

# Care rises to a new level



At the junction of Melbourne's prime medical, educational, research and commercial worlds, a colossal new \$1 billion public institution will soon open for business. Most of us hope we will never have cause to step inside.

Yet in all likelihood we will. If not for ourselves, then for the people we love. Such is the pitiless reach of cancer across the population.

When we do find ourselves within the new Victorian Comprehensive Cancer Centre, architect Melina Thomas hopes that the structure she helped create over the past six years will wrap itself around us, its form and function conveying powerful support in ways we may never consciously recognise.

**A striking new building gives Melbourne's renowned medical and research precinct a fitting entrance. But it's what unfolds inside the \$1 billion Victorian Comprehensive Cancer Centre that is truly revolutionary.**  
By Jo Chandler

**Designed to inspire hope: Architect Melina Thomas in the atrium of the stunning Victorian Comprehensive Cancer Centre.** PICTURE: JULIAN KINGMA



The needs of patients and of their families were at the heart of the building brief for the VCCC, the new home of the Peter MacCallum Cancer Centre, which manages the facility, and specialists from nine other research, clinical and educational institutions.

"People arrive with a diagnosis feeling stressed and anxious and sick. The whole idea is to keep them calm, make them welcome, embrace them," says Thomas, a director with Melbourne-based Silver Thomas Hanley, healthcare architectural specialists working as partners with DesignInc and McBride Charles Ryan in imagining and realising the VCCC.

The last thing patients need is to be overwhelmed. "But at the same time the building should inspire hope and courage, and a shared belief that progress in beating the disease will come more readily if a centre of excellence is created to bring together the right people."

That's the mission of the comprehensive cancer centre model, borrowed from the US, where it has been operating for 40 years. It's about the integration of research, education and clinical care, and the streamlined translation of discovery into prevention programs, diagnostic tools, bedside regimes and treatment options.

Situated at the nexus of Flemington Road, Elizabeth Street and Grattan Street, the gateway to the renowned Parkville medical and research precinct, the VCCC is "a magnificent piece of infrastructure", says the partnership's executive director, Professor Jim Bishop AO (MB BS 1972, MD 1990, MMed 1999).

But the structure is only part of the story. For him and others who have championed its realisation for a decade, the programs and philosophies it embodies are equally impressive, a "once in a generation" opportunity to propel cancer care into a new realm.

They set out to create a cancer centre that would rank in the world's top 10. "And I think we stand a very good chance of getting there, based on the depth of the work," says Bishop, who took the helm at the VCCC in 2011. He was previously Australia's Chief Medical Officer, and has held senior posts in cancer institutes, research and education in NSW, Victoria and the US.

The VCCC aims to provide individualised treatment to patients, facilitate more clinical trials, nurture collaboration, support bench-to-bedside translation of research, and smooth the way for a seamless patient journey through the system.

It's also explicitly designed to reach out to other institutions, with skywalks

linking it to the Royal Melbourne Hospital and tunnels under the roads to plug into the supercomputing grunt of the Victorian Life Sciences Computing Initiative.

"There are a couple of big revolutions washing across medicine at the moment – like genomics and bioinformatics," says Bishop. "We're wanting to take advantage of those developments that are transforming medicine to transform cancer treatment."

The University of Melbourne – which contributed \$25 million to the VCCC project and is the only educational institution in the partnership – has a major focus on cancer research. Bishop is also the Herman Chair of Cancer Medicine at the University.

Standing in the jaw-dropping 13-storey atrium as swarms of work crews apply finishing touches to the sculptured spiral of the "Welcome Stair", Melina Thomas conjures up the scene come July, when the first patients find their way to the Welcome Hall.

Recognising that they may be feeling sick and fatigued, the lower floors are organised for easy navigation and proximity to clinical areas, pharmacy and pathology. There's a wellbeing centre

**"The building should inspire hope and courage, and a shared belief that progress will come if a centre of excellence is created to bring together the right people."**

kitted out like an airport lounge, where patients and their families can visit, even when their treatment is finished, and sit around a kitchen table and talk about their experience, says Thomas.

