along with new models of care that enable earlier diagnosis and treatment in community settings, can greatly enhance opportunities to improve cancer survival rates.

### Design innovation

At the same time, the quality of clinical care and the patient experience can be enhanced through innovation in the design and planning of cancer care facilities. Facilities that support multidisciplinary working, integrate research and teaching, incorporate palliative care, and adopt a culture of patient wellness are critical to delivering the highest-quality cancer care possible. The links between research and medicine, and bench and bedside, coupled with the complexity and longevity of the treatment and management of the disease, all make the design of cancer facilities a key area in the rehumanising of healthcare architecture.

There is a vital need to combine the art of care with the science of technology, and express this in the design of the buildings and the organisation of care networks that span from home to hospital. These should be healthy buildings, with well-tempered and well-designed environments for staff and patients, settings that also provide those elements that enable us to maintain our health and wellbeing: good food; access to nature and sunshine; exercise; beauty; and opportunities for social interaction. Beyond their clinical and social briefs, they should also be part of a truly sustainable architecture that treads lightly on this earth and minimises embedded and operational carbon.

Organised by European Healthcare Design and streamed on SALUS TV in collaboration with leading international partners from research, practice and policy, the inaugural Cancer Care Design 2023 International Symposium aims to share international knowledge on the future design and development of cancer care services, technology and infrastructure.

We're delighted to welcome delegates and sponsors to the Royal College of Physicians at the Spine in Liverpool, to contribute to and stimulate a new dialogue on the future of cancer care by design.

**JOHN COOPER**
Programme chair,
European Healthcare Design

**MARC SANSOM**
Director,
SALUS Global Knowledge Exchange

**Dear colleagues,**

**It's a personal thing.** Profiling, treating, and curing cancer are some of the fundamental challenges of the 21st century. We know that cancer treatment is now, more than ever, about personalisation across many facets, such as science, clinical need, and emotional need. In recognition of this, cancer professionals continue to engage with patients in evermore different ways, as the possibilities to analyse and treat cancer grow. The ever-changing working methodologies of clinicians require facilities that support their rapidly evolving technologies and ground-breaking medical advances, which now deliver DNA-driven personalised cancer treatment and care.

**Cancer facilities.** Great buildings can help retain staff and positively improve wellbeing and patient experiences. The built environment can play its role in stimulating and helping the healing process. It's encouraging to see that recently designed healthcare facilities consider more than just the diagnostics and treatment through medical equipment.

This is particularly relevant for cancer facilities. To ensure they are suitable for now and fit for the future, they must be more than spaces for clinical delivery. They must be environments that respond to the shift to translational research by containing specialist spaces that support clinicians and patients at various stages on their journey from diagnosis to survivorship. At the same time, they must be adaptable, pleasant environments, where patients can connect with nature, gardens and outdoor areas. All this while minimising their impact on the environment.

When this is achieved, multidisciplinary teams comprising oncologists, researchers conducting clinical trials, genomics scientists, biologists, wet and dry laboratory technicians, pharmacists and, of course, cancer patients can co-habit in buildings that deliver care effectively and efficiently.

**Satellite facilities and survivorship.** We know that the research and technology-led approach within the cancer community has prompted a rethink of estate strategies for healthcare providers. This approach, combined with the coronavirus pandemic, has changed how the clinical pathways within this specialist area look.

As well as centralising to allow cross-fertilisation of skills, other changes have led to decentralisation. Satellite radiotherapy and standalone infusion centres, for example, are some of the subtle changes in response to both the drive to embed cancer treatment in the community, as well as the pandemic. In addition, survivorship, care plans, and post-cancer monitoring are also being targeted for delivery in different settings.

With great examples of what good looks like, it's an exciting time to be working in this specialist area as a clinician or designer, as we collectively refine and improve the environments the cancer community seeks and deserves.

AECOM is delighted therefore to be serving the cancer care community and providing headline support for the inaugural Cancer Care by Design 2023 International Symposium, to support knowledge transfer and dialogue in the field.

**RICHARD MANN**
Director, healthcare, science and tertiary education sector leader, UK & Ireland, AECOM

Platinum Health Leader

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Use the CCD2023 app to enhance your event experience: prepare your agenda; connect with colleagues and friends – old and new; explore the exhibition; and catch up on recorded talks and sessions. The app will help you discover, connect and engage with attendees at the Symposium.

## DOWNLOAD THE APP

The event mobile application is available on both the Google and Apple App Stores. To download it, search for **Cancer Care by Design** or scan the QR code. Once downloaded, you'll need to sign into the app using the email address you used when registering for the Symposium.