Most visitors will be day patients attending for treatments and consultations that will be provided in either wide chemotherapy bays or more private spaces.

"We've found in our work with cancer hospitals in the past that a lot of patients like to share their experiences," says Thomas (BPD 1991, BArch(Hons) 1993). "So in all the clinical areas our aim is to empower the patient in giving a choice between shared and private spaces."

CONTINUED PAGE 8

## VCCC: THE FACTS



160 overnight inpatient beds



More than 25,000m<sup>2</sup> of research space



A 42-bed-capacity intensive care unit



Eight operating theatres



110 same-day beds



Eight radiation therapy bunkers



Dedicated clinical trials unit



From six original partners, the VCCC has grown to a partnership of seven hospitals, two research institutes and the University of Melbourne



Eight medi-hotel beds, with space for overnight accommodation for families of country patients



Professor Jim Bishop in one of the Centre's high-rise gardens.

PICTURE: CHRIS HOPKINS

FROM PAGE 7

Public zones are also engineered to bring patients into proximity with other users of the building – doctors and nurses, research scientists and technicians, medical students and educators – en route to the lifts that will take them to their laboratories and workstations.

Researchers will occupy the top six floors, clinical and hospital staff dominate the bottom six. Educators are positioned in between, in a space where patients and families and staff also mingle in the cafeteria, or step down a floor to a sprawling 1400-metre-plus rooftop garden for some respite.

The mixing of these populations is orchestrated to allow patients to be fortified by the army working for their health, experts to be galvanised by the reality of the individuals whose lives they might change, and to encourage serendipitous encounters between research and clinical players.

“The whole idea is to get people together to collaborate, to create formal and informal spaces where they bump into each other, where they talk about the work in the laboratory or the cases coming into the clinic,” says Thomas.

“We wanted to create a building which fosters this interaction.”

It's about breaking down silos to capitalise on the central ambition shared by every patient, scientist and specialist in the building: to beat cancer.

Natural light pours into the VCCC courtesy of its hollowed core, swathes of white balconies wrapping around the light, the quirky, organic shapes taking the hard edges off what might have been a formidable construction.

**“These biophilic design elements reinforce the connection to nature, and in turn promote healing, relaxation, and comfort.”**

Stands of spotted gum trunks and greenery soften the institutional look into something more akin to a top-flight hotel. Clinical surfaces are warmed up with palettes of earthy colours inspired by the bark of the Victorian snowgum.

Breakout areas with gardens and

natural motifs – leaves and flowers – are woven into the fabric of the building. The outside world is close, with patients given the best vantage points. Down in the radiation bunker there are backlit tree canopies and a light show of butterflies waiting to distract paediatric patients.

There's nothing whimsical about such devices. “These biophilic design elements reinforce the connection to nature, and in turn promote healing, relaxation, and comfort,” says Thomas.

Every component of the building has been thrashed out with focus groups representing the various users – some 300 groups all vehemently championing their work, needs and priorities.

“There were formal meetings with all the doctors and nurses in every single department,” explains Thomas. Same again for the various research departments. “We go room by room, and then into the detail of the fixtures and fittings – where every power point goes. So these are quite intense meetings.”

Adding to the pressure was the recognition that there would be no similar investment in Victoria for a long time to come. “They had to have a building for the future – this was their only shot at it. So it had to be flexible enough to withstand

the next 20, 30 years of breakthroughs.”

Tucked within the building's seams is capacity to expand to accommodate the kind of unimagined hardware or laboratories or workforce that might be required for the next generation of patients.

Ultimately the best support for people with a cancer diagnosis is an environment that facilitates the efficient daily work of the doctors, nurses and allied specialists treating them. Staff also have retreat areas and natural light and views. “We needed to create a place that would attract the best of the best clinicians and researchers, to achieve the best outcomes for the patients.”