- **Watch LIVE sessions** – Through the app, you will be able to watch LIVE sessions and catch up with talks and sessions you may have missed under the 'Agenda' tab.
- **Sponsors and exhibitors** – Under the 'Expo' tab, you can visit sponsors', exhibitors' and event partners' stands to learn more about their latest design innovations, view their videos, download brochures and, if you're interested, share your contact details, or set up in-person and virtual chats and meetings.
- **People** – Engage with other attendees under the 'People' tab. Filter attendees by specific job roles, sectors, interests and more. From here, you can set up a meeting with other delegates – click on their profile, choose a date and time, and add a personalised message. You can also chat with other attendees by clicking 'CHAT' on their profile.
- **Discussion** – Join in with fellow attendees in a discussion forum and share your thoughts on the Symposium streams and topics beyond the Symposium.
- **Social** – Share your involvement with the Symposium on social media by using the hashtag #CCDIS and tagging us on Twitter with the handle @EHD_2023

# PROGRAMME AGENDA

All sessions to be held in Space One other than Session 3B, which will be held in Space Two. All breaks to be held in The Axis.

**Opening keynote session:**
**Visioning and delivering the future of cancer care**
Chair: John Cooper, Director, JCA, UK

Platinum Health Leader
AECOM

**09.00** **Welcome and introduction**
John Cooper, Programme chair, European Healthcare Design; Past chair, Architects for Health; Director, JCA, UK

**09.10** **Platinum Health Leader address**
Richard Mann, Director, healthcare, science and tertiary education sector leader, UK & Ireland, AECOM, UK

**09.15** **What's next for cancer care? Perspectives from a leading UK cancer centre**
Tom Pharaoh, Director of strategy, The Clatterbridge Cancer Centre NHS Foundation Trust, UK

**09.35** **Innovation and quality improvement: Visions of the future of cancer services in Wales and the UK**
Prof Tom Crosby OBE, Cancer clinical director for Wales; Consultant clinical oncologist, Velindre Cancer Centre, MB.BS (Lond), MRCP (Edin), FRCR, UK

**09.55** **Panel discussion**

**10.15 Coffee, networking and exhibition – in The Axis**

**Session 2:**
**The art and science of hope**
Chair: Richard Darch, Chief executive, Archus, UK

**10.45** **Towards an immersive sensory experience in a radiation oncology department: An opportunity for hope and cure**
Dr Ben Corn, Professor of oncology, Hebrew University School of Medicine; Deputy director, Shaare Zedek Cancer Center, Israel

**11.05** **Cancer care in context: Bridging the gap between science and the community**
Prof Christian Ottensmeier, Professor of immuno-oncology, molecular and clinical cancer medicine, University of Liverpool, UK

**11.25** **The architecture of hope: The future of cancer care**
Kathy Wright, Centre Head, Maggie's, UK
Ged Owens, Centre visitor, Maggie's, UK

**12.00** **Panel discussion**

**12.30 Lunch, networking, exhibition – in The Axis (Workshop in Space 1)**

**Lunchtime technical workshop:**
**Designing for radiation treatment in cancer care:**
**Shielding basics and options**

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veritas Medical Solutions

**13.00–13.25** Robert John Pio Farrell, Co-founder and CEO, Veritas Medical Solutions, USA
Patty Kendall, International sales manager, Veritas Medical Solutions, USA

See page 13 for the full abstract on the issues that will be discussed in this workshop.

Room: Space One

**Session 3A: Project exemplars**
Chair: Jim Chapman, Manchester School of Architecture; Client advisor, UK

**14.00** **The New Velindre and future generations**
David Powell, Project director; Phil Roberts, Trust advisor, New Velindre Cancer Centre; Lauren Fear, Director of corporate governance; Chief of staff, Velindre University NHS Trust, UK

**14.20** **Constructing health: Enriched environments transforming cancer care at the Shaare Zedek Cancer Center in Jerusalem**
Tye Farrow, Senior partner, Farrow Partners, Canada; Shai Ofer, Architect and partner, Rubinstein Ofer Architects, Israel

**14.40** **The new Children's Cancer Centre at Great Ormond Street Hospital**
Crispin Walkling-Lea, Head of healthcare planning | Space & Place, Great Ormond Street Hospital for Children NHS FT, UK

**15.00** **Panel discussion**

Room: Space Two

**Session 3B: Project exemplars**
Chair: Danny Gibson, Technical director, MJ Medical, UK

**14.00** **Personalising cancer care by design: The new Clatterbridge Cancer Centre**
Ged Couser, Principal, architecture, BDP, UK; Richard Mann, Director, healthcare, science and tertiary education sector leader, UK & Ireland, AECOM, UK