The prospects for patients today and in years to come will turn on the collaboration of clinicians and researchers striving for the next breakthrough, says Bishop. To that end, researchers and PhD students from Melbourne's leading research institutions will shortly settle into the laboratories in the upper floors.

“There is a lot of evidence in the literature that it takes a long time for research discoveries to be translated into routine care,” says Bishop – often more than a decade, sometimes two. “I think we can do a lot better than that.”

Another big element of a comprehensive cancer centre is outreach to the wider population. So in addition to the core partnerships, there are also collaborations being established with Monash University, rural centres and cancer programs.

It also has a mandate to focus on population health, exploring disease in the context of geography, culture and environment.

One of the big incentives for building the VCCC was recognition that the number of cancer patients was inevitably going to increase as the population ages and people don't die of other things.

“This is not trivial,” says Bishop. “We are anticipating a 30 per cent increase in the next 10 years as opposed to the last 10.”

For architect Melina Thomas, being part of the effort to create a facility that will touch so many lives is deeply rewarding. There has been substantial international interest in the VCCC and encouraging feedback from medical and architectural specialists. “We're quite overwhelmed at the buzz,” she says. “It's creating a lot of excitement.”

But the true test will come when patients come through the doors and their carers get down to the business of healing them. Thomas will be in the wings waiting for the verdict.



DR DONNA MILNE

(MAdvNursPrac 2000, PhD 2009)

**Advanced Practice Nurse and Cancer Experiences Researcher, Peter MacCallum Cancer Centre and University of Melbourne**

## The cancer experiences researcher

After graduating as a nurse from St Vincent's Hospital in 1985, in the last days of hospital-based training, Dr Donna Milne went back into study at La Trobe and the University of Melbourne to eventually emerge with a PhD and a role straddling the clinical and research worlds.

Today her working week is split between attending to the needs of individual melanoma patients at Peter Mac, and investigating their wider experience of the disease and of the health system.

“So my research role very much reflects what I do clinically with patients,” Milne explains. “Broadly speaking I'm asking ‘you've got this diagnosis. What's it like? What do you need?’

“My main interest is in the advanced disease realm, patients with stage 3 and 4 cancer, and in ensuring that their experiences are as positive as they can be.”

To that end, she's counting down the days to the shift to the VCCC.

“The layout will help ensure we have the right people in the right place, so patients get what they need with a minimal number of visits. It will certainly facilitate better communications between their health professionals.

“Our patients are in the most stressful period of their lives when they walk in. So an environment that is calm, appealing, not poky, with natural light – it all helps.”



PROFESSOR MELISSA

**SOUTHEY** (BSc(Hons) 1988, PhD 1993, GDiplPLaw 1996, Ormond College) **Molecular Geneticist, University of Melbourne**

## The molecular geneticist

“Our work is mostly about understanding where an individual sits on the cancer risk spectrum,” explains Professor Melissa Southey. It requires painstaking investigation of the interplay between genetics, environment, lifestyle, age and other variables.

It's powerful information, with the potential to anticipate, intervene in and even prevent cancers. But it's also fraught with ethical, economic and logistical complexities. The work of Southey and her team of 28 researchers, soon to take up residence on level 10 of the VCCC, is underwritten by a priceless resource – 1.5 million biospecimens collected over the decades from studies including the Melbourne Collaborative Cohort Study, which alone involves 45,000 Victorians.

These specimens are now distributed across the University campus in liquid nitrogen tanks and scientific freezers, with duplicates distributed to other research centres across the world.

But the development of the VCCC gave Southey an opportunity to design a custom-built, secure facility to bring together the samples and the researchers in a single location for the first time.

“I see that as a very positive thing,” says Southey, “let alone being in this environment where not only is basic research being done, but we can witness its use and how it changes medical practice. The environment will also place us well to hear the current clinical issues and to be able to pitch our research at these.”