**14.20** **Building hope: The new Calgary Cancer Centre**
Catherine Zeliotis, Healthcare lead, Stantec Architecture, UK

**14.40** **Centred on the patient, connected to nature: The Integrated Oncology Centre of the University Hospital of Liège, Belgium**
Coen van den Wijngaart, Architect engineer, Executive partner, archipelago, Belgium

**15.00** **Panel discussion**

**15.30 Coffee, networking and exhibition – in The Axis**

**Session 4:**
**Expert panel: Briefing the next generation of cancer care facilities**
Chair: John Cooper, Director, JCA, UK

Gold Design Leader
veritas Medical Solutions

**16.00** As medicine moves rapidly towards a predictive, personalised and participative approach, the cancer care journey for patients is evolving. From risk reduction and prevention, to screening, diagnosis, treatment and survivorship, new models of care are redefining the settings and environments in which cancer care is experienced. Meeting clinical and research requirements and adapting to new technologies and treatments are critical, but new cancer centres also need to apply universal architectural principles that embody health and wellbeing, are low in carbon, challenge outdated guidance, and reject the unambitious repetition of failed typologies. Our expert design panel will explore what the brief might look like for a new generation of cancer care facilities.

**Hrafnhildur Olafsdottir, Director, JCA, UK**
**Adam J. T. Robarts, Architect, Author, Co-founder, Robarts Spaces, China**
**Christine Chadwick, Principal, Healthcare practice lead, CannonDesign, Canada**
**Anu Sabherwal, Senior associate, NBBJ, UK**

**Closing session**

**17.00–17.10** John Cooper, Programme chair, European Healthcare Design; Past chair, Architects for Health; Director, JCA, UK

**Tom Pharaoh** (UK)

Director of strategy,
The Clatterbridge Cancer Centre
NHS Foundation Trust

## What's next for cancer care? Perspectives from a leading UK cancer centre

It is estimated that one in two people will develop cancer at some point in their lives. There are around 375,000 new cancer cases in the UK every year. Despite advances in treatment, cancer remains one of the top five causes of early death in England.

The NHS Long Term Plan was published in January 2019. It sets out stretching ambitions and commitments to improve cancer outcomes and services in England over the coming years. Its key ambitions are to significantly increase both the proportion of people diagnosed with cancer at an early stage and five-year survival following cancer.

The Clatterbridge Cancer Centre (CCC) is one of three specialist cancer centres in the UK. It operates a networked model of care, with services for non-surgical oncology spread across the region of Cheshire and Merseyside, serving a population of 2.4 million. The CCC's model is based on the principle of providing care locally where possible and centrally where necessary, and it was one of the first cancer centres in the UK to deliver cancer treatments to patients in their own homes.

Tom Pharaoh, director of strategy at The Clatterbridge Cancer Centre NHS Foundation Trust, will share reflections from the perspective of a UK tertiary cancer centre on the future for cancer care, its challenges and opportunities.

## Innovation and quality improvement: Visions of the future of cancer services in Wales and the UK

**Prof Tom Crosby OBE**
(UK)

Cancer clinical director for Wales; Consultant clinical oncologist, Velindre Cancer Centre, MB.BS (Lond), MRCP (Edin), FRCR

The face of cancer care and the way it is delivered is changing dramatically. The pandemic has highlighted the disruption that acute pressures can put on elective services, as well as the benefits in the separation of acute and planned care, a huge expansion in demand for diagnostics, systemic therapies, and the technical revolution in the delivery of radiotherapy.

Patients are increasingly 'assessed to admit' rather than 'admitted to be assessed', leading to a change in the ratio of capacity required for oncology inpatients and ambulatory care. Patients are now often being managed remotely in virtual clinics and wards. The rapidly changing technology is leading to precision oncology where patients, treatments and even communities are selected on molecular and phenotypical characteristics of the patient and their disease. This will change the way healthcare is delivered and hospitals need to be future proofed to be able to adapt to this changing landscape

As well as these service developments, there is also an increasing appreciation that if we do not look after the health, wellness and job satisfaction of our staff, we will not be able to recruit and retain the highest calibre of healthcare professional.

Our current cancer centre is over 60 years old and increasingly unfit for purpose, unable to support the level of patient-centred, holistic and excellent care to which the new Velindre Cancer Centre aspires. After identifying a suitable 'green field' site, we worked closely with local residents, the wider community and politicians, engaging and listening to their ideas and concerns to develop Velindre as a future regional, specialist cancer centre. Not only will this facility be focused on continuously improving patient outcomes but is also one of the greenest hospitals in the UK, conducive to health, wellness and recovery, and adaptable to the rapid changes we are seeing in the way cancer care is being delivered.

**Dr Ben Corn** (Israel)

Professor of oncology, Hebrew University School of Medicine; Deputy director, Shaare Zedek Cancer Center

## Towards an immersive sensory experience in a radiation oncology department: An opportunity for hope and cure

The fundamental role of healthcare providers is not only the provision of state-of-the-art care but also the creation and maintenance of hopefulness. To this end, a new definition of hopefulness and the conditions needed for hope to thrive are required.

At the new Shaare Zedek Cancer Center in Israel, our team are endeavouring to infuse hopefulness into our cancer care and treatment services, facilitated by the design of the new cancer centre, and the immersive neuro-sensory system that we've developed (in the context of a prospective protocol approved by the Ethics Committee / Institutional Review Board), which has the potential to re-engineer the experience of patients, caregivers and staff members who populate a contemporary oncologic facility.

My lecture will begin by contextualising radiotherapy as an essential part of the modern cancer armamentarium. I will present the two pillars of radiation-related equipment (i.e. simulator and linear accelerator) and describe the capacity to implement these functions at our new centre. Since only two (of four) bunkers are currently being utilised, I will also discuss the potential instillation of machinery in the bunkers that are presently empty.

For the audience, there will be explicit as well as implicit evidence of the technical, if not sterile, nature of the delivery of standard radiation services. I will also encourage the audience to reflect on the patient experience and what, in their experience, might be lacking in the patient's journey through the care process.

## Cancer care in context: Bridging the gap between science and the community

**Prof Christian Ottensmeier** (UK)

Professor of immuno-oncology, molecular and clinical cancer medicine, University of Liverpool

Cancer poses an enormous challenge to both patients and the healthcare system, reflecting a growing clinical need on the one hand and a growing number of options on the other. A critical challenge therefore is to consider how rapid technological developments might be levied to improve healthcare. This is particularly true for newer treatment approaches, targeting the human immune system; in the last decade, a small number of drugs has made cures possible even in advanced cancer, but only in a minority of patients.

We and others are now attempting to define how we might use existing drugs in a more focused way and to identify those patients who are most likely to benefit from a particular drug. On the other hand, we are developing truly personalised medicines, where one treatment is produced for each individual person. An additional challenge is how to reach out to our communities and to make available the opportunities more widely. These three strands shape our vision of cancer research, in our hospital and in partnership with the University of Liverpool, and with our national and international collaborators.

**Kathy Wright** (UK)

Centre Head,
Maggie's

**Ged Owens** (UK)

Centre vsitor,
Maggie's

## The architecture of hope: The future of cancer care

Maggie's is a charity that supports anyone living with cancer and their family and friends, whatever kind of cancer, and whatever stage they're at. Our approach to cancer care is based on the knowledge that after a cancer diagnosis, people need much more than just the medical treatment. People need information about how treatment will affect them; emotional support and practical advice; and a place to go to meet and talk to people who are going through the same things.

We focus on the things that really make a difference, like money worries, help with stress and depression, managing side-effects, and relationship and family support. Our support has been shown to improve physical and emotional wellbeing, and help people take control when cancer turns life upside down.

Understanding every person's individual circumstances is central to what we do and means we can guide them to the support that will help them the most.

We work with some of the best architects in the world to design our centres because we know that light, colour and a connection to nature can help people feel better. Our co-founder, Charles Jencks, called our centres 'The Architecture of Hope'.

Every Maggie's is thoughtfully designed to be calming and welcoming – a place to escape from the clinical environment of the hospital. There are no reception desks and no clocks; instead, we have comfy sofas and plenty of time.

Our centres have large open spaces for group activities and a kitchen table to chat to other people. We also make sure there are plenty of peaceful corners for quiet moments and a chance to gather your thoughts.

## Lunchtime technical workshop

**13.00–13.25, Space One**

### Designing for radiation treatment in cancer care: Shielding basics and options

**Robert John Pio Farrell** (USA)

Co-founder and CEO, Veritas Medical Solutions

**Patty Kendall** (USA)

International sales manager, Veritas Medical Solutions

Radiation therapy is a highly effective cancer treatment contributing to 40 per cent of all cancer cures worldwide, as well as improving the quality of life for many others.

These cancer treatments use high-energy x-ray or other particles, such as protons, to destroy cancer cells. A linear accelerator, or linac, creates a radiation beam for high-energy x-ray (or photons and/or neutrons), targeted to the area within the body to be treated. Approximately 50 per cent of all cancer patients receive radiation therapy. For this reason, most cancer treatment hospitals and clinics include radiation therapy in their facilities. This requires a specially designed treatment room (also known as a bunker or vault) providing radiation shielding.

The purpose of radiation shielding is to limit radiation exposures to an acceptable level. The design and installation of structural shielding for megavoltage x-ray and gamma-ray radiotherapy facilities require specific calculations and shielding design by a physicist or other expert in radiation protection who understand the permissible exposure levels. There is a variety of shielding materials used to design and construct such a treatment room.

In this lunchtime workshop, we will explore the basics of radiation protection and the pros and cons of each to be considered in the design of radiation oncology departments.

Join Veritas during the lunchtime break to advance your understanding of the technologies, improvements and options in this specialty. This session will also be live streamed for virtual attendees.

**David Powell** (UK)

Project director,
New Velindre Cancer Centre

**Lauren Fear** (UK)

Director of corporate governance; Chief of staff,
Velindre University NHS Trust

**Phil Roberts** (UK)

Trust advisor,
New Velindre Cancer Centre

## The New Velindre and future generations

Velindre University NHS Trust is building a new cancer hospital to serve South East Wales.

The Welsh Government has set out policy on future generations in the Well-being of Future Generations Act. All new developments are obliged to meet the requirements for sustainability included within the Act. This legislation provides a powerful framework for the new Velindre Cancer Centre.

The hospital procurement uses the Welsh Government's Mutual Investment Model, a PPP methodology that requires the deal to include significant community benefits.

The Velindre team have used the above policies to set a specification for the greenest, smartest, and most human hospital in the UK.

This specification was addressed in competition by the winning consortium, Acorn, and we are now in the process of completing the design and moving into construction.

The two main elements of the programme are:

- the completion of a design that meets the aspirations outlined above; and
- the development of an associated community benefits programme.

## Constructing health: Enriched environments transforming cancer care at the Shaare Zedek Cancer Center in Jerusalem

**Tye Farrow** (Canada)

Senior partner,
Farrow Partners

**Shai Ofer** (Israel)

Architect and partner,
Rubinstein Ofer Architects

Significant literature in the fields of medical therapeutics and social services identifies how certain designed spaces create stress and disease, yet comparatively little has been written about the opposite – how enriched building design can act as a non-invasive therapeutic treatment to not just reduce stress but also increase hope, induce a positive range of background bodily feelings, thereby intentionally supporting our neurological health and wellbeing, and enhance mind health. The Hemsley Cancer Center explores these concepts as a central point of departure for the building's design.

Environmental Enrichment (EE), (Hebb E, 1949) points to the quality of the environment as a substantial influencer on wellbeing, intelligence, and longevity, as well as what we know intuitively – enriched environments also uplift us and enhance mind health. The reasons for this are multifaceted: on a neurobiological level, feeling good equates to lowering excessive cortisol levels (the stress/anxiety hormone), which reduce the incidence rates of high blood pressure, heart problems, headaches, and immune system deficiencies. Importantly, EEs also enhance learning, memory, creativity, perception, empathy, emotions and social interaction, while strengthening neural networks

Israel's newest, most advanced cancer centre, known as the 'butterfly', is a six-storey, 12,000-square-metre centre providing comprehensive oncology care, including a Radiotherapy Institute. The vision of this centre is to recognise that the emotional needs of cancer patients are often as important as their practical and medical ones. Typically, oncologists pursue a biologically oriented model to treat cancer, however, at the Hemsley Cancer Center, oncologists are using the building's design as a non-invasive therapeutic treatment, linked to the study of hopefulness to enhance survival among patients, based on an immersive multi-modal sensory enriched environment experience, including sight, sound and touch.

The multi-floor facility includes: four radiotherapy treatment rooms and related services on the lower levels; chemotherapy, outpatient services, palliative care and oncology day hospital, and multiple research and teaching facilities on the mid levels; and a dedicated family lounge, library and living room, and adjacent exterior gardens and covered terraces on the upper level; all of which surrounds a multi-level central skylit terrace and garden central atrium.

The centre opened in November 2022 and was designed by Canadian-based Farrow Partners and Jerusalem-based Rubinstein-Ofer Architects.

**Crispin Walkling-Lea** (UK)

Head of healthcare planning | Space & Place,
Great Ormond Street Hospital for Children NHS Foundation Trust

W: www.gosh.nhs.uk/news/our-proposals-for-a-new-cancer-facility/

## The new Children's Cancer Centre at Great Ormond Street Hospital

Great Ormond Street Hospital (GOSH) is in the process of designing (RIBA Stage 4) a new building that will include all of the facilities required for its cancer services.

It is anticipated to open to the first patients in 2027, and the building, which is Phase 4 of GOSH's redevelopment masterplan, will also be the new frontage for the whole hospital and will incorporate the new main entrance.

This talk will explore the particular challenges of designing cancer care facilities for children, taking into account the needs of the child's family and achieving a design that is suitable for children of all ages.

GOSH is endeavouring to design a building that supports clinical staff to provide an outstanding patient and family experience, and the facilities required to support this will be considered. Features and innovations that encourage activity, normal activities of childhood and family life, and minimising the detrimental impact of long-term hospitalisation will also be explored.

## Personalising cancer care by design: The new Clatterbridge Cancer Centre

**Ged Couser** (UK)

Principal, architecture,
BDP

**Richard Mann** (UK)

Director, healthcare, science and tertiary education sector leader, UK & Ireland,
AECOM

The pace of scientific research in the global development of new cancer treatments is astonishing, with precision medicines dramatically improving survivability rates, which have doubled since 1970. Immuno-oncology therapies empower the immune system to recognise and react to tumour cells, and Biomarker-guided therapies target the mutation in tumour cells at a molecular level, in effect creating a completely personalised approach to treatment, treating the disease at a personal systemic level, which is the objective of the Clatterbridge Cancer Centre.

The Clatterbridge Cancer Centre is located within the heart of the city's Knowledge Quarter on a site adjacent to the Royal Liverpool University Hospital and close to the University of Liverpool. In parallel with the developments in clinical treatment, the project enables patients to be treated in very personalised environments.

Individual flexible chemotherapy bays incorporated into departmental layouts allow patients to control their own environment and choose a level of interaction with others that suits them. This sense of control over environment and choice extends to the design of waiting areas and provision of external spaces adjacent to treatment areas.

The specialist 11-storey hospital has 110 single inpatient beds, delivering a wide range of highly specialist cancer care, including pioneering chemotherapy, immunotherapy, gene therapy, haemato-oncology and radiotherapy. It has state-of-the-art facilities for bone marrow transplant, diagnostics and imaging, outpatients, daycase treatments, a Teenage & Young Adult Unit, and clinical therapies, all facilitated by carefully designed environmental infrastructure.

The hospital has been designed to ensure patients have plenty of privacy and space, which can be personalised to individual needs. Every inpatient has their own single en-suite room, further reducing any risk of infection. The inpatient rooms and the chemotherapy suite, served by an adjacent production pharmacy and clinical trials suite, benefit from being at the top of the building, and have spectacular views across the city and across to the Wirral peninsula.

The stepped massing to the prow of the building creates landscaped terraces, which allow patients to be able to access nature and fresh air. Radiotherapy benefits from a huge central lightwell and access to an outdoor Winter Garden, connecting the building to nature in its very urban context.

**Catherine Zeliotis** (UK)

Healthcare lead,
Stantec Architecture

## Building hope: The new Calgary Cancer Centre

Susan Cardinal, patient and family advisor, "wishes" for the New Calgary Cancer Centre: "For the cancer patient, there is deep-seated fear; the greatest gift to a cancer patient is *hope*. A place that could radiate a feeling of positivity and hope, ample light and openness gives me a feeling of peace and hope."

The southern Alberta province in Canada is experiencing a steep rise of cases and services are currently dispersed on various sites. Key to improving outcomes is providing a consolidated service combined with a community model partnered with education and research. The New Calgary Cancer Centre includes prevention, screening, patient and family-centred care, applied research, supportive care, and education. The Centre includes patient support areas and ambulatory services: 100 exam rooms; 100 systemic therapy chairs; 160 beds; 15 radiation vaults, including an MRI linac suite; extensive imaging facilities; clinical trials unit; extensive wet and dry research labs; as well as the Knowledge Exchange Centre with direct links to the adjacent University of Calgary.

It was designed together with the patient advisor group, and the patient voice was heard through every step of the way, with the focus on the patient experience from the point of diagnosis through to discharge. The integrated interdisciplinary care team model gives a prominent role to the psychosocial oncology services placed in the heart of the Welcome Village.

Daylight and external views support the patient journey throughout with dedicated areas for both patient and staff wellness, including the 'Heart' an all-season external central courtyard and the key wayfinding device. The team reviewed a variety of clinics models that would be futureproofed for the rapid changes expected in the delivery of cancer care services. The multidisciplinary approach to cancer care treatment was a key design driver of the ambulatory floors, interweaving clinics, and systemic therapy areas to achieve optimum patient journeys. The design of care areas is designed with capacity and flexibility with a standardised, modular approach to allow for future space changes of use or expansion.

## Centred on the patient, connected to nature: The Integrated Oncology Centre of the University Hospital of Liège, Belgium

**Coen van den Wijngaart**
(Belgium)
Architect engineer,
Executive partner,
archipelago

The Integrated Oncology Centre of the University Hospital of Liège is an ambulatory tumour treatment centre located on the striking site of Sart-Tilman. Largely open to the valley, the building gathers all the specialties related to cancer (screening, treatment, psychological follow-up, day hospital, radiotherapy, and wellness centre) and brings these care services together in a setting bathed in natural light. The integrated centre favours the interaction of all the competences available at the University Hospital Centre, both clinical and translational research.

### Centred on the patient

Considering the impact of cancer care treatment on the wellbeing of patients and their families, we've designed a healing environment centred on user experience. The care provided in each different phase of the treatment therefore receives a specific, soothing atmosphere that supports the healing process. It's a health centre entirely designed around the practical and sensory experiences of patients. There is plenty of natural light for patients and staff, especially in high-tech medical services, such as radiotherapy, which is more commonly located in basements. Natural light is also brought into the heart of the project and reaches the lower levels via a series of courtyards carved into the building.

### Connected to nature

The Sart Tilman site is remarkable for both its architecture and landscape. To blend in with the context, we conducted in-depth work to integrate the buildings and surrounding areas into the natural site. The plantations and green spaces ensure continuity with the surrounding environment. We are supporting soft mobility with a new walkway along the road that bypasses the site. The wooded area around the building will eventually be a place where patients can seek nature and calm. Following the concept of biophilia, we encourage patients to connect to nature following their inherent human desire to do so, and discover the diversity of the surrounding natural landscape.

**John Cooper** (UK)

Programme chair, European Healthcare Design; Past chair, Architects for Health; Director, JCA

**Hrafnhildur Olafsdottir** (UK)

Director, JCA

**Adam J. T. Robarts** (China)

Architect; Author; Co-founder, Robarts Spaces

**Christine Chadwick** (Canada)

Principal, Healthcare practice lead, CannonDesign

**Anu Sabherwal** (UK)

Senior associate, NBBJ

## Expert panel: Briefing the next generation of cancer care facilities

As medicine moves rapidly towards a predictive, personalised and participative approach, the cancer care journey for patients is evolving.

From risk reduction and prevention, to screening, diagnosis, treatment and survivorship, new models of care are redefining the settings and environments in which cancer care is experienced. Meeting clinical and research requirements and adapting to new technologies and treatments are critical, but new cancer centres also need to apply universal architectural principles that embody health and wellbeing, are low in carbon, challenge outdated guidance, and reject the unambitious repetition of failed typologies.

Our expert design panel will explore what the brief might look like for a new generation of cancer care facilities, identify the best ways of working with healthcare professionals and patient communities to deliver these aims, and bring the lessons they have learned to the discussion.

Places on both tours are fully booked.

## Study tour: The Clatterbridge Cancer Centre

**Departure point:** Novotel Liverpool Paddington Village

**Date:** 31 January 2023 | **Date:** 2 February 2023

**Time:** 15.30–17.00 | **Time:** 09.30–11.00



The Clatterbridge Cancer Centre will have a significant and positive impact on the health and wellbeing of the people of Liverpool and the wider Merseyside region.

BDP designed the building to step back at its upper levels, creating external terraces that give access to landscaping, fresh air and spectacular panoramic views. Two atria aid intuitive wayfinding, allowing daylight to penetrate deep into the radiotherapy waiting area and main entrance.

The building has been designed to be flexible for future expansion, has met or exceeded its sustainability targets, and was completed broadly on programme.

## Study tour: Maggie's Wirral

**Departure point:** Novotel Liverpool Paddington Village

**Date:** 31 January 2023 | **Date:** 2 February 2023

**Time:** 15.15–17.30 | **Time:** 09.15–11.30


Maggie's Wirral at the Steve Morgan Foundation Building opened in 2021. The newest cancer support centre from Maggie's, it was commissioned, designed, built and funded by the Steve Morgan Foundation, working with Dennis Swain of HB Architects.

It has a much larger garden than the previous interim centre, giving staff and visitors alike a beautiful, landscaped space. The centre also has large windows offering panoramic views over country fields, allowing visitors to find peace among nature and countryside while embracing the indoor warmth so intrinsic to Maggie's. The centre is full of light with an open-plan kitchen with space for a table – a comforting home-from-home space where visitors feel safe and uplifted.

Thanks to the Steve Morgan Foundation, a second centre in Liverpool – to be built within the grounds of the New Royal Liverpool Hospital, next to the new Clatterbridge Cancer Centre, Liverpool – is also in development.

EUROPEAN HEALTHCARE DESIGN
RESEARCH • POLICY • PRACTICE

Contact for sponsorship:
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## European Healthcare Design Congress

Now in its ninth year, the annual European Healthcare Design Congress, Exhibition and Awards brings together interdisciplinary researchers, practitioners and policy thinkers from across the fields of health system and service design, technology and infrastructure.

Scheduled to be held on 12-14 June at the Royal College of Physicians in London, the theme of the world's leading healthcare design forum in 2023 is 'Fault lines and front lines: Strengthening health system resilience'. Featuring 200 talks, workshops and video posters, up to 1000 delegates from 40 countries will attend in-person and virtually over two days of conference activity, followed by a day of study visits to benchmark new projects around the country.

All attendees attending in-person and virtually also receive access, via the event platform and mobile app, to the video recordings of all the talks for two months after the event. The preliminary programme for this year's Congress will launch in early March.

SALUS TV

To view over 2500 hours of video talks and 5000+ articles and research papers, visit:
www.salus.global

## SALUS TV

SALUS TV is our online broadcasting channel dedicated to designing for human and planetary health. Throughout the year, SALUS TV will stream live and 'on demand' content from our conferences and, 'Future Health 2050' webinar series, enabling remote access to a global audience on the latest research, practice and policy thinking.

As our professional lives become ever busier, the desire for 'on demand' content is changing the way audiences are consuming content. SALUS TV gives our audiences the choice to participate 'live' or view 'on demand' at a time that suits their schedules or time zones, extending access and reach to many more researchers, practitioners and policy thinkers around the world.

SALUS
GLOBAL KNOWLEDGE EXCHANGE

W: www.salus.global

## SALUS Global Knowledge Exchange

SALUS is an entrepreneurial global media, research, publishing, events and training organisation with a vision to improve human and planetary health through the global exchange of knowledge. Our mission is to create, share and disseminate knowledge concerning the relationship between human health and the natural, built, social and technological environments.

Focusing on knowledge exchange at the intersection of science and technology, architecture, lifestyle, urbanism, and sustainable development (SALUS), we support the UN's Sustainable Development Goals by building interdisciplinary professional communities that facilitate global collaborations. We do this through a range of knowledge-based activities that promote the application and interaction of art, science, culture and innovation.

## AECOM

Contact:
Richard Mann
Director, healthcare, science and tertiary education sector leader, UK & Ireland

W: www.aecom.com

PLATINUM HEALTH LEADER

We partner with clients to design and advise on cancer care facilities that are smart, flexible, and net-zero, built using modern methods of construction. We enable clinicians, researchers and scientists to work together to deliver the personalised care needed to help patients cope with diagnosis and treatment, both physically and emotionally.

AECOM's healthcare specialists understand that the buildings that house the sensitive equipment needed to deliver current advanced cancer treatments, such as brachytherapy, proteomics, genomics and blood cell treatments, as well as the latest technologies, including high-energy proton beam therapy, are expensive and complex. Yet, we never lose sight of the imperative that patient, family, clinician and staff experiences must lie at the heart of facility design. Detailed consultation with wide-ranging stakeholder groups and patients of all ages is critical.

## Veritas Medical Solutions

Contact:
Patty Kendall
International sales manager

W: www.veritas-medicalsolutions.com

GOLD DESIGN LEADER

Veritas provides shielding for constructing all sizes and types of linear accelerator, MR guided linac and proton treatment rooms, high-dose rooms, and for industrial applications too.

Our shielding package aims to get a facility up and running quickly and as economically as possible – without having to co-ordinate a poured concrete installation. Utilising a system of pre-engineered shielding materials, door systems and construction methods, Veritas handles every aspect of design, engineering, testing support, and assembly, in a fraction of the time compared with traditional design-build methods.

Our shielding solutions feature stackable VeriShield shielding modules and SmartDoor shielded door systems, which save a large amount of space, whether it be in a greenfield location or within an existing building.

## Guldmann

Contact:
Lee Hubery
New-build project manager

W: www.guldmann.com/uk

EXHIBITION PARTNER

The Guldmann brand is the flagship of world-class mobility equipment that provides patient moving, lifting, and positioning and rehabilitation solutions. Guldmann is a Danish firm that supplies the acute, long-term care, hospice, schools and residential markets, where patient hoists are used for transferring patients, repositioning, rehab and physiotherapy.

It has recently launched the world's only hoist system with dynamic weight control. A trainer module and positioning lock system enables patients to undertake independent movements with very little care assistance, and aids faster recovery, rehabilitation, belonging, quality of life, play, dancing, and interaction with sensory equipment. Guldmann is a specialist in creating more of what it likes to call 'Time To Care', delivering a number of solutions that meet lifting and moving requirements across the full spectrum of healthcare environments.

AECOM Delivering a better world

# Leaders in healthcare professional services

**We work in partnership with clients to design and advise on cancer care facilities that are smart, sustainable, flexible, and adaptable. Delivering major projects and programmes of work to help solve your most complex challenges.**

**University College London Hospitals (UCLH) Proton Beam Therapy Centre**
Transforming cancer care for the UK, our project managers delivered the multi-award winning complex central London Grafton Way building.

aecom.com